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Nebraska State Accountability (NeSA)

Reading, Mathematics, and Science

Technical Report

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2013 NEBRASKA STATE ACCOUNTABILITY (NeSA) TECHNICAL REPORT

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1. BACKGROUND

1.1 PURPOSE AND ORGANIZATION OF THIS REPORT

This report documents the technical aspects of the 2013 Nebraska State Accountability Reading (NeSA-R), Mathematics (NeSA-M), and Nebraska Science (NeSA-S) operational tests, along with the NeSA-R, NeSA-M and NeSA-S embedded field tests, covering details of item and test development processes, administration procedures, and psychometric methods and summaries.

1.2 BACKGROUND OF THE NEBRASKA STATE ACCOUNTABILITY (NE SA)

Previous Nebraska Assessments: In previous years, Nebraska administered a blend of local and state-generated assessments to meet No Child Left Behind (NCLB) requirements called STARS (School-based Teacher-led Assessment and Reporting System). STARS was a decentralized local assessment system that measured academic content standards in reading, mathematics, and science. The state reviewed every local assessment system for compliance and technical quality. The Nebraska Department of Education (NDE) provided guidance and support for Nebraska educators by training them to develop and use classroom-based assessments. For accreditation, districts were also required to administer national norm-referenced tests (NRT).

As a component of STARS, the NDE administered one writing assessment annually in grades 4, 8, and 11. In addition, the NDE provided an alternate assessment for students severely challenged by cognitive disabilities.

Purpose of the NeSA: Legislative Bill 1157 passed by the 2008 Nebraska Legislature (<http://www.legislature.ne.gov/laws/statutes.php?statute=79-760.03>) required a single statewide assessment of the Nebraska academic content standards for reading, mathematics, science, and writing in Nebraska's K-12 public schools. The new assessment system was named NeSA (Nebraska State Accountability), with NeSA-R for reading assessments, NeSA-M for mathematics, NeSA-S for science, and NeSA-W for writing (Complete documentation of the technical details for NeSA-W are presented in a separate document labeled *NeSA 2013 Writing Test Technical Report*). The assessments in reading and mathematics were administered in grades 3-8 and 11; science was administered in grades 5, 8, and 11.

NeSA replaced previous school-based assessments for purposes of local, state, and federal accountability. The NeSA RMS consists entirely of multiple choice items and will be administered, to the extent practicable, online. In January 2009, the NDE contracted with Data Recognition Corporation (DRC) to support the Department of Education with the administration, record keeping, and reporting of statewide student assessment and accountability.

Phase-In Schedule for NeSA: The NDE prescribed such assessments starting in the 2009-2010 school year to be phased in as shown in Table 1.2.1. The state intends to use the expertise and experience of in-state educators to participate, to the maximum extent possible, in the design and development of the new statewide assessment system.

Table 1.2.1: NeSA Administration Schedule

Subject	Administration Year		Grades
	Field Test	Operational	
Reading	2009	2010	3 through 8 plus high school
Mathematics	2010	2011	3 through 8 plus high school
Science	2011	2012	5, 8 and 11

Advisory Committees: Legislative Bill 1157 added a governor-appointed Technical Advisory Committee (TAC) with three nationally recognized experts in educational assessment, one Nebraska administrator, and one Nebraska teacher. The TAC reviewed the development plan for the NeSA, and provided technical advice, guidance, and research to help the NDE make informed decisions regarding standards, assessment, and accountability.

2. ITEM AND TEST DEVELOPMENT

2.1 CONTENT STANDARDS

In April of 2008, the Nebraska Legislature passed into state law Legislative Bill 1157. This action changed previous provisions related to standards, assessment, and reporting. Specific to standards, the legislation stated:

- The State Board of Education shall adopt measurable academic content standards for at least the grade levels required for statewide assessment. The standards shall cover the content areas of reading, writing, mathematics, science, and social studies. The standards adopted shall be sufficiently clear and measurable to be used for testing student performance with respect to mastery of the content described in the state standards.
- The State Board of Education shall develop a plan to review and update standards for each content area every five years.
- The State Board of Education shall review and update the standards in reading by July 1, 2009, the standards in mathematics by July 1, 2010, and these standards in all other content areas by July 1, 2013.

The Nebraska Language Arts Standards are the foundation for NeSA-R. This assessment instrument is comprised of items that address standards for grades 3–8 and 12. The standards are assessed at grade-level with the exception of grade 12. The grade 12 standards are assessed on the NeSA tests at grade 11. The reading standards for each grade are represented in items that are distributed between two reporting categories: Vocabulary and Comprehension. The Vocabulary standards include word structure, context clues, and semantic relationships. The Comprehension standards include author's purpose, elements of narrative text, literary devices, main idea, relevant details, text features, genre, and generating questions while reading.

The mathematics component of the NeSA is composed of items that address indicators in grades 3–8 and high school. The standards are assessed at grade level with the exception of high school. The high school standards are assessed on the NeSA-M at grade 11. The assessable standards for each grade level are distributed among the four reporting categories: Number Sense Concepts, Geometric/Measurement Concepts, Algebraic Concepts, and Data Analysis/Probability Concepts. The National Council of Teachers of Mathematics (NCTM) and the National Assessment of Educational Progress (NAEP) standards are the foundation of the Nebraska Mathematics standards.

The science component of the NeSA is composed of items that address indicators in grade-band strands 3–5, 6–8, and 9–12. The NeSA-S assesses the standards for each grade-band strand at a specific grade: 3-5 strand at grade 5, 6–8 strand at grade 8, and 9–12 strand at grade 11. The assessable standards for each grade level are distributed among the four reporting categories: Inquiry, The Nature of Science, and Technology; Physical Science; Life Science; and Earth and Space Sciences.

2.2 TEST BLUEPRINTS

The test blueprints for each assessment include lists of all the standards, organized by reporting categories. The test blueprints also contain the Depth of Knowledge (DOK) level assigned to each standard and the range of test items to be part of the assessment by indicator. The NeSA-R test blueprint was developed and approved in fall 2009 (Appendix A). The NeSA-M test blueprint was developed and approved in fall 2010 (Appendix B). The NeSA-S test blueprint was developed and approved in fall 2011 (Appendix C).

2.3 MULTIPLE-CHOICE ITEMS

Each assessment incorporates multiple-choice (MC) items to assess the content standards. Students are required to select a correct answer from four response choices with a single correct answer. Each MC item is scored as right or wrong and has a value of one raw score point. MC items are used to assess a variety of skill levels in relation to the tested standards.

2.4 PASSAGE SELECTION

All items in the reading assessment were derived from a selection of narrative and informational passages. Passages acquired were “authentic” in that they were purchased from the test vendor that commissioned experienced passage writers to provide quality pieces of text. Passages were approved by a group of reading content specialists that have teaching experience at specific grade levels. These experts were given formal training on the specific requirements of the Nebraska assessment of reading. The group, under the facilitation of the NDE test development team, screened and edited passages for:

- interest and accuracy of information in a passage to a particular grade level;
- grade-level appropriateness of passage topic and vocabulary;
- rich passage content to support the development of high-quality test questions;
- bias, sensitivity, and fairness issues; and
- readability considerations and concerns.

Passages that were approved moved forward for the development of test items.

The readability of a passage was an evaluative process made by Nebraska educators, the NDE’s test development team, DRC’s reading content specialists, and other individuals who understand each particular grade level and children of a particular age group. In addition, formal readability programs were also used by DRC to provide a “snapshot” of a passage’s reading difficulty based on sentence structure, length of words, etc. All of this information, along with the classroom context and content appropriateness of a passage, was taken into consideration when placing a passage at a particular grade.

2.5 ITEM DEVELOPMENT AND REVIEW

The most significant considerations in the item and test development process are: aligning the items to the grade level indicators; determining the grade-level appropriateness; DOK; estimated difficulty level; and determining style, accuracy, and correct terminology. In addition, the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999) and *Universal Design* (Thompson, Johnstone, & Thurlow, 2002) guided the following steps in the item development process:

- Analyze the grade-level indicators and test blueprints.
- Analyze item specifications and style guides.
- Select qualified item writers.
- Develop item-writing workshop training materials.
- Train Nebraska educators to write items.
- Write items that match the standards, are free of bias, and address fairness and sensitivity concerns.
- Conduct and monitor internal item reviews and quality processes.
- Prepare passages and items for review by a committee of Nebraska educators (content and bias/sensitivity).
- Select and assemble items for field testing.
- Field test items, score the items, and analyze the data.
- Review items and associated statistics after field testing, including bias statistics.
- Update item bank.

Item Writer Training: The test items were written by Nebraska educators who were recommended for the process by an administrator. Three criteria were considered in selecting the item writers: educational role, geographic location, and experience with item writing.

Prior to developing items for NeSA, a cadre of item writers was trained with regard to:

- Nebraska content standards and test blueprints;
- cognitive levels, including DOK;
- principles of Universal Design;
- skill-specific and balanced test items for the grade level;
- developmentally appropriate structure and content;
- item-writing technical quality issues;
- bias, fairness, and sensitivity issues; and
- style considerations and item specifications.

Item Writing: To ensure that all test items met the requirements of the approved target content test blueprint and were adequately distributed across subcategories and levels of difficulty, item writers were asked to document the following specific information as each item was written:

- Alignment to the Nebraska Standards: There must be a high degree of match between a particular question and the standard it is intended to measure. Item writers were asked to clearly indicate which standard each item was measuring.

- **Estimated Difficulty Level:** Prior to field testing items, the item difficulties were not known, and writers could only make approximations as to how difficult an item might be. The estimated difficulty level was based upon the writer's own judgment as directly related to his or her classroom teaching and knowledge of the curriculum for a given content area and grade level. The purpose for indicating estimated difficulty levels as items were written was to help ensure that the pool of items would include a range of difficulty (easy, medium, and challenging).
- **Appropriate Grade Level, Item Context, and Assumed Student Knowledge:** Item writers were asked to consider the conceptual and cognitive level of each item. They were asked to review each item to determine whether or not the item was measuring something that was important and could be successfully taught and learned in the classroom.
- **MC Item Options and Distractor Rationale:** Writers were instructed to make sure that each item had only one clearly correct answer. Item writers submitted the answer key with the item. All distractors were plausible choices that represented common errors and misconceptions in student reasoning.
- **Face Validity and Distribution of Items Based upon DOK:** Writers were asked to classify the DOK of each item, using a model based on Norman Webb's work on DOK (Webb, 2002). Items were classified as one of four DOK categories: recall, skill/concept, strategic thinking, and extended thinking.
- **Readability:** Writers were instructed to pay careful attention to the readability of each item to ensure that the focus was on the concepts; not on reading comprehension of the item. Resources writers used to verify the vocabulary level were the *EDL Core Vocabularies* (Taylor, Frackenpohl, White, Nieroroda, Browning, & Brisner, 1989) and the *Children's Writer's Word Book* (Mogilner, 1992). In addition, every test item was reviewed by grade-level experts. They reviewed each item from the perspective of the students they teach, and they determined the validity of the vocabulary used.
- **Grammar and Structure for Item Stems and Item Options:** All items were written to meet technical quality, including correct grammar, syntax, and usage in all items, as well as parallel construction and structure of text associated with each MC item.

Item Review: Throughout the item development process, independent panels of reading content experts reviewed the items. The following guidelines for reviewing assessment items were used during each review process.

A quality item should:

- have only one clear correct answer and contain answer choices that are reasonably parallel in length and structure;
- have a correctly assigned content code (item map);
- measure one main idea or problem;
- measure the objective or curriculum content standard it is designed to measure;

- be at the appropriate level of difficulty;
- be simple, direct, and free of ambiguity;
- make use of vocabulary and sentence structure that is appropriate to the grade level of the student being tested;
- be based on content that is accurate and current;
- when appropriate, contain stimulus material that are clear and concise and provide all information that is needed;
- when appropriate, contain graphics that are clearly labeled;
- contain answer choices that are plausible and reasonable in terms of the requirements of the question, as well as the students' level of knowledge;
- contain distractors that relate to the question and can be supported by a rationale;
- reflect current teaching and learning practices in the content area; and
- be free of gender, ethnic, cultural, socioeconomic, and regional stereotyping bias.

Following each review process, the item writer group and the item review panel discussed suggestions for revisions related to each item. Items were revised only when both groups agreed on the proposed change.

Editorial Review of Items: After items were written and reviewed, the NDE test development specialists reviewed each item for item quality, making sure that the test items were in compliance with guidelines for clarity, style, accuracy, and appropriateness for Nebraska students. Additionally, DRC test development content experts worked collaboratively with the NDE to review and revise the items prior to field testing to ensure highest level of quality possible.

Review of the Online Items: All items for online assessment were reviewed by the NDE, computerized Assessments and Learning (CAL), DRC's online partner, and DRC. In addition to DRC's standard review process to which all items are subjected, and to ensure comparability with paper and pencil versions, all items were reviewed for formatting and scrolling concerns.

Universally Designed Assessments: Universally designed assessments allow participation of the widest possible range of students and result in valid inferences about performance of all students who participate and are based on the premise that each child in school is a part of the population to be tested, and that testing results should not be affected by disability, gender, race, or English language ability (Thompson, Johnstone, & Thurlow, 2002). The NDE and DRC are committed to the development of items and tests that are fair and valid for all students. At every stage of the item and test development process, procedures ensure that items and tests are designed and developed using the elements of universally designed assessments that were developed by the National Center on Educational Outcomes (NCEO).

Federal legislation addresses the need for universally designed assessments. The *No Child Left Behind Act* (Elementary and Secondary Education Act) requires that each state must "provide for the participation in [statewide] assessments of all students" [Section 1111(b)(3)(C)(ix)(I)]. Both Title 1 and IDEA regulations call for universally designed assessments that are accessible and valid for all students including students with disabilities and students with limited English proficiency. The NDE

and DRC recognize that the benefits of universally designed assessments not only apply to these groups of students, but to all individuals with wide-ranging characteristics.

The NDE test development team and Nebraska item writers have been fully trained in the elements of Universal Design as it relates to developing large-scale statewide assessments. Additionally, the NDE and DRC partner to ensure that all items meet the Universal Design requirements during the item review process.

After a review of research relevant to the assessment development process and the principles of Universal Design (Center for Universal Design, 1997), NCEO has produced seven elements of Universal Design as they apply to assessments (Thompson, Johnstone, & Thurlow, 2002).

Inclusive Assessment Population

When tests are first conceptualized, they need to be thought of in the context of who will be tested. If the test is designed for state, district, or school accountability purposes, the target population must include every student except those who will participate in accountability through an alternate assessment. The NDE and DRC are fully aware of increased demands that statewide assessment systems must include and be accountable for ALL students.

Precisely Defined Constructs

An important function of well-designed assessments is that they actually measure what they are intended to measure. The NDE item writers and DRC carefully examine what is to be tested and design items that offer the greatest opportunity for success within those constructs. Just as universally designed architecture removes physical, sensory, and cognitive barriers to all types of people in public and private structures, universally designed assessments must remove all non-construct-oriented cognitive, sensory, emotional, and physical barriers.

Accessible, Non-biased Items

The NDE conducts both internal and external review of items and test specifications to ensure that they do not create barriers because of lack of sensitivity to disability, cultural, or other subgroups. Items and test specifications are developed by a team of individuals who understand the varied characteristics of items that might create difficulties for any group of students. Accessibility is incorporated as a primary dimension of test specifications, so that accessibility is woven into the fabric of the test rather than being added after the fact.

Amenable to Accommodations

Even though items on universally designed assessments will be accessible for most students, there will still be some students who continue to need accommodations. Thus, another essential element of any universally designed assessment is that it is compatible with accommodations and a variety of widely used adaptive equipment and assistive technology. The NDE, DRC, and CAL work to ensure that state guidelines on the use of accommodations are compatible with the assessment being developed.

Simple, Clear, and Intuitive Instructions and Procedures

Assessment instructions should be easy to understand, regardless of a student's experience, knowledge, language skills, or current concentration level. Directions and questions need to be in simple, clear, and understandable language. Knowledge questions that are posed within complex language certainly invalidate the test if students cannot understand how they are expected to respond to a question.

Maximum Readability and Comprehensibility

A variety of guidelines exist to ensure that text is maximally readable and comprehensible. These features go beyond what is measured by readability formulas. Readability and comprehensibility are affected by many characteristics, including student background, sentence difficulty, organization of text, and others. All of these features are considered as the NDE develops the text of assessments.

Plain language is a concept now being highlighted in research on assessments. Plain language has been defined as language that is straightforward and concise. The following strategies for editing text to produce plain language are used during the NDE's editing process:

- Reduce excessive length.
- Use common words.
- Avoid ambiguous words.
- Avoid irregularly spelled words.
- Avoid proper names.
- Avoid inconsistent naming and graphic conventions.
- Avoid unclear signals about how to direct attention.
- Mark all questions.
- Maximum legibility.

Legibility is the physical appearance of text, the way that the shapes of letters and numbers enable people to read text easily. Bias results when tests contain physical features that interfere with a student's focus on or understanding of the constructs that test items are intended to assess. DRC works closely with the NDE to develop a style guide that includes dimensions of style that are consistent with universal design.

DOK: Interpreting and assigning DOK levels to both objectives within standards and assessment items is an essential requirement of alignment analysis. Four levels of DOK are used for this analysis. The NeSA assessments include items written at levels 1, 2, and 3. Level 4 items are not included due to the test being comprised of only MC items.

Reading Level 1

Level 1 requires students to receive or recite facts or to use simple skills or abilities. Oral reading that does not include analysis of the text as well as basic comprehension of a text is included. Items require only a shallow understanding of text presented and often consist of verbatim recall from text or simple understanding of a single word or phrase. Some examples that represent, but do not constitute all of, Level 1 performance are:

- Support ideas by reference to details in the text.
- Use a dictionary to find the meaning of words.
- Identify figurative language in a reading passage.

Reading Level 2

Level 2 includes the engagement of some mental processing beyond recalling or reproducing a response; it requires both comprehension and subsequent processing of text or portions of text. Intersentence analysis of inference is required. Some important concepts are covered, but not in a complex way. Standards and items at this level may include words such as summarize, interpret, infer, classify, organize, collect, display, compare, and determine whether fact or opinion. Literal main ideas are stressed. A Level 2 assessment item may require students to apply some of the skills and concepts that are covered in Level 1. Some examples that represent, but do not constitute all of, Level 2 performance are:

- Use context cues to identify the meaning of unfamiliar words.
- Predict a logical outcome based on information in a reading selection.
- Identify and summarize the major events in a narrative.

Reading Level 3

Deep knowledge becomes more of a focus at Level 3. Students are encouraged to go beyond the text; however, they are still required to show understanding of the ideas in the text. Students may be encouraged to explain, generalize, or connect ideas. Standards and items at Level 3 involve reasoning and planning. Students must be able to support their thinking. Items may involve abstract theme identification, inference across an entire passage, or students' application of prior knowledge. Items may also involve more superficial connections between texts. Some examples that represent, but do not constitute all of, Level 3 performance are:

- Determine the author's purpose and describe how it affects the interpretation of a reading selection.
- Summarize information from multiple sources to address a specific topic.
- Analyze and describe the characteristics of various types of literature.

Reading Level 4

Higher-order thinking is central and knowledge is deep at Level 4. The standard or assessment item at this level will probably be an extended activity, with extended time provided. The extended time

period is not a distinguishing factor if the required work is only repetitive and does not require applying significant conceptual understanding and higher-order thinking. Students take information from at least one passage and are asked to apply this information to a new task. They may also be asked to develop hypotheses and perform complex analyses of the connections among texts. Some examples that represent, but do not constitute all of, Level 4 performance are:

- Analyze and synthesize information from multiple sources.
- Examine and explain alternative perspectives across a variety of sources.
- Describe and illustrate how common themes are found across texts from different cultures.

Mathematics Level 1

Level 1 includes the recall of information such as a fact, definition, term, or a simple procedure, as well as performing a simple algorithm or applying a formula. That is, in mathematics, a one-step, well-defined, and straight algorithmic procedure should be included at this lowest level. Other key words that signify a Level 1 include “identify,” “recall,” “recognize,” “use,” and “measure.” Verbs such as “describe” and “explain” could be classified at different levels, depending on what is to be described and explained.

Mathematics Level 2

Level 2 includes the engagement of some mental processing beyond a habitual response. A Level 2 assessment item requires students to make some decisions as to how to approach the problem or activity, whereas Level 1 requires students to demonstrate a rote response, perform a well-known algorithm, follow a set procedure (like a recipe), or perform a clearly defined series of steps. Keywords that generally distinguish a Level 2 item include “classify,” “organize,” “estimate,” “make observations,” “collect and display data,” and “compare data.” These actions imply more than one step. For example, to compare data requires first identifying characteristics of the objects or phenomenon and then grouping or ordering the objects. Some action verbs, such as “explain,” “describe,” or “interpret” could be classified at different levels depending on the object of the action. For example, if an item required students to explain how light affects mass by indicating there is a relationship between light and heat, this is considered a Level 2. Interpreting information from a simple graph, requiring reading information from the graph, also is a Level 2. Interpreting information from a complex graph that requires some decisions on what features of the graph need to be considered and how information from the graph can be aggregated is a Level 3. Caution is warranted in interpreting Level 2 as only skills because some reviewers will interpret skills very narrowly, as primarily numerical skills. Such interpretation excludes from this level other skills, such as visualization skills and probability skills, which may be more complex simply because they are less common. Other Level 2 activities include explaining the purpose and use of experimental procedures; carrying out experimental procedures; making observations and collecting data; classifying, organizing, and comparing data; and organizing and displaying data in tables, graphs, and charts.

Mathematics Level 3

Level 3 requires reasoning, planning, using evidence, and a higher level of thinking than the previous two levels. In most instances, requiring students to explain their thinking is a Level 3. Activities that require students to make conjectures are also at this level. The cognitive demands at Level 3 are complex and abstract. The complexity does not result from the fact that there are multiple answers, a possibility for both Levels 1 and 2, but because the task requires more demanding reasoning. An activity, however, that has more than one possible answer and requires students to justify the response they give would most likely be a Level 3. Other Level 3 activities include drawing conclusions from observations, citing evidence and developing a logical argument for concepts, explaining phenomena in terms of concepts, and using concepts to solve problems.

Mathematics Level 4

Level 4 requires complex reasoning, planning, developing, and thinking most likely over an extended period of time. The extended time period is not a distinguishing factor if the required work is only repetitive and does not require applying significant conceptual understanding and higher-order thinking. For example, if a student has to take the water temperature from a river each day for a month and then construct a graph, this would be classified as a Level 2. However, if the student were to conduct a river study that requires taking into consideration a number of variables, this would be a Level 4. At Level 4, the cognitive demands of the task should be high and the work should be very complex. Students should be required to make several connections—relate ideas *within* the content area or *among* content areas—and have to select one approach among many alternatives on how the situation should be solved, in order to be at this highest level. Level 4 activities include designing and conducting experiments, making connections between a finding and related concepts and phenomena, combining and synthesizing ideas into new concepts, and critiquing experimental designs.

Science Level 1

Level 1 (Recall and Reproduction) requires the recall of information, such as a fact, definition, term, or a simple procedure, as well as performance of a simple science process or procedure. Level 1 only requires students to demonstrate a rote response, use a well-known formula, follow a set procedure (like a recipe), or perform a clearly defined series of steps. A “simple” procedure is well defined and typically involves only one step. Verbs such as “identify,” “recall,” “recognize,” “use,” “calculate,” and “measure” generally represent cognitive work at the recall and reproduction level. Simple word problems that can be directly translated into and solved by a formula are considered Level 1. Verbs such as “describe” and “explain” could be classified at different DOK levels, depending on the complexity of what is to be described and explained. A student answering a Level 1 item either knows the answer or does not: that is, the item does not need to be “figured out” or “solved.” In other words, if the knowledge necessary to answer an item automatically provides the answer to it, then the item is at Level

1. If the knowledge needed to answer the item is not automatically provided in the stem, the item is at least at Level 2. Some examples that represent, but do not constitute all of, Level 1 performance are:

- Recall or recognize a fact, term, or property.
- Represent in words or diagrams a scientific concept or relationship.
- Provide or recognize a standard scientific representation for simple phenomenon.
- Perform a routine procedure, such as measuring length.

Science Level 2

Level 2 (Skills and Concepts) includes the engagement of some mental processing beyond recalling or reproducing a response. The content knowledge or process involved is **more complex** than in Level 1. Items require students to make some decisions as to how to approach the question or problem. Keywords that generally distinguish a Level 2 item include “classify,” “organize,” “estimate,” “make observations,” “collect and display data,” and “compare data.” These actions imply **more than one step**. For example, to compare data requires first identifying characteristics of the objects or phenomena and then grouping or ordering the objects. Level 2 activities include making observations and collecting data; classifying, organizing, and comparing data; and organizing and displaying data in tables, graphs, and charts. Some action verbs, such as “explain,” “describe,” or “interpret,” could be classified at different DOK levels, depending on the complexity of the action. For example, interpreting information from a simple graph, requiring reading information from the graph, is a Level 2. An item that requires interpretation from a complex graph, such as making decisions regarding features of the graph that need to be considered and how information from the graph can be aggregated, is at Level 3. Some examples that represent, but do not constitute all of, Level 2 performance are:

- Specify and explain the relationship between facts, terms, properties, or variables.
- Describe and explain examples and non-examples of science concepts.
- Select a procedure according to specified criteria and perform it.
- Formulate a routine problem, given data and conditions.
- Organize, represent, and interpret data.

Science Level 3

Level 3 (Strategic Thinking) requires reasoning, planning, using evidence, and a higher level of thinking than the previous two levels. The cognitive demands at Level 3 are complex and abstract. The complexity does not result only from the fact that there could be multiple answers, a possibility for both Levels 1 and 2, but because the multi-step task requires more demanding reasoning. In most instances, requiring students to explain their thinking is at Level 3; requiring a very simple explanation or a word or two should be at Level 2. An activity that has more than one possible answer and requires students to justify the response they give would most likely be a Level 3. Experimental designs in Level 3 typically involve more than one dependent variable.

Other Level 3 activities include drawing conclusions from observations; citing evidence and developing a logical argument for concepts; explaining phenomena in terms of concepts; and using concepts to solve non-routine problems. Some examples that represent, but do not constitute all of, Level 3 performance are:

- Identify research questions and design investigations for a scientific problem.
- Solve non-routine problems.
- Develop a scientific model for a complex situation.
- Form conclusions from experimental data.

Science Level 4

Level 4 (Extended Thinking) involves high cognitive demands and complexity. Students are required to make several connections—relate ideas within the content area or among content areas—and have to select or devise one approach among many alternatives to solve the problem. Many on-demand assessment instruments will not include any assessment activities that could be classified as Level 4. However, standards, goals, and objectives can be stated in such a way as to expect students to perform extended thinking. “Develop generalizations of the results obtained and the strategies used and apply them to new problem situations,” is an example of a grade 8 objective that is a Level 4. Many, but not all, performance assessments and open-ended assessment activities requiring significant thought will be Level 4.

Level 4 requires complex reasoning, experimental design and planning, and probably will require an extended period of time either for the science investigation required by an objective, or for carrying out the multiple steps of an assessment item. However, the extended time period is not a distinguishing factor if the required work is only repetitive and does not require applying significant conceptual understanding and higher-order thinking. For example, if a student has to take the water temperature from a river each day for a month and then construct a graph, this would be classified as a Level 2 activity. However, if the student conducts a river study that requires taking into consideration a number of variables, this would be a Level 4. Some examples that represent, but do not constitute all of, Level 4 performance are:

- Based on data provided from a complex experiment that is novel to the student, deduce the fundamental relationship between a controlled variable and an experimental variable.
- Conduct an investigation, from specifying a problem to designing and carrying out an experiment, to analyzing its data and forming conclusions.

Source of Challenge Criterion

Source of Challenge criterion is only used to identify items where the major cognitive demand is inadvertently placed and is other than the targeted skill, concept, or application. Cultural bias or specialized knowledge could be reasons for an item to have a source of challenge problem. Such items’

characteristics may cause some students to not answer an assessment item or answer an assessment item incorrectly or at a lower level even though they have the understanding and skills being assessed.

Item Content Review: Prior to field testing, all newly developed test passages/items were submitted to grade-level content committees for review. The content committees consisted of Nebraska educators from school districts throughout the state. The primary responsibility of the content committees was to evaluate items with regard to quality and content classification, including grade-level appropriateness, estimated difficulty, DOK, and source of challenge. They also suggested revisions, if appropriate. The committees also reviewed the items for adherence to the principles of universal design, including language demand and issues of bias, fairness, and sensitivity.

Item review committee members were selected by the NDE. The NDE test development team members facilitated the process. Training was provided by the NDE and included how to review items for technical quality and content quality, including DOK and adherence to principles of universal design. In addition, training included providing committee members with the procedures for item review.

Committee members reviewed the items for quality and content, as well as for the following categories:

- Indicator (standard) Alignment
- Difficulty Level (classified as Low, Medium, or High)
- DOK (classified as Recall, Application, or Strategic Thinking)
- Correct Answer
- Quality of Graphics
- Appropriate Language Demand
- Freedom from Bias (classified as Yes or No)

Committee members were asked to flag items that needed revision and to denote suggested revisions on the flagged item cards.

Security was addressed by adhering to a strict set of procedures. Items in binders did not leave the meeting rooms and were accounted for at the end of each day before attendees were dismissed. All attendees, with the exception of the NDE staff, were required to sign a Confidentiality Agreement (Appendix D).

Sensitivity and Bias Review: Prior to field testing items, all newly developed test items were submitted to a Bias and Sensitivity Committee for review. The committee's primary responsibility was to evaluate passages and items as to acceptability with regard to bias and sensitivity issues. They also made recommendations for changes or deletion of items in order to remove the area of concern. The bias/sensitivity committee was composed of Nebraska educators who represented the diversity of students. All committee members were trained by an NDE test development lead to review items for bias and sensitivity issues using *Fairness in Testing* training manual developed by DRC (Appendix E).

All passages/items were read by all of the respective committee members. Each member noted bias and/or sensitivity comments on a review form. All comments were then compiled and the actions taken on these items were recorded by the NDE. Committee members were required to sign a Confidentiality Agreement and strict security measures were in place to ensure that secure materials remained guarded (Appendix D).

2.6 ITEM BANKING

DRC maintains an item bank (IDEAS) that provides a repository of item image, history, statistics, and usage. IDEAS includes a record of all newly created items together with item data from each item field test. It also includes all data from the operational administration of the items. Within IDEAS, DRC:

- updates the Nebraska item bank after each administration;
- updates the Nebraska item bank with newly developed items;
- monitors the Nebraska item bank to ensure an appropriate balance of items aligned with content standards, goals, and objectives;
- monitors item history statistics; and
- monitors the Nebraska item bank for an appropriate balance of DOK levels.

2.7 THE OPERATIONAL FORM CONSTRUCTION PROCESS

The Spring 2013 operational forms were constructed in Lincoln, Nebraska in August 2012 (Reading and Mathematics) and September 2012 (Science). The forms were constructed by NDE representatives and DRC content specialists. Training was provided by DRC for the forms construction process.

Prior to the construction of the operational forms, DRC Test Development content specialists reviewed the test blueprints to ensure that there was alignment between the items and the indicators, including the number of items per standard for each content-area test.

DRC Psychometricians provided Test Development specialists with an overview of the psychometric guidelines and targets for operational forms construction. The foremost guideline was for item content to match the test blueprint (Table of Specifications) for the given content. The point-biserial correlation guideline was to be greater than 0.3 (with a requirement for no point-biserial correlation less than zero). In addition, the average target p -value for each test was to be about 0.65. A Differential Item Functioning (DIF) code of C was to be avoided (unless no other items were available to fulfill a blueprint requirement). The overall summary of the actual approved p -value and biserial of the forms is provided in the summary table later in this document.

DRC Test Development specialists printed a copy of each item card, with accompanying item characteristics, image, and psychometric data. Test Development specialists verified the accuracy of each item card, making sure that the item image has its correct item characteristics. Test Development specialists carefully reviewed each item card's psychometric data to ensure it is complete and

reasonable. For Reading, the item cards (items and passages) were compiled in binders and sorted by p -values from highest to lowest by passage with associated items. For Mathematics and science, the item cards were compiled in binders and sorted by p -values from highest to lowest by standard and indicator.

The NDE and DRC also checked to see that each item met technical quality for well-crafted items, including:

- only one correct answer,
- wording that is clear and concise,
- grammatical correctness,
- appropriate item complexity and cognitive demand,
 - appropriate range of difficulty,
 - appropriate depth-of-knowledge alignment,
- aligned with principles of Universal Design, and
- free of any content that might be offensive, inappropriate, or biased (content bias).

NDE representatives and DRC Test Development specialists made initial grade-level selections of the items (passages and items for Reading), known as the “pull list,” to be included on the 2013 operational forms. The goal was for the first pull of the items to meet the Table of Specification (TOS) guidelines and psychometric guidelines specific to each content area. As items were selected, the unique item codes were entered into a form building template which contained the item pool with statistics and item characteristics. The template automatically calculated the p -value, biserial, number of items per indicator and standard, number of items per DOK level (1, 2, or 3), and distribution of answer key as items were selected for each grade. As items were selected, the item characteristics (key, DOK, and alignment to indicator) were verified.

Differential Item Functioning in Operational Form Construction: DIF is present when the likelihood of success on an item is influenced by group membership. A pattern of such results may suggest the presence of, but does not prove, *item bias*. Actual item bias may present negative group stereotypes, may use language that is more familiar to one subpopulation than to another, or may present information in a format that disadvantages certain learning styles. While the source of item bias is often clear to trained judges, many instances of DIF may have no identifiable cause (resulting in false positives). As such, DIF is not used as a substitute for rigorous, hands-on reviews by content and bias specialists. Instead, DIF helps to organize the review of the instances in which bias is suggested. No items are automatically rejected simply because a statistical method flagged them or automatically accepted because they were not flagged.

During the operational form-pull process, the DIF code for every item proposed for use in the operational (core) is examined. To the greatest extent possible, the blueprint is met through the use of items with statistical DIF codes of A. Although DIF codes of B and C are not desirable and are deliberately avoided, the combination of the required blueprint and the depth of the available

operational-ready item pool occasionally requires that items with B and C DIF are considered for operational use. In addition, for passage-based tests like reading (in which each item available in the item pool is linked to a set of passage-based items), the ability to use a minimum number of items associated with a passage may require the use of an item with a B or C DIF code. In any case, prior to allowing exceptions of this nature, every attempt is made to re-craft the core to avoid the use of the item with B or C DIF. Before allowing any exception to be made, the item in question is examined to determine whether the suggested bias is identifiable. If the suggested bias is determined to be valid, the item is not used.

Review of the Items and Test Forms: At every stage of the test development process the match of the item to the content standard was reviewed and verified, since establishing content validity is one of the most important aspects in the legal defensibility of a test. As a result, it is essential that an item selected for a form link directly to the content curriculum standard and performance standard to which it is measuring. Test Development specialists verified all items against their classification codes and item maps, both to evaluate the correctness of the classification and to ensure that the given task measures what it purports to measure.

2.8 READING ASSESSMENT

Test Design: The NeSA-R operational test includes operational passages with associated items and one field test passage with associated items. This test was administered online via the test engine developed and managed by CAL. One form of the test was also published in a printed test booklet for students needing accommodation provided by paper/pencil test. Depending on grade, the forms contained 45 to 50 operational items.

Table 2.8.1 Reading 2013 Operational Test

Grade	Total No. of MC Core Items	No. of Embedded FT Items per Form (1 passage)	Total Items per Form	Total No. of Equivalent FT Forms	Total Core Points	Total No. of MC Items Added to the Bank
3	45	10	55	5	45	50
4	45	10	55	5	45	50
5	48	10	58	5	48	50
6	48	10	58	5	48	50
7	48	10	58	5	48	50
8	50	10	60	5	50	50
11	50	10	60	5	50	50

Psychometric Targets: The goal for the operational forms was to meet a mean *p*-value of approximately 0.65 with values restricted to the range of 0.30 to 0.90 and point-biserial correlations greater than 0.25, based on previous field test results. However, these targets are secondary to constructing the best test possible. Some compromises were allowed when necessary to best meet the objective of the assessment, to conform to the test specifications, and to operate within the limitations of the item bank.

Equating Design: Spring 2013 was the fourth operational administration of NeSA-R. Approximately 70% of the assessment was constructed from passages and related items field tested from Spring 2009–2012. The approximate remaining 30% of the assessment was constructed from an overlap of items and passages from the 2010, 2011 and 2012 operational (core) item positions from the Spring 2010, 2011 and 2012 operational forms.

In addition to the operational passage sets, each student received one randomly selected field test passage with items. The passages and items taken by each student were administered in two testing sessions each intended to be administered in a single class period. The operational passages were administered to the student in a random order, but the field test passage was maintained in a fixed position. Items within a passage were administered in a fixed order for the passage. Equating was accomplished by anchoring on the operational passage items and calibrating the field test items concurrently.

2.9 MATHEMATICS ASSESSMENT

Test Design: The NeSA-M operational test includes operational and field test items. This test was administered online via the test engine developed and managed by CAL. One form of the test was also published in a printed test booklet for students needing accommodation provided by paper/pencil test. Depending on grade, the forms contained 50 to 60 operational items.

Table 2.9.1 Mathematics 2013 Operational Test

Grade	Total No. of MC Core Items	No. of Embedded FT Items per Form	Total Items per Form	Total No. of Equivalent FT Forms	Total Core Points	Total No. of MC Items Added to the Bank
3	50	10	60	5	50	50
4	55	10	65	5	55	50
5	55	10	65	5	55	50
6	58	10	68	5	58	50
7	58	10	68	5	58	50
8	60	10	70	5	60	50
11	60	10	70	5	60	50

Psychometric Targets: The goal for the operational forms was to meet a mean *p*-value of approximately 0.65 with values restricted to the range of 0.3 to 0.9 and point-biserial correlations greater than 0.25, based on previous field test results. However, these targets are secondary to constructing the best test possible. Some compromises were allowed when necessary to best meet the objective of the assessment, to conform to the test specifications, and to operate within the limitations of the item bank.

Equating Design: Spring 2013 was the third operational administration of NeSA-M. Approximately 70% of the assessment was constructed from items field tested from Spring 2010–2012. The approximate remaining 30% of the assessment was constructed from an overlap of items from the 2011 and 2012 operational (core) item positions from the 2011 and 2012 operational forms.

In addition to the operational items, each student received 10 randomly selected field test items. The items taken by each student were administered in two testing sessions each intended to be administered in a single class period. The operational items were administered to the student in a random order, but the field test items were maintained in fixed positions. Equating was accomplished by anchoring on the operational items and calibrating the field test items concurrently.

2.10 SCIENCE ASSESSMENT

Test Design: The NeSA-S operational test includes operational and field test items. This test was administered online via the test engine developed and managed by CAL. One form of the test was also published in a printed test booklet for students needing accommodation provided by paper/pencil test. Depending on grade, the forms contained 50 to 60 operational items.

Table 2.10.1 Science 2013 Operational Test

Grade	No. Operational Items	No. of Embedded FT Items per Form	Total Items	Total No. of FT Forms	Total No. of Items Field Tested
5	50	10	60	5	50
8	60	10	70	5	50
11	60	10	70	5	50

Psychometric Targets: The goal for the operational forms was to meet a mean *p*-value of approximately 0.65 with values restricted to the range of 0.3 to 0.9 and point-biserial correlations greater than 0.25, based on previous field test results. However, these targets are secondary to constructing the best test possible. Some compromises were allowed when necessary to best meet the

objective of the assessment, to conform to the test specifications, and to operate within the limitations of the item bank.

Equating Design: Spring 2013 was the second operational administration of NeSA-S. Approximately 70% of the assessment was constructed from items field tested in Spring 2011 and 2012. The approximate remaining 30% of the assessment was constructed from an overlap of items from the 2012 operational (core) item positions from the 2012 operational forms.

In addition to the operational items, each student received 10 randomly selected field test items. The items taken by each student were administered in two testing sessions each intended to be administered in a single class period. The operational items were administered to the student in a random order, but the field test items were maintained in fixed positions. Equating was accomplished by anchoring on the operational items and calibrating the field test items concurrently.

3. STUDENT DEMOGRAPHICS

Three areas of student demographics are discussed below, summary demographics and accommodations, summary information on the number of students tested with breakdowns by mode, and summary information on testing times.

3.1 DEMOGRAPHICS AND ACCOMMODATIONS

Gender, ethnicity, food program status (FRL), Limited English Proficiency/English Language Learners (LEP/ELL) status, Special Education status (SPED), and accommodation status data was collected for all students who participated and attempted the 2013 NeSA assessments. This summary of student demographics by grade and content area is provided in Tables 3.1.1– 3.1.7. These tables show that for each grade, over 22,000 students took the assessment. Of those students across grades, half are males, half are females, over half are white, and less than one fifth are Hispanic. Among the students across grades, about 35% to 47% are eligible for FRL, 2% to 8% are LEP/ELL, and 11% to 15% belong to at least one SPED category. For all three of these programs/categories, the participation rate is lower for upper grade students. In terms of the test accommodations, there are about 5% to 14% of the students across grade and content area that report at least one type of accommodation (see row ‘Total’ for ‘Accommodation’ in the table). Similar to the rate for FRL, LEP/ELL, and SPED across grades, the rate for accommodation is lower for high school students (Grade 11). Across all grades, the ‘Timing/Schedule/Setting’ is the most utilized accommodation (about 7-9% for Grade 3-8, and 3% for Grade 11), followed by the ‘Content Presentation’ (about 6-8% for Grade 3-7, and 3-5% for Grade 8 and 11). For lower-grade students, (direct or indirect) ‘Linguistic Support with Content and Test Items, and Test Directions’ is reported (about 4-5% for Grade 3-5), too.

Table 3.1.1 Grade 3 NeSA Summary Data: Demographics and Accommodations

Grade 3		Reading		Mathematics	
		Count	%	Count	%
All Students		22712	100.0	22752	100.0
Gender	Female	11106	48.9	11124	48.9
	Male	11606	51.1	11628	51.1
Race/Ethnicity	American Indian/Alaska Native	325	1.4	325	1.4
	Asian	490	2.2	514	2.3
	Black	1506	6.6	1510	6.6
	Hispanic	3945	17.4	3958	17.4
	Native Hawaiian or other Pacific Islander	22	0.1	22	0.1

Grade 3		Reading		Mathematics	
		Count	%	Count	%
	White	15632	68.8	15629	68.7
	Two or More Races	792	3.5	794	3.5
Food Program	Yes	10617	46.7	10640	46.8
	No	11995	52.8	12007	52.8
LEP/ELL	Yes	1904	8.4	1954	8.6
	No	20808	91.6	20798	91.4
Special Education	Yes	3330	14.7	3325	14.6
	No	19382	85.3	19427	85.4
Accommodations	Content Presentation	1590	7.0	1619	7.1
	Response	787	3.5	991	4.4
	Timing/Schedule/Setting	1661	7.3	1666	7.3
	Direct Linguistic Support with Test Directions	1197	5.3	1216	5.3
	Direct Linguistic Support with Content and Test items	1378	6.1	1399	6.1
	Indirect Linguistic Support	1154	5.1	1179	5.2
	Spanish	9	0.0	19	0.1
	Braille*	0	0.0	0	0.0
	Large Print*	10	0.0	9	0.0
	Total	3186	14.0	3235	14.2

*Count represents the number of booklets ordered. This is not tracked.

Table 3.1.2 Grade 4 NeSA Summary Data: Demographics and Accommodations

Grade 4		Reading		Mathematics	
		Count	%	Count	%
All Students		22206	100.0	22238	100.0
Gender	Female	10745	48.4	10758	48.4
	Male	11461	51.6	11480	51.6
Race/Ethnicity	American Indian/Alaska Native	311	1.4	311	1.4

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Grade 4		Reading		Mathematics	
		Count	%	Count	%
	Asian	507	2.3	516	2.3
	Black	1435	6.5	1438	6.5
	Hispanic	3863	17.4	3887	17.5
	Native Hawaiian or other Pacific Islander	16	0.1	16	0.1
	White	15307	68.9	15304	68.8
	Two or More Races	767	3.5	766	3.4
Food Program	Yes	10159	45.7	10163	45.7
	No	11958	53.9	11970	53.8
LEP/ELL	Yes	1553	7.0	1597	7.2
	No	20653	93.0	20641	92.8
Special Education	Yes	3414	15.4	3408	15.3
	No	18792	84.6	18830	84.7
Accommodations	Content Presentation	1679	7.6	1723	7.7
	Response	801	3.6	1101	5.0
	Timing/Schedule/Setting	1865	8.4	1853	8.3
	Direct Linguistic Support with Test Directions	947	4.3	981	4.4
	Direct Linguistic Support with Content and Test items	1097	4.9	1136	5.1
	Indirect Linguistic Support	964	4.3	994	4.5
	Spanish	22	0.1	38	0.2
	Braille*	4	0.0	2	0.0
	Large Print*	13	0.1	14	0.1
	Total	3108	14.0	3148	14.2

*Count represents the number of booklets ordered. This is not tracked.

Table 3.1.3 Grade 5 NeSA Summary Data: Demographics and Accommodations

Grade 5		Reading		Mathematics		Science	
		Count	%	Count	%	Count	%
All Students		21982	100.0	22022	100.0	22041	100.0
Gender	Female	10862	49.4	10870	49.4	10877	49.3
	Male	11120	50.6	11152	50.6	11164	50.7
Race/Ethnicity	American Indian/Alaska Native	302	1.4	299	1.4	300	1.4
	Asian	464	2.1	482	2.2	485	2.2
	Black	1385	6.3	1388	6.3	1388	6.3
	Hispanic	3825	17.4	3852	17.5	3857	17.5
	Native Hawaiian or other Pacific Islander	25	0.1	25	0.1	25	0.1
	White	15249	69.4	15241	69.2	15251	69.2
	Two or More Races	732	3.3	735	3.3	735	3.3
Food Program	Yes	9962	45.3	9979	45.3	9990	45.3
	No	11941	54.3	11961	54.3	11971	54.3
LEP/ELL	Yes	1275	5.8	1328	6.0	1336	6.1
	No	20707	94.2	20694	94.0	20705	93.9
Special Education	Yes	3401	15.5	3394	15.4	3406	15.5
	No	18581	84.5	18628	84.6	18635	84.5
Accommodations	Content Presentation	1828	8.3	1800	8.2	1761	8.0
	Response	827	3.8	1145	5.2	826	3.7
	Timing/Schedule/Setting	2028	9.2	1983	9.0	1933	8.8
	Direct Linguistic Support with Test Directions	753	3.4	769	3.5	670	3.0
	Direct Linguistic Support with Content and Test items	873	4.0	919	4.2	826	3.7
	Indirect Linguistic Support	753	3.4	752	3.4	680	3.1
	Spanish	12	0.1	31	0.1	32	0.1
	Braille*	3	0.0	3	0.0	3	0.0

Grade 5		Reading		Mathematics		Science	
		Count	%	Count	%	Count	%
	Large Print*	8	0.0	8	0.0	10	0.0
	Total	3075	14.0	3066	13.9	2899	13.2

*Count represents the number of booklets ordered. This is not tracked.

Table 3.1.4 Grade 6 NeSA Summary Data: Demographics and Accommodations

Grade 6		Reading		Mathematics	
		Count	%	Count	%
All Students		21651	100.0	21703	100.0
Gender	Female	10649	49.2	10666	49.1
	Male	11002	50.8	11037	50.9
Race/Ethnicity	American Indian/Alaska Native	335	1.5	335	1.5
	Asian	468	2.2	482	2.2
	Black	1453	6.7	1458	6.7
	Hispanic	3598	16.6	3621	16.7
	Native Hawaiian or other Pacific Islander	29	0.1	29	0.1
	White	15093	69.7	15102	69.6
	Two or More Races	675	3.1	676	3.1
Food Program	Yes	9574	44.2	9597	44.2
	No	12029	55.6	12052	55.5
LEP/ELL	Yes	781	3.6	827	3.8
	No	20870	96.4	20876	96.2
Special Education	Yes	3149	14.5	3154	14.5
	No	18502	85.5	18549	85.5
Accommodations	Content Presentation	1643	7.6	1602	7.4
	Response	680	3.1	1051	4.8
	Timing/Schedule/Setting	1678	7.8	1642	7.6
	Direct Linguistic Support with Test Directions	529	2.4	525	2.4

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Grade 6		Reading		Mathematics	
		Count	%	Count	%
	Direct Linguistic Support with Content and Test items	621	2.9	598	2.8
	Indirect Linguistic Support	520	2.4	493	2.3
	Spanish	9	0.0	33	0.2
	Braille*	1	0.0	1	0.0
	Large Print*	16	0.1	14	0.1
	Total	2592	12.0	2525	11.6

*Count represents the number of booklets ordered. This is not tracked.

Table 3.1.5 Grade 7 NeSA Summary Data: Demographics and Accommodations

Grade 7		Reading		Mathematics	
		Count	%	Count	%
	All Students	21425	100.0	21464	100.0
Gender	Female	10426	48.7	10442	48.6
	Male	10999	51.3	11022	51.4
Race/Ethnicity	American Indian/Alaska Native	300	1.4	298	1.4
	Asian	376	1.8	381	1.8
	Black	1379	6.4	1375	6.4
	Hispanic	3517	16.4	3562	16.6
	Native Hawaiian or other Pacific Islander	22	0.1	22	0.1
	White	15164	70.8	15161	70.6
	Two or More Races	667	3.1	665	3.1
Food Program	Yes	9293	43.4	9301	43.3
	No	12087	56.4	12103	56.4
LEP/ELL	Yes	568	2.7	627	2.9
	No	20857	97.3	20837	97.1
Special Education	Yes	2923	13.6	2911	13.6
	No	18502	86.4	18553	86.4

Grade 7		Reading		Mathematics	
		Count	%	Count	%
Accommodations	Content Presentation	1260	5.9	1267	5.9
	Response	454	2.1	942	4.4
	Timing/Schedule/Setting	1433	6.7	1394	6.5
	Direct Linguistic Support with Test Directions	272	1.3	313	1.5
	Direct Linguistic Support with Content and Test items	269	1.3	316	1.5
	Indirect Linguistic Support	277	1.3	264	1.2
	Spanish	4	0.0	39	0.2
	Braille*	2	0.0	2	0.0
	Large Print*	9	0.0	6	0.0
	Total	1981	9.2	2107	9.8

*Count represents the number of booklets ordered. This is not tracked.

Table 3.1.6 Grade 8 NeSA Summary Data: Demographics and Accommodations

Grade 8		Reading		Mathematics		Science	
		Count	%	Count	%	Count	%
All Students		20984	100.0	21016	100.0	21038	100.0
Gender	Female	10214	48.7	10230	48.7	10241	48.7
	Male	10770	51.3	10786	51.3	10797	51.3
Race/Ethnicity	American Indian/Alaska Native	322	1.5	320	1.5	322	1.5
	Asian	413	2.0	422	2.0	431	2.0
	Black	1263	6.0	1272	6.1	1274	6.1
	Hispanic	3361	16.0	3388	16.1	3392	16.1
	Native Hawaiian or other Pacific Islander	23	0.1	23	0.1	22	0.1
	White	14950	71.2	14942	71.1	14947	71.0
	Two or More Races	652	3.1	649	3.1	650	3.1
Food Program	Yes	8857	42.2	8875	42.2	8886	42.2

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Grade 8		Reading		Mathematics		Science	
		Count	%	Count	%	Count	%
	No	12090	57.6	12100	57.6	12110	57.6
LEP/ELL	Yes	412	2.0	464	2.2	474	2.3
	No	20572	98.0	20552	97.8	20564	97.7
Special Education	Yes	2651	12.6	2635	12.5	2646	12.6
	No	18333	87.4	18381	87.5	18392	87.4
Accommodations	Content Presentation	1047	5.0	1014	4.8	1049	5.0
	Response	479	2.3	863	4.1	538	2.6
	Timing/Schedule/Setting	1303	6.2	1219	5.8	1219	5.8
	Direct Linguistic Support with Test Directions	221	1.1	260	1.2	239	1.1
	Direct Linguistic Support with Content and Test items	208	1.0	272	1.3	244	1.2
	Indirect Linguistic Support	214	1.0	223	1.1	210	1.0
	Spanish	14	0.1	41	0.2	40	0.2
	Braille*	4	0.0	2	0.0	3	0.0
	Large Print*	4	0.0	2	0.0	3	0.0
	Total		1692	8.1	1785	8.5	1704

*Count represents the number of booklets ordered. This is not tracked.

Table 3.1.7 Grade 11 NeSA Summary Data: Demographics and Accommodations

Grade 11		Reading		Mathematics		Science	
		Count	%	Count	%	Count	%
All Students		20911	100.0	20910	100.0	20900	100.0
Gender	Female	10331	49.4	10328	49.4	10327	49.4
	Male	10580	50.6	10582	50.6	10573	50.6
Race/Ethnicity	American Indian/Alaska Native	251	1.2	248	1.2	248	1.2
	Asian	467	2.2	475	2.3	475	2.3
	Black	1261	6.0	1261	6.0	1260	6.0
	Hispanic	3064	14.7	3062	14.6	3054	14.6

Grade 11		Reading		Mathematics		Science	
		Count	%	Count	%	Count	%
	Native Hawaiian or other Pacific Islander	23	0.1	22	0.1	23	0.1
	White	15240	72.9	15239	72.9	15237	72.9
	Two or More Races	605	2.9	603	2.9	603	2.9
Food Program	Yes	7453	35.6	7458	35.7	7448	35.6
	No	13406	64.1	13399	64.1	13402	64.1
LEP/ELL	Yes	426	2.0	448	2.1	448	2.1
	No	20485	98.0	20462	97.9	20452	97.9
Special Education	Yes	2232	10.7	2220	10.6	2227	10.7
	No	18679	89.3	18690	89.4	18673	89.3
Accommodations	Content Presentation	510	2.4	533	2.5	560	2.7
	Response	192	0.9	449	2.1	278	1.3
	Timing/Schedule/Setting	724	3.5	689	3.3	705	3.4
	Direct Linguistic Support with Test Directions	90	0.4	99	0.5	92	0.4
	Direct Linguistic Support with Content and Test items	89	0.4	110	0.5	102	0.5
	Indirect Linguistic Support	116	0.6	116	0.6	117	0.6
	Spanish	22	0.1	30	0.1	33	0.2
	Braille*	1	0.0	1	0.0	1	0.0
	Large Print*	2	0.0	3	0.0	3	0.0
	Total	946	4.5	1031	4.9	968	4.6

*Count represents the number of booklets ordered. This is not tracked.

3.2 STUDENTS TESTED AND MODE SUMMARY DATA

As noted in Chapters One and Two, the 2013 NeSA assessments were administered online to the extent practical. One form of the test was also published in a printed test booklet for students needing accommodation of a paper/pencil test. Tables 3.2.1 – 3.2.3 report the number of students in each test mode. For NeSA-R, between 2% and 6% of students took the assessment in the paper-based version with the lower percentages occurring in middle and high schools.

Table 3.2.1 NeSA-R Number of Students Tested

Grade	Total	Online	Paper	Percent Paper
3	22712	21257	1455	6%
4	22206	20829	1377	6%
5	21982	20694	1288	6%
6	21651	20523	1128	5%
7	21425	20692	733	3%
8	20984	20343	641	3%
11	20911	20472	439	2%

For NeSA-M, between 2% and 7% of students took the assessment in the paper-based version.

Table 3.2.2 NeSA-M Number of Students Tested

Grade	Total	Online	Paper	Percent Paper
3	22752	21250	1502	7%
4	22238	20849	1389	6%
5	22022	20660	1362	6%
6	21703	20535	1168	5%
7	21464	20635	829	4%
8	21016	20307	709	3%
11	20910	20469	441	2%

For NeSA-S, between 2% and 6% of students took the assessment in the paper version.

Table 3.2.3 NeSA-S Number of Students Tested

Grade	Total	Online	Paper	Percent Paper
5	22041	20781	1260	6%
8	21038	20375	663	3%
11	20900	20467	433	2%

Compared to 2012, more students across content area and grade level took the NeSA tests online instead of paper in 2013.

3.3 TESTING TIME

Online testing time for the 2013 NeSA assessments was examined for each grade and content area. Figures 3.3.1, 3.3.2, and 3.3.3 contain a breakout of testing times from the 2013 NeSA-R, NeSA-M, and NeSA-S assessments respectively. The data in Tables 3.3.1, 3.3.2, and 3.3.3 were compiled based

on students who had a *single login*, a *single logout*, and *responded to all the items*. Similar to 2012, students from upper grade levels, on average, spent slightly less time for all content areas. For science there was a difference in the time spent in sessions 1 and 2 across all grades, indicating a tendency toward less time in the second session. As compared to 2012, the average 2013 online testing time slightly increased, especially among the lower grade students. This is probably because there are more first-time online test takers among them. The rest of the distribution of times was comparable. The outliers on the other end, greater than 90 minutes, are also interesting because this data does not include students who *paused out*, had the test ended due to inactivity, or were reactivated. It appears that they were actively involved with the test for the full time between the login and logout, but it raises the question of how fully engaged those students may have been for that amount of time.

Figure 3.3.1 Duration of Online Reading Testing Time by Grade and Session

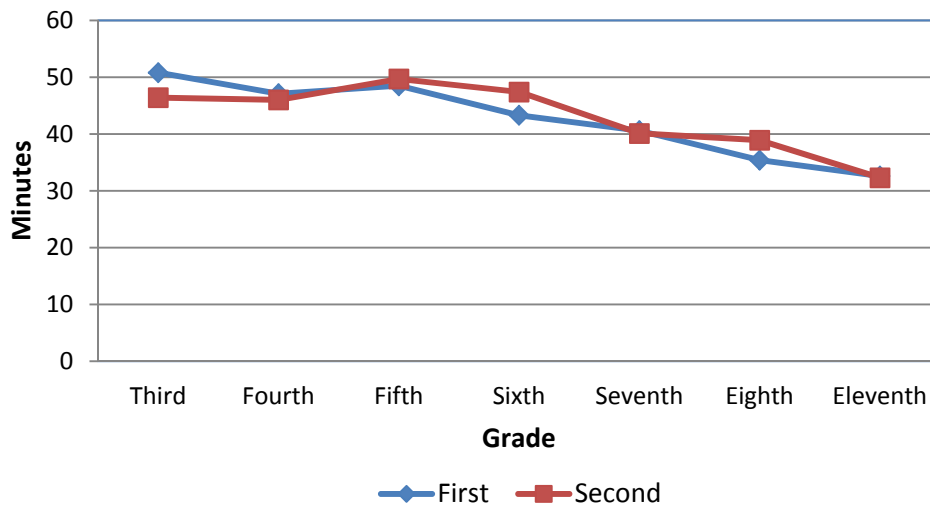


Figure 3.3.2 Duration of Online Mathematics Testing Time by Grade and Session

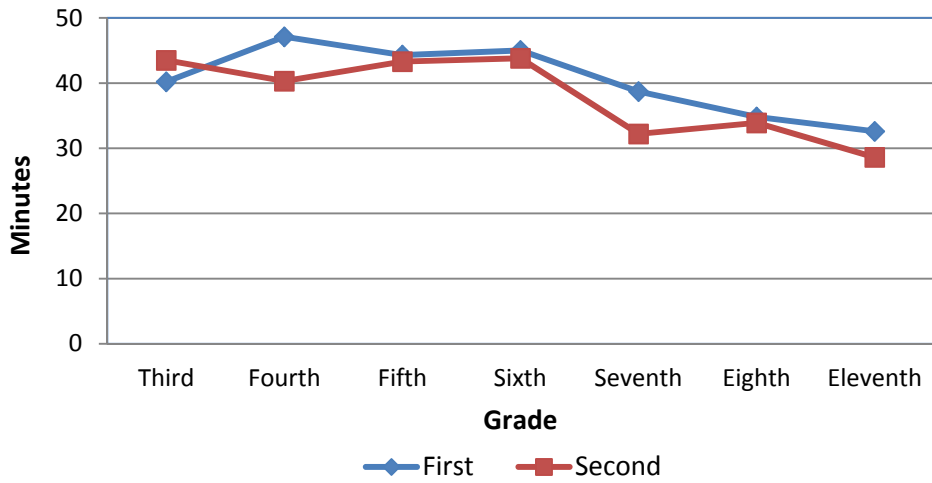


Figure 3.3.3 Duration of Online Science Testing Time by Grade and Session

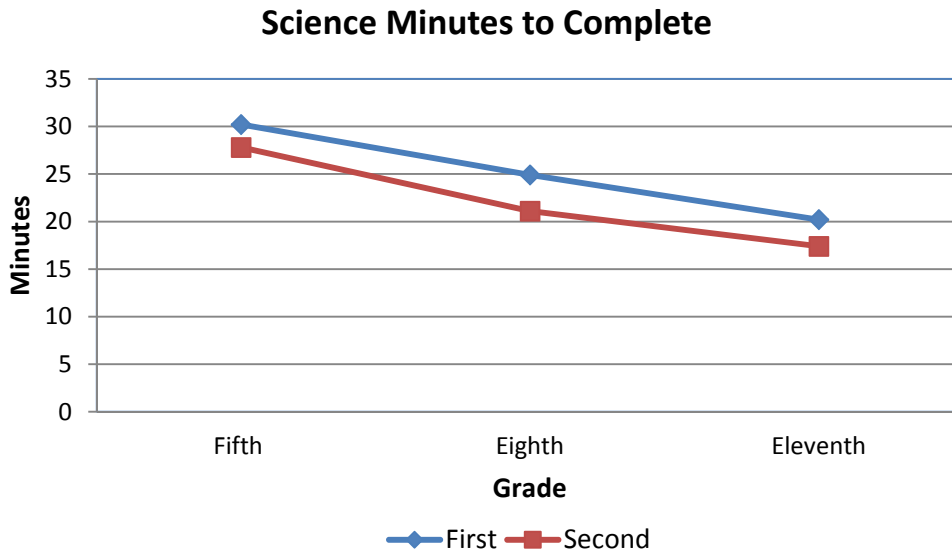


Table 3.3.1 Duration of Reading Online Testing Sessions

Grade	3		4		5		6		7		8		11	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2
<5	0	3	0	1	1	4	1	0	0	7	4	15	42	108
5-10	3	14	1	10	2	5	3	5	10	29	28	36	113	247
10-15	22	83	26	65	28	51	39	35	72	146	162	201	364	668
15-20	154	422	255	321	199	223	337	259	360	587	778	728	1363	1794
20-25	596	1138	906	1134	718	646	1293	803	1307	1611	2617	1685	3147	2969
25-30	1288	2099	1878	2162	1692	1442	2527	1594	2761	2749	4047	2941	4257	3625
30-35	2037	2706	2672	2802	2454	2308	3312	2567	3727	3454	4109	3435	4015	3602
35-40	2610	2698	2914	2911	2972	2693	3168	3009	3414	3296	3087	3289	2856	2702
40-45	2704	2645	2585	2513	2653	2593	2483	2687	2733	2613	1929	2558	1734	1809
45-50	2439	2099	2265	2021	2190	2233	1753	2133	1890	1833	1202	1736	931	1014
50-55	2051	1712	1725	1605	1751	1811	1356	1724	1396	1308	735	1132	547	561
55-60	1655	1321	1286	1233	1306	1506	1020	1318	897	844	480	681	319	342
60-65	1331	952	1046	957	1013	1226	763	974	627	575	310	502	218	256
65-70	996	768	753	717	800	888	604	803	375	436	181	352	123	118
70-75	778	600	513	494	651	655	434	591	229	254	150	216	60	84
75-80	528	388	374	348	452	553	282	380	164	180	85	172	52	44
80-85	413	314	298	323	392	380	232	308	132	121	53	101	33	46
85-90	319	215	237	202	237	302	171	232	89	91	56	76	22	33
>90	947	771	767	749	886	915	489	699	214	248	122	199	55	70
Total	20871	20948	20501	20568	20397	20434	20267	20121	20397	20382	20135	20055	20251	20092
Mean	50.8	46.4	47.1	46.0	48.5	49.7	43.3	47.4	40.6	40.1	35.4	38.9	32.6	32.3

Table 3.3.2 Duration of Mathematics Online Testing Sessions

Grade Session	3		4		5		6		7		8		11	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2
<5	1	1	1	1	0	0	2	4	5	5	7	16	94	157
5-10	10	10	2	9	3	6	2	4	17	32	31	44	179	378
10-15	195	90	29	227	34	53	27	29	73	292	135	203	428	898
15-20	1286	743	312	1259	414	482	292	347	585	1701	973	1132	1168	2337
20-25	2815	1951	1081	2639	1568	1764	1180	1252	1805	4009	2955	3121	2931	4003
25-30	3263	2966	2190	3160	2714	2771	2361	2655	3171	4498	4206	4519	4344	4690
30-35	2928	3059	2714	2878	3029	3063	3042	3158	3650	3585	3719	3791	4055	3366
35-40	2392	2586	2616	2432	2724	2825	2845	2870	3310	2310	2885	2699	2959	2029
40-45	1872	2067	2351	1865	2202	2146	2477	2541	2615	1480	1902	1705	1831	1088
45-50	1537	1635	2086	1405	1792	1727	1933	1971	1791	980	1140	983	926	531
50-55	1061	1274	1612	1136	1310	1292	1553	1382	1165	576	784	642	578	291
55-60	815	970	1342	810	1138	1070	1170	1081	745	370	510	420	332	204
60-65	598	808	951	618	827	783	834	753	510	197	314	280	195	99
65-70	540	673	744	528	644	616	600	510	304	159	175	179	104	58
70-75	384	483	573	382	506	441	445	365	200	65	137	107	59	42
75-80	269	407	478	303	423	351	357	307	150	58	75	67	37	32
80-85	240	281	334	235	302	298	276	236	70	48	65	69	31	11
85-90	193	211	248	182	188	184	193	179	64	37	33	32	20	19
>90	627	803	862	592	658	588	669	605	156	83	84	108	33	26
Total	21026	21018	20526	20661	20476	20460	20258	20249	20386	20485	20130	20117	20304	20259
Mean	40.2	43.5	47.1	40.3	44.3	43.3	45.0	43.8	38.7	32.2	34.8	33.9	32.6	28.6

Table 3.3.3 Duration of Science Online Testing Sessions

Grade	5		8		11	
Session	1	2	1	2	1	2
<5	1	2	7	18	125	195
5-10	30	101	63	257	562	1311
10-15	841	1758	1456	3937	3756	6834
15-20	3428	4427	5422	7147	7209	6926
20-25	4505	4466	5605	4436	4897	2981
25-30	3772	3397	3454	2190	2010	1096
30-35	2668	2097	1873	1060	909	397
35-40	1772	1435	1072	528	392	211
40-45	1172	978	546	275	197	106
45-50	893	676	293	131	104	78
50-55	489	449	159	108	62	43
55-60	276	279	118	62	27	36
60-65	214	154	75	38	20	15
65-70	181	118	35	26	14	13
70-75	106	75	33	25	13	9
75-80	79	63	25	17	5	7
80-85	55	50	15	11	9	9
85-90	44	44	13	8	6	3
>90	111	93	26	20	12	14
Total	20637	20662	20290	20294	20329	20284
Mean	30.2	27.8	24.9	21.1	20.2	17.4

4. CLASSICAL ITEM STATISTICS

This chapter provides an overview of the most familiar item-level statistics obtained from classical (traditional) item analysis: item difficulty, item discrimination, distractor distribution, and omits or blanks. The following results pertain only to operational NeSA items (i.e., those items that contributed to a student’s total test score). Rasch item statistics are discussed in Chapter Five, and test-level statistics are found in Chapter Six. The statistics provide information about the quality of the items based on student responses in an operational setting. The following sections provide descriptions of the item summary statistics found in Appendices F, G, and H.

4.1 ITEM DIFFICULTY

Item difficulty (*p*-value) is the proportion of examinees in the sample who answered the item correctly. For example, if an item has a *p*-value of 0.89, it means 89 percent of the students answered the item correctly. Relatively lower values correspond to more difficult items and those that have relatively higher values correspond to easier items. Items that are either very hard or very easy provide little information about student differences in achievement. On a standards-referenced test like the NeSA, a test development goal is to include a wide range of item difficulties. Typically, test developers target *p*-values in the range of 0.30 to 0.90. Mathematically, information is maximized and standard errors minimized when the *p*-value equals 0.50. Experience suggests that multiple choice items are effective when the student is more likely to succeed than fail and it is important to include a range of difficulties matching the distribution of student abilities (Wright & Stone, 1979). Occasionally, items that fall outside the desired range can be justified for inclusion when the educational importance of the item content or the desire to measure students with very high or low achievement override the statistical considerations. Summary *p*-value information across all grades for each content area is shown in Tables 4.1.1 – 4.1.3. In general, most of the items fall into the *p*-value range of 0.3 to 0.9, which is appropriate for a criterion-referenced assessment.

Table 4.1.1 Summary of Traditional Item Proportion Correct for NeSA-R Operational Items

Grade	Item Proportion Correct										Mean	Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	<=0.7	<=0.8	<=0.9	>0.9		
3	0	0	0	0	4	9	12	9	11	0	.680	45
4	0	0	0	0	4	10	10	9	10	2	.690	45
5	0	0	0	0	3	7	16	13	8	1	.691	48
6	0	0	0	2	6	7	8	9	14	2	.688	48
7	0	0	0	1	3	7	12	17	7	1	.691	48
8	0	0	0	1	0	6	16	17	10	0	.711	50
11	0	0	0	2	3	7	7	24	7	0	.682	50

Table 4.1.2 Summary of Traditional Item Proportion Correct for NeSA-M Operational Items

Grade	Item Proportion Correct										Mean	Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	<=0.7	<=0.8	<=0.9	>0.9		
3	0	0	0	0	2	10	13	19	6	0	.687	50
4	0	0	0	0	4	17	5	16	13	0	.681	55
5	0	0	1	0	5	7	22	11	8	1	.666	55
6	0	0	0	0	2	11	20	17	8	0	.686	58
7	0	0	0	0	5	15	16	10	12	0	.670	58
8	0	0	0	0	7	8	18	19	7	1	.671	60
11	0	0	0	2	7	12	26	9	4	0	.630	60

Table 4.1.3 Summary of Traditional Item Proportion Correct for NeSA-S Operational Items

Grade	Item Proportion Correct										Mean	Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	<=0.7	<=0.8	<=0.9	>0.9		
5	0	0	0	0	3	11	14	16	6	0	.680	50
8	0	0	0	0	8	9	15	19	9	0	.668	60
11	0	0	0	1	8	11	16	14	9	1	.660	60

4.2 ITEM-TOTAL CORRELATION

Item-total correlation describes the relationship between performance on the specific item and performance on the entire form. For the NeSA tests, Pearson’s product-moment correlation coefficient between item scores and test scores is used to indicate this relationship. For MC items, the statistic is typically referred to as *point-biserial correlation*. This index indicates an item’s ability to differentiate between high and low achievers (i.e., item discrimination power). It is expected that students with high ability (i.e., those who perform well on the NeSA overall) would be more likely to answer any given NeSA item correctly, while students with low ability (i.e., those who perform poorly on the NeSA overall) would be more likely to answer the same item incorrectly. However, an interaction can exist between item discrimination and item difficulty. Items answered correctly (or incorrectly) by a large proportion of examinees (i.e., the items have extreme *p*-values) can have reduced power to discriminate and thus can have lower correlations.

The correlation coefficient can range from -1.0 to +1.0. If the aforementioned expectation is met (high-scoring students tend to get the item right while low-scoring students do not), the correlation between the item score and the total test score will be both positive and noticeably large in its magnitude (i.e., well above zero), meaning the item is a good discriminator between high- and low-ability students. Items with negative correlations are flagged and referred to Test Development as possible mis-keys.

Mis-keyed items will be corrected and rescored prior to computing the final item statistics. Negative correlations can also indicate problems with the item content, structure, or students’ opportunity to learn. Items with point-biserial values of less than 0.2 are flagged and referred to content specialists for review before being considered for use on future forms. As seen below in Tables 4.2.1 – 4.2.3, no items in the 2013 NeSA tests have negative point-biserial correlations and most are above 0.20, indicating good item discrimination.

Table 4.2.1 Summary of Point-biserial Correlations for NeSA-R

Grade	Item Point-biserial Correlation							Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	>0.6	
3	0	0	0	12	29	4	0	45
4	0	0	1	21	20	3	0	45
5	0	0	0	17	24	7	0	48
6	0	0	0	18	24	6	0	48
7	0	0	1	13	29	5	0	48
8	0	0	2	15	25	8	0	50
11	0	0	2	15	19	14	0	50

Table 4.2.2 Summary of Point-biserial Correlations for NeSA-M

Grade	Item Point-biserial Correlation							Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	>0.6	
3	0	0	0	14	24	11	1	50
4	0	0	0	15	27	12	1	55
5	0	0	3	16	23	12	1	55
6	0	0	0	12	21	23	2	58
7	0	0	0	12	26	18	2	58
8	0	0	1	10	36	13	0	60
11	0	0	0	5	31	21	3	60

Table 4.2.3 Summary of Point-biserial Correlations for NeSA-S

Grade	Item Point-biserial Correlation							Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	>0.6	
5	0	0	2	17	28	3	0	50
8	0	1	5	28	23	3	0	60
11	0	0	4	16	33	7	0	60

4.3 PERCENT SELECTING EACH RESPONSE OPTION

This index indicates the effectiveness of each distractor. In general, one expects the correct response to be the most attractive, although this need not hold for unusually challenging items. This statistic for the correct response option is identical to the p -value when considering MC items with a single correct response. Please see the detailed summary statistics for each grade and content area in Appendices F, G, and H.

4.4 POINT-BISERIAL CORRELATIONS OF RESPONSE OPTIONS

This index describes the relationship between selecting a response option for a specific item and performance on the entire test. The correlation between an incorrect answer and total test performance should be negative. The desired pattern is strong positive values for the correct option and strong negative values for the incorrect options. Any other pattern indicates a problem with the item or with the key. These patterns would imply a high ability way to answer incorrectly or a low ability way to answer correctly. Examples of these situations could be an item with an ambiguous or misleading distractor that was attractive to high-performing examinees or an item that depended on experience outside of instruction that was unrelated to ability. This statistic for the correct option is identical to the item-total correlation for MC items. Please see the detailed summary statistics for each grade and content area in Appendices F, G, and H.

4.5 PERCENT OF STUDENTS OMITTING AN ITEM

This statistic is useful for identifying problems with testing time and test layout. If the omit percentage is large for a single item, it could indicate a problem with the layout or content of an item. For example, students tend to skip items with wordy stems or that otherwise appear difficult or time consuming. While there is no hard and fast rule for what *large* means, and it varies with groups and ages of students, five percent omits is often used as a preliminary screening value.

Detailed results of the item analyses for the NeSA-R operational items are presented in Appendix F. Detailed results of the item analyses for the NeSA-M operational items are presented in Appendix G. Detailed results of the item analyses for the NeSA-S operational items are presented in Appendix H. Based on these analyses, items were selected for review if the p -value was less than 0.25 and the *item-total correlation* was less than 0.2. Items were identified as probable mis-keys if the p -value for the correct response was less than one of the incorrect responses and the *item-total correlation* was negative.

5. RASCH ITEM CALIBRATION

The particular item response theory (IRT) model used for the NeSA is based on the work of Georg Rasch. Rasch models have had a long-standing presence in applied testing programs and have been the methodology used to calibrate NeSA items in recent history. IRT has several advantages over classical test theory, so it has become the standard procedure for analyzing item response data in large-scale assessments. However, IRT models make a number of strong assumptions related to dimensionality, local independence, and model-data fit. Resulting inferences derived from any application of IRT rests strongly on the degree to which the underlying assumptions are met.

Generally, item calibration is the process of assigning a difficulty-parameter estimate to each item on an assessment so that all items are placed onto a common scale. This chapter briefly introduces the Rasch model, reports the results from evaluations of the adequacy of the Rasch assumptions, and summarizes Rasch item statistics for the 2013 NeSA Reading, Mathematics, and Science assessments.

5.1 DESCRIPTION OF THE RASCH MODEL

The Rasch rating scale model was used to calibrate the NeSA items. All NeSA assessments contain only MC items. According to the Rasch model, the probability of answering an item correctly is based on the difference between the ability of the student and the difficulty of the item. The Rasch model places both student ability and item difficulty (estimated in terms of log-odds, or logits) on the same continuum. When the model assumptions are met, the Rasch model provides estimates of a person's ability that are independent of the items employed in the assessment and conversely, estimates item difficulty independently of the sample of examinees (Rasch, 1960; Wright & Panchapakesan, 1969). (As noted in Chapter Four, interpretation of item *p*-values confounds item difficulty and student ability.) Appendix I provides a more detailed overview of Rasch Measurement.

5.2 CHECKING RASCH ASSUMPTIONS

Since the Rasch model was the basis of all calibration, scoring, and scaling analyses associated with the NeSA, the validity of the inferences from these results depends on the degree to which the assumptions of the model were met and how well the model fits the test data. Therefore, it is important to check these assumptions. This section evaluates the dimensionality of the data, local item independence, and item fit. It should be noted that only operational items were analyzed since they are the basis of student scores.

Unidimensionality: Rasch models assume that one dominant dimension determines the difference among students' performances. Principal Components Analysis (PCA) can be used to assess the unidimensionality assumption. The purpose of the analysis is to verify whether any other dominant

component(s) exist among the items. If any other dimensions are found, the unidimensionality assumption would be violated.

Tables 5.2.1, 5.2.2, and 5.2.3 present the PCA results for the reading, mathematics, and science assessments, respectively. The results include the eigenvalues and the percentage of variance explained for the first five components. As can be seen in Table 5.2.1, the primary dimension for NeSA-R explained about 22 percent to 26 percent of the total variance across Grades 3–8 and 11. The eigenvalues of the second dimension ranged from 1.5 to 1.9. This indicates that the second dimension accounted for only 1.5 to 1.9 units out of 66 - 84 units of total variance. Similar patterns are observed for the Mathematics and the Science test. Overall, the PCA suggests that there is one clearly dominant dimension for each NeSA assessment.

Table 5.2.1 Results from PCA – Reading

Grade	Component	Eigenvalue	Explained Variance
3	1	13.9	23.6%
	2	1.7	2.9%
	3	1.5	2.6%
	4	1.3	2.3%
	5	1.2	2.1%
4	1	13.2	22.6%
	2	1.6	2.7%
	3	1.3	2.3%
	4	1.2	2.1%
	5	1.2	2.0%
5	1	13.9	22.4%
	2	1.6	2.5%
	3	1.4	2.2%
	4	1.3	2.1%
	5	1.2	2.0%
6	1	17.3	26.4%
	2	1.7	2.6%
	3	1.4	2.1%
	4	1.3	2.0%
	5	1.2	1.8%
7	1	14.9	23.7%
	2	1.7	2.7%
	3	1.5	2.4%
	4	1.3	2.0%
	5	1.2	1.9%
8	1	13.9	21.8%
	2	1.5	2.3%
	3	1.4	2.2%

Grade	Component	Eigenvalue	Explained Variance
	4	1.4	2.1%
	5	1.2	1.9%
11	1	16.0	24.3%
	2	1.9	2.9%
	3	1.4	2.2%
	4	1.3	1.9%
	5	1.2	1.8%

Table 5.2.2 Results from PCA – Mathematics

Grade	Component	Eigenvalue	Explained Variance
3	1	15.6	23.8%
	2	1.7	2.5%
	3	1.5	2.2%
	4	1.4	2.2%
	5	1.3	2.0%
4	1	19.7	26.4%
	2	1.8	2.4%
	3	1.5	2.0%
	4	1.4	1.9%
	5	1.4	1.9%
5	1	18.9	25.6%
	2	1.9	2.6%
	3	1.6	2.1%
	4	1.5	2.0%
	5	1.4	1.9%
6	1	20.1	25.7%
	2	1.9	2.5%
	3	1.7	2.2%
	4	1.5	2.0%
	5	1.4	1.8%
7	1	22.1	27.6%
	2	1.9	2.4%
	3	1.6	2.0%
	4	1.5	1.9%
	5	1.3	1.6%
8	1	20.6	25.6%
	2	1.9	2.4%
	3	1.6	2.0%
	4	1.5	1.8%
	5	1.4	1.8%
11	1	23.6	28.2%
	2	1.9	2.3%

Grade	Component	Eigenvalue	Explained Variance
	3	1.7	2.0%
	4	1.4	1.7%
	5	1.4	1.7%

Table 5.2.3 Results from PCA – Science

Grade	Component	Eigenvalue	Explained Variance
5	1	14.9	22.9%
	2	1.5	2.4%
	3	1.5	2.3%
	4	1.3	2.0%
	5	1.3	2.0%
8	1	16.0	21.0%
	2	1.5	2.0%
	3	1.5	1.9%
	4	1.3	1.7%
	5	1.2	1.6%
11	1	19.7	24.7%
	2	1.8	2.3%
	3	1.4	1.8%
	4	1.3	1.7%
	5	1.2	1.5%

Local Independence: Local independence (LI) is a fundamental assumption of IRT. No relationship should exist between examinees’ responses to different items after accounting for the abilities measured by a test. Many indicators of LI are framed by the form of local independence proposed by McDonald (1979) that the conditional covariances of all pairs of item responses, conditioned on the abilities, are required to be equal to zero.

Residual item correlations provided in WINSTEPS for each item pair were used to assess local dependence among the NeSA items. Three types of residual correlations are available in WINSTEPS: raw, standardized, and logit. It should be noted that the raw score residual correlation essentially corresponds to Yen’s $Q3$ index, a popular LI statistic. The expected value for the $Q3$ statistic is approximately $-1/(k-1)$ when no local dependence exists, where k is test length (Yen, 1993). Thus, the expected $Q3$ values should be approximately -0.02 for the NeSA tests (since most of the NeSA tests had more than 50 core items). Index values that are greater than 0.20 indicate a degree of local dependence that probably should be examined by test developers (Chen & Thissen, 1997). Since the three residual correlations are very similar, the default “standardized residual correlation” in WINSTEPS was used for these analyses. Tables 5.2.4 – 5.2.6 show the summary statistics—mean, SD,

minimum, maximum, and several percentiles (P10, P25, P50, P75, P90)—for all the residual correlations for each test. The total number of item pairs (N) and the number of pairs with the residual correlations greater than 0.20 are also reported in this table. The mean residual correlations were slightly negative and the values were close to -0.02 . The vast majority of the correlations were very small, suggesting local item independence generally holds for the NeSA reading, mathematics, and science assessments.

Table 5.2.4 Summary of Item Residual Correlations for NeSA-R

Statistics	Reading						
	3	4	5	6	7	8	11
N	990	990	1128	1128	1128	1225	1225
Mean	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
SD	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Minimum	-0.07	-0.08	-0.07	-0.08	-0.08	-0.08	-0.10
P10	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.05
P25	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
P50	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
P75	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
P90	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Maximum	0.52	0.12	0.13	0.12	0.23	0.10	0.14
>0.20	1	0	0	0	1	0	0

Table 5.2.5 Summary of Item Residual Correlations for NeSA-M

Statistics	Mathematics						
	3	4	5	6	7	8	11
N	1225	1485	1485	1653	1653	1770	1770
Mean	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
SD	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Minimum	-0.09	-0.07	-0.10	-0.11	-0.09	-0.09	-0.10
P10	-0.04	-0.04	-0.05	-0.05	-0.04	-0.04	-0.04
P25	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
P50	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
P75	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00
P90	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Maximum	0.26	0.36	0.32	0.48	0.39	0.42	0.34
>0.20	3	2	2	3	2	5	2

Table 5.2.6 Summary of Item Residual Correlations for NeSA-S

Statistics	Science		
	5	8	11
N	1225	1770	1770
Mean	-0.02	-0.02	-0.02
SD	0.02	0.02	0.02
Minimum	-0.06	-0.06	-0.09
P10	-0.04	-0.04	-0.04
P25	-0.03	-0.03	-0.03
P50	-0.02	-0.02	-0.02
P75	-0.01	-0.01	-0.01
P90	0.00	0.00	0.01
Maximum	0.37	0.16	0.08
>0.20	3	0	0

Item Fit: WINSTEPS provides two item fit statistics (infit and outfit) for evaluating the degree to which the Rasch model predicts the observed item responses. Each fit statistic can be expressed as a mean square (MnSq) statistic or on a standardized metric (Zstd with mean = 0 and variance = 1). MnSq values are more oriented toward practical significance, while Zstd values are more oriented toward statistical significance. Though both are informative, the Zstd values are very likely too sensitive to the large sample sizes observed on the NeSA. In this situation it is recommended that the Zstd values be ignored if the MnSq values are acceptable (Linacre, 2009).

The outfit statistic tends to be affected more by unexpected responses far from the person, item, or rating scale category measure (i.e., it is more sensitive to outlying, off-target, and low information responses). The infit statistic tends to be affected more by unexpected responses close to the person, item, or rating scale category measure (i.e., informative, on-target responses). Some researchers contend that extreme infit values are a greater threat to the measurement process than extreme outfit since most tests intend to measure the on-target population rather than extreme outliers.

The expected MnSq value is 1.0 and can range from 0 to infinity. Deviation in excess of the expected value can be interpreted as noise or lack of fit between the items and the model. Values lower than the expected value can be interpreted as item redundancy or overfitting items (too predictable and/or too much redundancy), and values greater than the expected value indicate underfitting items (too unpredictable and/or too much noise). Rules of thumb regarding “practically significant” MnSq values vary. More conservative users might prefer items with MnSq values that range from 0.8 to 1.2. Others believe reasonable test results can be achieved with values from 0.5 to 1.5. In the results below, values outside of 0.7 to 1.3 are given practical importance.

Table 5.2.7 presents the summary statistics of infit and outfit mean square statistics for the NeSA reading, mathematics, and science tests, including the mean, SD, and minimum and maximum values. The number of items within the range of [0.7, 1.3] is also reported in Table 5.2.7. As can be seen, the mean values for both fit statistics were close to 1.00 for all tests. All the items had infit values falling in the range of [0.7, 1.3]. Though more outfit values fell outside this range than infit values, most of the extreme values were just barely above 1.3 or below 0.7. Overall, these results indicate that the Rasch model fits the NeSA item data well.

Table 5.2.7 Summary of Infit and Outfit Mean Square Statistics for 2013 NeSA Tests

		Infit Mean Square					Outfit Mean Square				
		Mean	SD	MIN	MAX	[0.7, 1.3]	Mean	SD	MIN	MAX	[0.7, 1.3]
Reading	3	1.00	0.11	0.70	1.28	45/45	0.99	0.18	0.57	1.37	40/45
	4	0.99	0.11	0.74	1.19	45/45	0.97	0.18	0.53	1.26	42/45
	5	0.98	0.14	0.65	1.28	46/48	0.96	0.21	0.48	1.51	41/48
	6	1.00	0.17	0.69	1.61	43/48	0.99	0.29	0.48	1.94	38/48
	7	1.00	0.11	0.61	1.29	47/48	0.98	0.19	0.39	1.43	43/48
	8	1.00	0.14	0.79	1.49	48/50	0.99	0.21	0.66	1.54	42/50
	11	1.01	0.17	0.66	1.60	46/50	0.99	0.27	0.49	2.08	43/50
Mathematics	3	1.00	0.12	0.78	1.23	50/50	1.01	0.20	0.67	1.55	45/50
	4	1.01	0.10	0.81	1.22	55/55	1.00	0.18	0.59	1.50	51/55
	5	1.00	0.13	0.71	1.40	54/55	1.00	0.21	0.57	1.76	49/55
	6	1.01	0.13	0.79	1.31	57/58	1.02	0.22	0.66	1.47	46/58
	7	0.99	0.13	0.76	1.29	58/58	0.99	0.22	0.53	1.46	49/58
	8	1.00	0.11	0.67	1.26	59/60	0.99	0.20	0.45	1.44	55/60
	11	0.99	0.11	0.74	1.32	59/60	0.99	0.18	0.57	1.61	54/60
Science	5	1.00	0.09	0.83	1.24	50/50	0.99	0.16	0.70	1.45	48/50
	8	0.99	0.10	0.74	1.24	60/60	0.98	0.16	0.63	1.52	56/60
	11	0.98	0.11	0.73	1.25	60/60	0.96	0.18	0.39	1.36	53/60

5.3 RASCH ITEM STATISTICS

Item calibration was implemented via WINSTEPS 3.75.1 program (Linacre, 2013). The characteristics of calibration samples are reported in Chapter Three. These samples only include the students who attempted the tests. All omits (no response) and multiple responses (more than one response selected) were scored as incorrect answers (coded as 0s) for calibration.

As noted earlier, the Rasch model expresses item difficulty (and student ability) in units referred

to as *logits* rather than on the proportion-correct metric. Large negative logits represent easier items while large positive logits represent more difficult items. Logits have an interval scale, meaning that two items with logits of 0.0 and +1.0 (respectively) are the same distance apart (in difficulty) as two items with logits of +3.0 and +4.0.

Appendices J, K, L, and M report the Rasch calibration summaries and logit difficulties for all the operational items. Table 5.3.1 summarizes the Rasch logit difficulties of the operational items on each test. The minimum and maximum values and standard deviations suggest that the NeSA items covered a relatively wide range of difficulties. It is important to note that the logit difficulty values presented have not been linked to a common scale of measurement. Therefore, the relative magnitude of the statistics across subject areas and grades cannot be compared. The item pool was then updated with the item statistics.

Table 5.3.1 Summary of Rasch Item Difficulties for NeSA Reading, Mathematics, and Science

	Grade	N	Mean	SD	Min	Max
Reading	3	45	-0.62	0.71	-2.08	0.87
	4	45	-0.75	0.80	-2.81	0.55
	5	48	-0.59	0.60	-1.82	0.65
	6	48	-0.71	0.91	-2.24	1.03
	7	48	-0.59	0.71	-2.04	1.03
	8	50	-0.81	0.67	-2.72	0.97
	11	50	-0.89	0.71	-2.39	0.75
Mathematics	3	50	-0.80	0.59	-1.90	0.55
	4	55	-0.82	0.78	-2.12	0.65
	5	55	-0.69	0.75	-2.51	1.02
	6	58	-0.87	0.67	-2.34	0.59
	7	58	-0.75	0.81	-2.36	0.76
	8	60	-0.81	0.73	-2.33	0.44
	11	60	-0.63	0.63	-2.09	1.07
Science	5	50	-0.91	0.69	-2.57	0.59
	8	60	-0.81	0.64	-2.03	0.53
	11	60	-0.77	0.85	-4.10	0.68

6. EQUATING AND SCALING

As a common practice in large-scale testing program, the NeSA tests were constructed to have different item sets appear in test forms across years. As noted in Chapter Two, for example, the 2013 NeSA-M test was developed such that approximately 70% of the assessment was constructed from items field tested from Spring 2010–2012, and the approximate remaining 30% of the assessment was constructed from an overlap of items from the 2011 and 2012 operational forms. To ensure that all forms for a given grade and content area provide comparable scores and the passing standards across different administrations are equivalent, the new operational items need to be placed on the bank scale via equating to bring the 2013 NeSA raw-score-to-Rasch-ability scale to the previous operational scale.

Consequently, students are not given an unfair advantage or disadvantage because the particular test form they took is easier or harder than a test form taken by other students. When the new 2013 NeSA tests are placed on the bank's scale, the resulting scale scores for the new test form will be the same as the scale scores of the previous operational form such that students performing at the same level of (underlying) achievement should receive the same score (i.e., scale score). For the NeSA, the resulting scale scores will be used for score reporting and performance level classification.

This chapter begins with a summary of the entire NeSA equating procedure. This is followed by a scaling analysis that transforms raw scores to scale scores that represent the same skill level on every test form. Some summary results of the state scale score performance are also provided.

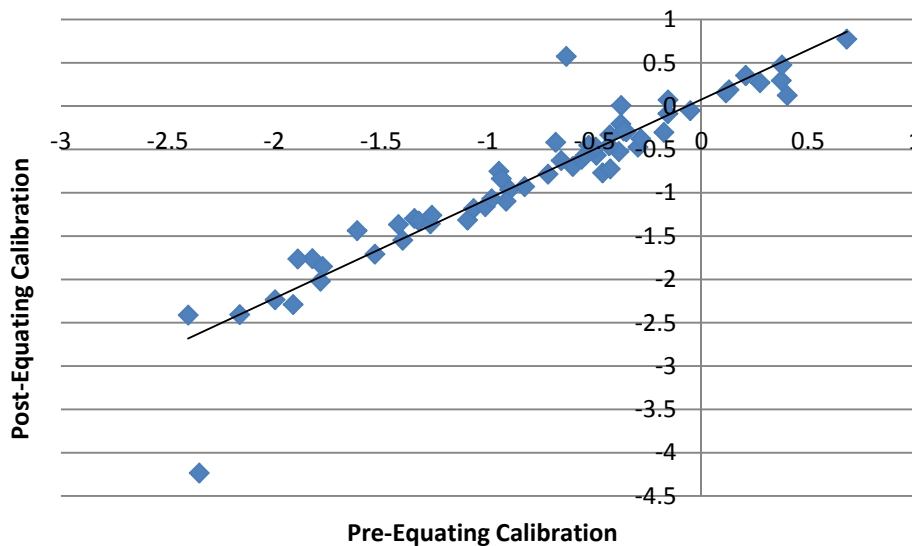
6.1 EQUATING

The equating design employed for NeSA is often referred to as a common-item nonequivalent groups (CINEG) design, which uses a set of common anchor items to adjust for differences in test difficulty across years. As discussed earlier, the 2013 NeSA test forms were constructed with items in common with the previous administrations of test items that were either field tested or operationally tested. If the item properties (i.e., difficulty) calibrated from the previous administrations hold true for the current student population, the whole set of the 2013 NeSA operational items can serve as the linking set such that conversions from raw to scale scores can be established prior to the time when the new test is administered operationally. This is often referred to as the pre-equating process because it is conducted before the operational test is administered. The most appealing feature of the pre-equating process, when applicable, is its ability to facilitate immediate score reporting for tests which have tight reporting windows.

It may not be wise to assume that the operational items maintain their relative difficulty across years because the same item can have different properties in different years because of changes in the item's position or changes in the students' experiences. Therefore, once the 2013 operational test data is available, DRC Psychometric Services staffers evaluated the item difficulty equivalence by comparing

the old banked item calibration (called pre-calibration) with a new unanchored calibration of the 2013 data (called post-calibration). The evaluations were conducted for each grade and content area, using both visual graphing and statistical methods. The post-calibrated item difficulties (logits) were plotted against the pre-calibration for each grade and content area (see Appendices N – P). Ideally, these scatter plots should have a strong linear trend. Items straying from the trend line did not perform in the same way in both years. Below is an example of pre- and post-calibration plots for the 2013 NeSA-S test (Grade 11). Graphically, there are two apparent outlier items that stray far from the trend line. One is located at the lower left corner that, for some reason, became much easier for the population of this year. The other is near the upper right corner that, in contrast, became more difficult this year. All the other items fall more or less on the linear trend line, indicating consistent performance in both years.

Figure 6.1.1: NeSA-S Grade 11 Pre- and Post-Calibrations



DRC Psychometric Services staff examined the robust Z statistic (Huynh, 2000; Huynh & Rawls, 2009), the correlations between the pre- and post-calibrated item difficulties, and the ratio of standard deviations (SD) between the two calibrations. For consistent item performance, critical values for comparing the robust Z statistic is 2.7, the correlations should be at least 0.95, and a ratio of standard deviations between 0.90 and 1.10 (Huynh & Meyer, 2010). The two outliers in Figure 6.1.1 are detected by a robust Z statistic greater than a critical value of 2.7 (12.33 for the lower left item and -7.75 for the upper right item). Table 6.1.1 reports these statistics of correlations and SD ratio for the 2013 NeSA-S test. Not surprisingly, the two statistics (0.94 for the correlation and 0.82 for SD ratio) for Grade 11 fall below the desired ranges, probably due to the existence of the two outlier items seen above on the plot. Appendices N – P presented these statistics for each grade and content area.

Table 6.1.1 NeSA-S Pre- and Post Equating Comparison

	Grade		
	5	8	11
Correlation	0.97	0.96	0.94
SD pre	0.69	0.64	0.74
SD post	0.71	0.70	0.91
SD Ratio	0.98	0.91	0.82

For all content areas, items that departed significantly from the linear trend or below the ideal ranges of robust Z, correlation, or SD ratio values were further evaluated by the NDE in determining whether to include those items in the linking set used for the equating. After evaluating the evidence for the stability between the old (banked) and new (2013) item data, the NDE decided to drop the two items from the linking set used for the 2013 NeSA-S Grade 11 test equating. In addition, the NDE decided to drop one outlier item from the linking set used for the 2013 NeSA-M Grade 6 test equating. For the other grade and content areas, the NDE decided not to drop any but keep the whole set of items in the linking set for equating. As an additional protective measure, any item that is dropped from either the test form or the equating is excluded from use on future forms.

For the 2013 NeSA-S Grade 11 and NeSA-M Grade 6 tests, test difficulty was adjusted by excluding the items mentioned above and then applied to the raw-to-scale-score conversion. This equating process is known as the post-equating because the equating happens after the administration of the operational test and the new raw-to-scale-score conversion is generated based on the operational test data. In contrast, the pre-equating process establishes the raw-to-scale-score conversion based on the previously calibrated item difficulties (and can happen prior to the administration of the operational test). For the 2013 NeSA-tests, the NDE decided to adopt the post-equating solutions for Science Grade 11 and Mathematics Grade 6 tests, and the pre-equating solutions for the other grade and content areas.

6.2 SCALING

The purpose of a scaling analysis is to create a score scale. The basic score on any test is the raw score, which is the number of items answered correctly or the total score points earned. However, the raw score alone does not present a wide-ranging picture of test performance because it is not on an equal-interval scale and can be interpreted only in terms of a particular set of items. Since a given raw score may not represent the same skill level on every test form, scale scores were assigned to each raw score point to adjust for slight shifts in item difficulties and permit valid comparison across all test administrations within a particular content area.

Defining the scale score metric is an important, albeit arbitrary, step. Mathematically, scale scores are a linear transformation of the logit scores and thus do not alter the relationships or the displays. Scale scores are the numbers that will be reported to describe the performance of the students, schools, and systems. They will define the ranges of the performance levels, appear on individual student reports and school accountability analyses, and be dissected in newspaper accounts.

Appendix Q contains the detailed raw-score-to-scale-score conversion tables that were used to assign scale scores to students based on the total number correct scores from the NeSA-R for 2013, Appendix R for NeSA-M for 2013 and Appendix S for NeSA-S 2013. Because the relationship between raw and scale scores depends on the difficulties of the specific items on the form, these tables will change for every operational form.

There are two primary considerations when establishing the metric:

- Multiply the logit by a value large enough to make decimal points unnecessary for student scores, and
- Shift the scale enough to avoid negative values for low scale scores.

The scale chosen, for all grades and content areas of the NeSA assessment, range from 0 to 200. The value of 0 is reserved for students who were not tested or were otherwise invalidated. Thus, any student who attempted the test will receive a scale score equal to 1 even if the student gave no correct responses. No student tested will receive a scale score higher than 200 or lower than 1, even if this requires constraining the scale score calculation. It is possible that a future form will be easy enough that the upper limit of 200 is not invoked even for a perfect paper or could be difficult enough that the lower limit is not invoked.

As part of its deliberations concerning defining the performance levels, the State Board of Education specified that the *Meets the Standards* performance level have a scale score of 85 and that the *Exceeds the Standards* level have a scale score of 135. The logit standards defining the performance levels were adopted by the SBE per the standard setting and standard validation completed in 2010 for NeSA-R, in 2011 for NeSA-M, and in 2012 for NeSA-S.

Complete documentation of all standard setting events are presented in separate documents and are placed on the Nebraska State Department of Education website labeled:

2010 NeSA-Reading Standard Setting Technical Report,

http://www.education.ne.gov/Assessment/pdfs/2010_NeSA_Reading_Standard_Setting_Tech_%20Report.pdf ,

2011 NeSA-Mathematics Standard Setting Technical Report,

http://www.education.ne.gov/Assessment/pdfs/2011_NeSA_Math_Standard_Setting_Tech_Report.pdf

Table 6.2.2 NeSA-M Conversion of Logits to Scale Scores

Grade	Logit Cut Points		Scale Score Ranges by Performance Level			Conversion	
	B/M	M/E	Below	Meets	Exceeds	Slope b	Intercept a
3	-0.6000	1.1000	1 to 84	85-134	135 to 200	29.41176	102.15706
4	-0.6000	1.2000	1 to 84	85-134	135 to 200	27.77778	101.17667
5	-0.5700	1.1597	1 to 84	85-134	135 to 200	28.90675	100.98685
6	-0.4700	1.1816	1 to 84	85-134	135 to 200	30.27367	98.73862
7	-0.4500	1.2500	1 to 84	85-134	135 to 200	29.41176	97.74529
8	-0.4000	1.3000	1 to 84	85-134	135 to 200	29.41176	96.27470
11	-0.2900	1.1000	1 to 84	85-134	135 to 200	35.97122	94.94165

Table 6.2.3 NeSA-S Conversion of Logits to Scale Scores

Grade	Logit Cut Points		Scale Score Ranges by Performance Level			Conversion	
	B/M	M/E	Below	Meets	Exceeds	Slope b	Intercept a
5	-0.4971	1.0580	1 to 84	85-134	135 to 200	32.15095	100.49331
8	-0.4543	1.0378	1 to 84	85-134	135 to 200	33.50958	99.73252
11	-0.5407	1.3130	1 to 84	85-134	135 to 200	26.97256	99.09502

Complete frequency distributions of the state scale scores for the NeSA-R, NeSA-M, and NeSA-S are provided in Appendices Q, R, and S as part of the raw-to-scale-score conversion tables. A simple summary of the reading, mathematics, and science distributions can be found in Tables 6.2.4, 6.2.5, and 6.2.6.

Table 6.2.4 2013 NeSA-R State Scale Score Summary, All Students

Grade	Count	Scale Score		Quartile		
		Mean	S.D.	First	Second	Third
3	22712	111.2	33.7	86	110	134
4	22206	114.8	38.5	89	113	139
5	21982	118.4	42.7	88	120	152
6	21651	115.2	42.1	85	114	145
7	21425	122.5	43.2	92	124	156
8	20984	115.7	40.2	89	119	145
11	20911	106.0	45.2	72	107	138

Table 6.2.5 2013 NeSA-M State Scale Score Summary, All Students

Grade	Count	Scale Score		Quartile		
		Mean	S.D.	First	Second	Third
3	22752	110.2	36.4	84	109	136
4	22238	108.7	35.9	84	107	133
5	22022	109.0	35.3	82	107	133
6	21703	106.5	41.0	77	105	133
7	21464	106.1	38.7	78	105	132
8	21016	102.5	37.9	75	100	125
11	20910	100.5	48.6	62	97	135

Table 6.2.6 2013 NeSA-S State Scale Score Summary, All Students

Grade	Count	Scale Score		Quartile		
		Mean	S.D.	First	Second	Third
5	22041	104.2	36.8	77	101	129
8	21038	102.8	34.3	77	101	127
11	20900	103.2	30.1	83	102	124

7. FIELD TEST ITEM DATA SUMMARY

As noted in Chapter Two, in addition to the operational items, field test items were embedded in all content areas and grade level assessments in order to expand the item pool for future form development. Field test items are items being administered for the first time to gather statistical information. These items do not count toward an individual student’s score. All field tested items were analyzed statistically following classical item analysis methods including proportion correct, point-biserial correlation, and DIF.

7.1 CLASSICAL ITEM STATISTICS

Indices known as classical item statistics included the item *p*-value and the point-biserial correlations for MC items. For MC items, the *p*-value reflects the proportion of students who answered the item correctly. In general, more capable students are expected to respond correctly to easy items and less capable students are expected to respond incorrectly to difficult items. The primary way of detecting such conditions is through the point-biserial correlation coefficient for dichotomous (MC) items. The point-biserial correlation will be positive if the total test mean score is higher for the students who respond correctly to MC items and negative when the reverse is true.

The traditional statistics are computed for each NeSA-R field test item in Appendix F, for NeSA-M Appendix G and NeSA-S Appendix H. Tables 7.1.1, 7.1.2, and 7.1.3 provide summaries of the distributions of item proportion correct and point-biserial correlations. For future form construction, items with negative point-biserial correlations are never considered for operational use. Items with correlations less than 0.2 or proportion correct less than 0.3 or greater 0.9 are avoided when possible.

Table 7.1.1 Summary of Traditional Item Statistics for NeSA-R 2013 Field Test Items

Grade	Item Proportion Correct										Mean	Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	<=0.7	<=0.8	<=0.9	>0.9		
3	0	0	1	4	4	8	15	13	5	0	.630	50
4	1	0	0	0	4	6	11	14	11	3	.703	50
5	0	0	0	1	8	10	8	12	11	0	.667	50
6	0	0	1	1	3	3	11	12	16	3	.731	50
7	0	0	1	5	4	8	13	12	7	0	.635	50
8	0	0	1	1	6	10	5	13	13	1	.672	50
11	0	1	3	3	3	9	9	10	10	2	.638	50

Grade	Item Point-biserial Correlation							Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	>0.6	
3	0	4	8	19	18	1	0	50
4	1	1	6	25	17	0	0	50
5	0	1	14	17	18	0	0	50
6	0	5	2	23	18	2	0	50
7	2	4	10	12	21	1	0	50
8	0	2	9	19	19	1	0	50
11	2	5	5	16	15	7	0	50

Table 7.1.2 Summary of Traditional Item Statistics for NeSA-M 2013 Field Test Items

Grade	Item Proportion Correct										Mean	Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	<=0.7	<=0.8	<=0.9	>0.9		
3	0	1	2	4	4	5	10	11	11	2	.651	50
4	0	0	1	2	4	12	6	12	9	4	.672	50
5	0	0	4	5	1	6	5	13	14	2	.663	50
6	0	0	1	2	5	10	12	9	11	0	.647	51
7	0	0	3	0	8	10	10	9	8	2	.638	50
8	0	0	3	4	6	8	10	10	9	0	.625	50
11	0	0	4	3	14	17	6	5	1	0	.529	50

Grade	Item Point-biserial Correlation							Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	>0.6	
3	0	3	8	23	14	2	0	50
4	0	2	8	21	16	3	0	50
5	1	2	14	16	15	2	0	50
6	0	2	6	15	18	9	0	51
7	0	0	3	18	22	7	0	50
8	0	4	2	16	24	4	0	50
11	1	2	5	14	18	9	1	50

Table 7.1.3 Summary of Traditional Item Statistics for NeSA-S 2013 Field Test Items

Grade	Item Proportion Correct										Mean	Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	<=0.7	<=0.8	<=0.9	>0.9		
5	0	0	3	3	4	6	7	13	9	5	.675	50
8	0	1	3	5	6	13	8	8	5	1	.575	50
11	1	4	3	7	8	8	6	6	5	2	.524	50

Grade	Item Point-biserial Correlation							Total
	<=0.1	<=0.2	<=0.3	<=0.4	<=0.5	<=0.6	>0.6	
5	1	4	16	16	13	0	0	50
8	4	5	11	19	11	0	0	50
11	5	10	12	15	7	1	0	50

7.2 DIFFERENTIAL ITEM FUNCTIONING

DIF occurs when examinees with the same ability level but different group memberships do not have the same probability of answering an item correctly. This pattern of results may suggest the presence of *item bias*. Items exhibiting DIF were referred to content specialists to determine possible bias. No statistical procedure should be used as a substitute for rigorous, hands-on reviews by content and bias specialists. The statistical results can help organize the review so the effort is concentrated on the most problematic cases. Further, no items should be automatically rejected simply because a statistical method flagged them or accepted because they were not flagged.

For MC items, the *Mantel-Haenszel* procedure (Mantel & Haenszel, 1959) for detecting DIF is a commonly used technique in educational testing. The procedure as implemented by DRC contrasts a focal group with a reference group. While it makes no practical difference in the analysis which group is defined as the focal group, the group most apt to be disadvantaged by a biased measurement is typically defined as the focal group. In these analyses, the focal group was female for gender-based DIF and minority for ethnicity-based DIF; reference groups were male and white, respectively.

To assist the review committees in interpreting the analyses, the items are assigned a severity code based on the magnitude of the MH statistic. Items classified as A+ or A- have little or no statistical indication of DIF. Items classified as B+ or B- have some indication of DIF but may be judged to be acceptable for future use. Items classified as C+ or C- have strong evidence of DIF and should be reviewed and possibly rejected from the eligible item pool. The plus sign indicates that the item favors the focal group and a minus sign indicates that the item favors the reference group. Tables 7.2.1 – 7.2.3

show summaries of the DIF statistics. The first column defines the focal group. Appendices T, U, and V provide more summary information on DIF analysis.

Table 7.2.1 Summary of DIF by Code for NeSA-R 2013 Field Test

Grade 3	A+	A-	B+	B-	C+	C-	FT Items
Female	31	18	1	0	0	0	50
Black	8	37	0	5	0	0	50
Hispanic	16	33	0	1	0	0	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Grade 4	A+	A-	B+	B-	C+	C-	FT Items
Female	27	19	2	2	0	0	50
Black	7	35	0	7	0	1	50
Hispanic	20	26	0	3	0	1	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Grade 5	A+	A-	B+	B-	C+	C-	FT Items
Female	31	17	1	1	0	0	50
Black	12	30	0	7	0	1	50
Hispanic	16	30	0	4	0	0	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

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Grade 6	A+	A-	B+	B-	C+	C-	FT Items
Female	27	23	0	0	0	0	50
Black	13	28	0	5	0	4	50
Hispanic	17	30	1	1	0	1	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Grade 7	A+	A-	B+	B-	C+	C-	FT Items
Female	19	26	3	2	0	0	50
Black	7	38	0	4	0	1	50
Hispanic	13	33	0	1	0	3	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Grade 8	A+	A-	B+	B-	C+	C-	FT Items
Female	29	17	1	2	0	1	50
Black	8	27	0	12	0	3	50
Hispanic	7	36	0	6	0	1	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Grade 11	A+	A-	B+	B-	C+	C-	FT Items
Female	21	26	1	1	0	1	50
Black	9	28	1	8	0	4	50
Hispanic	14	31	0	3	0	2	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Table 7.2.2 Summary of DIF by Code for NeSA-M 2013 Field Test

Grade 3	A+	A-	B+	B-	C+	C-	FT Items
Female	19	30	0	1	0	0	50
Black	11	25	1	11	0	2	50
Hispanic	22	22	1	4	0	1	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	2	5	0	0	0	0	50

Grade 4	A+	A-	B+	B-	C+	C-	FT Items
Female	25	24	1	0	0	0	50
Black	11	31	0	6	0	2	50
Hispanic	17	30	0	2	0	1	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	1	2	0	0	0	0	50

Grade 5	A+	A-	B+	B-	C+	C-	FT Items
Female	31	19	0	0	0	0	50
Black	10	28	0	8	0	4	50

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Grade 5	A+	A-	B+	B-	C+	C-	FT Items
Hispanic	18	28	0	2	0	2	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	1	3	0	0	0	0	50

Grade 6	A+	A-	B+	B-	C+	C-	FT Items
Female	31	16	2	1	0	0	50
Black	20	25	0	3	0	2	50
Hispanic	22	23	1	3	0	1	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Grade 7	A+	A-	B+	B-	C+	C-	FT Items
Female	20	28	0	1	0	1	50
Black	6	25	0	16	0	3	50
Hispanic	4	41	0	5	0	0	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Grade 8	A+	A-	B+	B-	C+	C-	FT Items
Female	27	22	1	0	0	0	50
Black	13	29	0	6	0	2	50
Hispanic	17	32	0	1	0	0	50
American Indian/Alaska Native	0	0	0	0	0	0	50

Grade 8	A+	A-	B+	B-	C+	C-	FT Items
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Grade 11	A+	A-	B+	B-	C+	C-	FT Items
Female	26	21	2	1	0	0	50
Black	12	35	1	2	0	0	50
Hispanic	16	33	0	1	0	0	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

Table 7.2.3 Summary of DIF by Code for NeSA-S 2013 Field Test

Grade 5	A+	A-	B+	B-	C+	C-	FT Items
Female	25	22	1	2	0	0	50
Black	9	31	0	6	0	4	50
Hispanic	16	32	0	2	0	0	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	2	2	0	0	0	0	50

Grade 8	A+	A-	B+	B-	C+	C-	FT Items
Female	25	22	1	1	0	1	50
Black	8	29	2	9	0	2	50
Hispanic	12	31	1	2	0	4	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

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Grade 11	A+	A-	B+	B-	C+	C-	FT Items
Female	20	19	4	6	1	0	50
Black	11	30	0	7	0	2	50
Hispanic	12	36	0	2	0	0	50
American Indian/Alaska Native	0	0	0	0	0	0	50
Asian	0	0	0	0	0	0	50
2 or more Races	0	0	0	0	0	0	50

8. RELIABILITY

This chapter addresses the reliability of NeSA test scores. According to the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999), reliability refers to

the degree to which test scores for a group of test takers are consistent over repeated applications of a measurement procedure and hence are inferred to be dependable and repeatable for an individual test taker; the degree to which scores are free of errors of measurement for a given group (p. 25).

8.1 COEFFICIENT ALPHA

The ability to measure consistently is a necessary prerequisite for making appropriate interpretations (i.e., showing evidence of valid use of results). Conceptually, reliability can be referred to as the consistency of the results between two measures of the same thing. This consistency can be seen in the degree of agreement between two measures on two occasions. Operationally, such comparisons are the essence of the mathematically defined reliability indices.

All measures consist of an accurate, or true, component and an inaccurate, or error, component. Errors occur as a natural part of the measurement process and can never be eliminated entirely. For example, uncontrollable factors such as differences in the physical environment and changes in examinee disposition may increase error and decrease reliability. This is the fundamental premise of traditional reliability analysis and measurement theory. Stated explicitly, this relationship can be seen as the following:

$$\text{Observed Score} = \text{True Score} + \text{Error} \quad (8.1)$$

To facilitate a mathematical definition of reliability, these components can be rearranged to form the following ratio:

$$\text{Reliability} = \frac{\text{TrueScoreVariance}}{\text{ObservedScoreVariance}} = \frac{\text{TrueScoreVariance}}{\text{TrueScoreVariance} + \text{ErrorScoreVariance}} \quad (8.2)$$

When there is no error, the reliability is true score variance divided by true score variance, which equals 1. However, as more error influences the measure, the error component in the denominator of the ratio increases. As a result, the reliability decreases.

The reliability index used for the 2013 administration of the NeSA was the Coefficient Alpha α (Cronbach, 1951). Acceptable α values generally range in the mid to high 0.80s to low 0.90s. The total test Coefficient Alpha reliabilities of the whole population are presented in Table 8.1.1 for each grade and content area of the NeSA. The table contains test length in total number of items (L), test reliabilities, and traditional standard errors of measurement (SEM). As can be seen in the table, all reading, mathematics, and science forms for grades 3-11 have Coefficient Alphas in the high 0.80s or

low 0.90s. Overall, these α values provide evidence of good reliability.

Table 8.1.1 Reliabilities and Standard Errors of Measurement

	Grade	L	Reliability	SEM
Reading	3	45	0.90	2.8
	4	45	0.88	2.7
	5	48	0.90	2.9
	6	48	0.90	2.8
	7	48	0.91	2.8
	8	50	0.90	2.9
	11	50	0.91	2.9
Mathematics	3	50	0.92	2.9
	4	55	0.93	3.0
	5	55	0.92	3.1
	6	58	0.94	3.0
	7	58	0.94	3.0
	8	60	0.93	3.3
	11	60	0.95	3.1
Science	5	50	0.90	3.0
	8	60	0.91	3.2
	11	60	0.92	3.2

Reliability estimates for subgroups based on gender, ethnicity, special education status, limited English proficiency status, and food program eligibility status are also computed and reported in Appendix W. Results show fairly high reliability indices for all subpopulations in the high 0.80s to low 0.90s across grades and content areas, which indicates that the NeSA is not only reliable for the population as a whole, but it is also reliable for subpopulations of interest under NCLB. Appendix X present α for the content strands. Given that α is a function of test length, the smaller item counts for the content standards result in lower values of α which is to be expected. Overall, these two sets of values provide evidence of good reliability.

8.2 STANDARD ERROR OF MEASUREMENT

The traditional SEM uses the information from the test along with an estimate of reliability to make statements about the degree to which error influences individual scores. The SEM is based on the premise that underlying traits, such as academic achievement, cannot be measured exactly without a perfectly precise measuring instrument. The standard error expresses unreliability in terms of the raw-score metric. The SEM formula is provided below:

$$SEM = SD\sqrt{1 - reliability} \tag{8.3}$$

This formula indicates that the value of the SEM depends on both the reliability coefficient and the standard deviation of test scores. If the reliability were equal to 0.00 (the lowest possible value), the SEM would be equal to the standard deviation of the test scores. If test reliability were equal to 1.00 (the highest possible value), the SEM would be 0.0. In other words, a perfectly reliable test has no measurement error (Harvill, 1991). SEMs were calculated for each NeSA grade and content area using raw scores and displayed in Table 8.1.1.

8.3 CONDITIONAL STANDARD ERROR OF MEASUREMENT (CSEM)

The preceding discussion reviews the traditional approach to judging a test’s consistency. This approach is useful for making overall comparisons between alternate forms. However, it is not very useful for judging the precision with which a specific student’s score is known. The Rasch measurement models provide “conditional standard errors” that pertain to each unique ability estimate. Therefore, the CSEM may be especially useful in characterizing measurement precision in the neighborhood of a score level used for decision-making—such as cut scores for identifying students who meet a performance standard.

The complete set of conditional standard errors for every obtainable score can be found in Appendices Q, R and S as part of the raw-to-scale-score conversions for each grade and content area. Values were derived using the calibration data file described in Chapter Six and are on the scaled score metric. The magnitudes of CSEMs across the score scale seemed reasonable for most NeSA tests that the values are lower in the middle of the score range and increase at both extremes (i.e., at smaller and larger scale scores). This is because ability estimates from scores near the center of the test scoring range are known much more precisely than abilities associated with extremely high or extremely low scores. Table 8.3.1 reports the minimum CSEM of the scale score associated with the zero total test score (Min CSEM), the maximum CSEM of the scale score associated with the perfect total test score (Max CSEM), CSEM at the cuts of Below and Meets performance levels (CSEM B/M), and CSEM at the cuts of Meets and Exceeds performance levels (CSEM M/E) for each grade and content area. CSEM values at the cut score were generally associated with smaller CSEM values, indicating that more precise measurement occurs at these cuts.

Table 8.3.1 CSEM of the Scale Scores for 2013 NeSA Tests

		Min	Max	CSEM	CSEM
	Grade	CSEM	CSEM	B/M	M/E
Reading	3	9	52	9	12
	4	12	67	12	14
	5	12	72	12	14
	6	12	69	12	14
	7	12	71	12	14
	8	11	68	11	14
	11	12	73	12	15
Mathematics	3	9	54	9	12
	4	8	51	8	11
	5	8	53	8	11
	6	8	55	8	12
	7	8	54	8	12
	8	8	54	8	11
	11	10	66	10	13
Science	5	10	59	10	13
	8	9	61	9	12
	11	7	50	7	11

8.4 DECISION CONSISTENCY AND ACCURACY

When criterion-referenced tests are used to place the examinees into two or more performance classifications, it is useful to have some indication of how accurate or consistent such classifications are. Decision consistency refers to the degree to which the achievement level for each student can be replicated upon retesting using an equivalent form (Huynh, 1976). Decision accuracy describes the extent to which achievement-level classification decisions based on the administered test form would agree with the decisions that would be made on the basis of a perfectly reliable test. In a standards-based testing program there should be great interest in knowing how consistently and accurately students are classified into performance categories.

Since it is not feasible to repeat NeSA testing in order to estimate the proportion of students who would be reclassified in the same achievement levels, a statistical model needs to be imposed on the data to project the consistency or accuracy of classifications solely using data from the available administration (Hambleton & Novick, 1973). Although a number of procedures are available, two well-known methods were developed by Hanson and Brennan (1990) and Livingston and Lewis (1995) utilizing specific True Score Models. These approaches are fairly complex, and the cited sources

contain details regarding the statistical models used to calculate decision consistency from the single NeSA administration.

Several factors might affect decision consistency. One important factor is the reliability of the scores. All other things being equal, more reliable test scores tend to result in more similar reclassifications. Another factor is the location of the cutscore in the score distribution. More consistent classifications are observed when the cutscores are located away from the mass of the score distribution. The number of performance levels is also a consideration. Consistency indices for four performance levels should be lower than those based on three categories because classification using four levels would allow more opportunity to change achievement levels. Finally, some research has found that results from the Hanson and Brennan (1990) method on a dichotomized version of a complex assessment yield similar results to the Livingston and Lewis method (1995) and the method by Stearns and Smith (2007).

The results for the overall consistency across all three achievement levels are presented in Tables 8.4.1 – 8.4.3. The tabled values, derived using the program *BB-Class* (Brennan, 2004), show that consistency values across the two methods are generally very similar. Across all content areas, the overall decision consistency ranged from the mid 0.80s to the low 0.90s while the decision accuracy ranged from the high 0.80s to the mid 0.90s. If a parallel test were administered, at least 85% or more of students would be classified in the same way. Dichotomous decisions using the Meets cuts (Below/Meets) generally have the highest consistency values and exceeded 0.90 in all cases. The pattern of decision accuracy across different cuts is similar to that of decision consistency.

Table 8.4.1 NeSA-R Decision Consistency Results

Content Area	Grade	Livingston & Lewis				Hanson & Brennan			
		Decision Accuracy		Decision Consistency		Decision Accuracy		Decision Consistency	
		Meets	Exceeds	Meets	Exceeds	Meets	Exceeds	Meets	Exceeds
Reading	3	0.93	0.92	0.90	0.89	0.93	0.92	0.90	0.89
	4	0.93	0.90	0.89	0.86	0.93	0.90	0.90	0.86
	5	0.93	0.90	0.91	0.87	0.93	0.90	0.91	0.87
	6	0.93	0.91	0.90	0.87	0.93	0.91	0.90	0.87
	7	0.94	0.91	0.91	0.87	0.94	0.91	0.92	0.88
	8	0.94	0.89	0.91	0.85	0.94	0.90	0.91	0.86
	11	0.93	0.91	0.90	0.87	0.93	0.91	0.90	0.87

Table 8.4.2 NeSA-M Decision Consistency Results

Content Area	Grade	Livingston & Lewis				Hanson & Brennan			
		Decision Accuracy		Decision Consistency		Decision Accuracy		Decision Consistency	
		Meets	Exceeds	Meets	Exceeds	Meets	Exceeds	Meets	Exceeds
Math	3	0.94	0.92	0.91	0.89	0.94	0.92	0.91	0.89
	4	0.94	0.93	0.91	0.90	0.94	0.93	0.91	0.90
	5	0.93	0.93	0.91	0.90	0.93	0.93	0.91	0.90
	6	0.94	0.93	0.91	0.91	0.94	0.93	0.91	0.91
	7	0.94	0.94	0.91	0.91	0.94	0.94	0.91	0.91
	8	0.93	0.94	0.90	0.91	0.93	0.94	0.90	0.91
	11	0.94	0.95	0.92	0.93	0.94	0.95	0.92	0.93

Table 8.4.3 NeSA-S Decision Consistency Results

Content Area	Grade	Livingston & Lewis				Hanson & Brennan			
		Decision Accuracy		Decision Consistency		Decision Accuracy		Decision Consistency	
		Meets	Exceeds	Meets	Exceeds	Meets	Exceeds	Meets	Exceeds
Science	5	0.92	0.92	0.88	0.89	0.92	0.92	0.89	0.89
	8	0.92	0.93	0.89	0.90	0.92	0.93	0.89	0.90
	11	0.93	0.94	0.90	0.91	0.93	0.94	0.90	0.91

9. VALIDITY

As defined in the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999), validity refers to “the degree to which evidence and theory support the interpretation of test scores entailed by proposed uses of tests” (p. 9). The validity process involves the collection of a variety of evidence to support the proposed test score interpretations and uses. This entire technical report describes the technical aspects of the NeSA tests in support of their score interpretations and uses. Each of the previous chapters contributes important evidence components that pertain to score validation: test development, test scoring, item analysis, Rasch calibration, scaling, and reliability. This chapter summarizes and synthesizes the evidence based on the framework presented in *The Standards*.

9.1 EVIDENCE BASED ON TEST CONTENT

Content validity addresses whether the test adequately samples the relevant material it purports to cover. The NeSA for grades 3 through 11 is a criterion-referenced assessment. The criteria referenced are the Nebraska reading and mathematics content standards. Each assessment was based on and was directly aligned to the Nebraska statewide content standards to ensure good content validity.

For criterion-referenced, standards-based assessment, the strong content validity evidence is derived directly from the test construction process and the item scaling. The item development and test construction process, described above, ensures that every item aligns directly to one of the content standards. This alignment is foremost in the minds of the item writers and editors. As a routine part of item selection prior to an item appearing on a test form, the review committees check the alignment of the items with the standards and make any adjustments necessary. The result is consensus among the content specialists and teachers that the assessment does in fact assess what was intended.

The empirical item scaling, which indicates where each item falls on the logit ability-difficulty continuum, should be consistent with what theory suggests about the items. Items that require more knowledge, more advanced skills, and more complex behaviors should be empirically more difficult than those requiring less. Evidence of this agreement is contained in the item summary tables in Appendices K, L, and M, as well as the success of the Bookmark and Contrasting Groups standard setting processes (in the separate *2010 NeSA-R Standard Setting Technical Report*, *2011 NeSA-M Standard Setting Technical Report* and *2012 NeSA-S Standard Setting Technical Report*). Panelists participating in the Bookmark process work from an item booklet in which items are ordered by their empirical difficulties. Discussions about placement of the bookmarks almost invariably focus on the knowledge, skills, and behaviors required of each item, and, overall, panelists were comfortable with the item ordering and spacing. Contrasting Groups participants, using their knowledge and experience with their students, placed their students in a corresponding Performance Level.

9.2 EVIDENCE BASED ON INTERNAL STRUCTURE

As described in the *Standards* (1999), internal-structure evidence refers to the degree to which the relationships between test items and test components conform to the construct on which the proposed test interpretations are based.

Item-Test Correlations: Item-test correlations are reviewed in Chapter Four. All values are positive and of acceptable magnitude.

Item Response Theory Dimensionality: Results from principle components analyses are presented in Chapter Five. The NeSA reading, mathematics, and science tests were essentially unidimensional, providing evidence supporting interpretations based on the total scores for the respective NeSA tests.

Strand Correlations: Correlations and disattenuated correlations between strand scores within each content area are presented below. This data can also provide information on score dimensionality that is part of internal-structure evidence. As noted in Chapter Two and also in Table 9.2.1, the NeSA-R tests have two strands (denoted by R.1 and R.2), the NeSA-M tests have four strands (denoted by M.1, M.2, M.3, and M.4), and the NeSA-S have four strands (denoted by S.1, S.2, S.3, and S.4) for each grade and content area.

For each grade, Pearson’s correlation coefficients between these strands are reported in Tables 9.2.2.a through 9.2.2.g. The intercorrelations between the strands within the content areas are positive and generally range from moderate to high in value.

Table 9.2.1 NeSA Content Strands

Content	Code	Strand
Reading	R.1	Vocabulary
	R.2	Comprehension
Mathematics	M.1	Number Sense
	M.2	Geometric/Measurement
	M.3	Algebraic
	M.4	Data Analysis/Probability
Science	S.1	Inquiry, the Nature of Science, and Technology
	S.2	Physical Science
	S.3	Life Science
	S.4	Earth and Space Science

Table 9.2.2.a Correlations between Reading and Mathematics Strands for Grade 3

Grade 3	R.1	R.2	M.1	M.2	M.3	M.4
R.1						
R.2	0.74					
M.1	0.64	0.68				
M.2	0.61	0.64	0.73			
M.3	0.58	0.63	0.75	0.66		
M.4	0.52	0.55	0.63	0.54	0.58	

Table 9.2.2.b Correlations between Reading and Mathematics Strands for Grade 4

Grade 4	R.1	R.2	M.1	M.2	M.3	M.4
R.1						
R.2	0.74					
M.1	0.64	0.68				
M.2	0.62	0.64	0.78			
M.3	0.52	0.55	0.70	0.63		
M.4	0.54	0.59	0.67	0.62	0.54	

Table 9.2.2.c Correlations between Reading, Mathematics, and Science Strands for Grade 5

Grade 5	R.1	R.2	M.1	M.2	M.3	M.4	S.1	S.2	S.3	S.4
R.1										
R.2	0.75									
M.1	0.65	0.69								
M.2	0.54	0.56	0.69							
M.3	0.55	0.58	0.73	0.58						
M.4	0.59	0.64	0.73	0.59	0.63					
S.1	0.60	0.67	0.61	0.51	0.53	0.59				
S.2	0.64	0.67	0.66	0.55	0.56	0.61	0.65			
S.3	0.65	0.68	0.61	0.51	0.52	0.58	0.65	0.72		
S.4	0.59	0.62	0.59	0.51	0.50	0.55	0.61	0.67	0.69	

Table 9.2.2.d Correlations between Reading and Mathematics Strands for Grade 6

Grade 6	R.1	R.2	M.1	M.2	M.3	M.4
R.1						
R.2	0.73					
M.1	0.61	0.69				
M.2	0.58	0.65	0.77			
M.3	0.60	0.68	0.79	0.75		
M.4	0.60	0.70	0.76	0.71	0.74	

Table 9.2.2.e Correlations between Reading and Mathematics Strands for Grade 7

Grade 7	R.1	R.2	M.1	M.2	M.3	M.4
R.1						
R.2	0.74					
M.1	0.62	0.69				
M.2	0.56	0.64	0.74			
M.3	0.63	0.71	0.80	0.72		
M.4	0.56	0.65	0.72	0.66	0.69	

Table 9.2.2.f Correlations between Reading, Mathematics, and Science Strands for Grade 8

Grade 8	R.1	R.2	M.1	M.2	M.3	M.4	S.1	S.2	S.3	S.4
R.1										
R.2	0.76									
M.1	0.59	0.67								
M.2	0.57	0.64	0.75							
M.3	0.60	0.70	0.78	0.72						
M.4	0.57	0.65	0.71	0.69	0.70					
S.1	0.62	0.70	0.63	0.62	0.64	0.62				
S.2	0.57	0.62	0.58	0.59	0.57	0.59	0.63			
S.3	0.67	0.71	0.62	0.61	0.62	0.60	0.67	0.67		
S.4	0.60	0.64	0.59	0.60	0.58	0.57	0.63	0.66	0.71	

Table 9.2.2.g Correlations between Reading, Mathematics, and Science Strands for Grade 11

Grade 11	R.1	R.2	M.1	M.2	M.3	M.4	S.1	S.2	S.3	S.4
R.1										
R.2	0.76									
M.1	0.54	0.63								
M.2	0.59	0.68	0.73							
M.3	0.60	0.69	0.78	0.82						
M.4	0.57	0.66	0.67	0.73	0.73					
S.1	0.60	0.70	0.62	0.69	0.68	0.66				
S.2	0.59	0.68	0.62	0.68	0.67	0.67	0.70			
S.3	0.64	0.75	0.62	0.68	0.67	0.66	0.73	0.74		
S.4	0.56	0.65	0.54	0.61	0.59	0.59	0.64	0.68	0.72	

The correlations in Tables 9.2.2.a through 9.2.2.g are based on the observed strand scores. These observed-score correlations are weakened by existing measurement error contained within each strand. As a result, disattenuating the observed correlations can provide an estimate of the relationships

between strands if there is no measurement error. The disattenuated correlation coefficients can be computed from the observed correlations (reported in Tables 9.2.2.a – 9.2.2.g) and the reliabilities for each strand (Spearman, 1904, 1910). Disattenuated correlations very near 1.00 might suggest that the same or very similar constructs are being measured. Values somewhat less than 1.00 might suggest that different strands are measuring slightly different aspects of the same construct. Values markedly less than 1.00 might suggest the strands reflect different constructs.

Tables 9.2.3.a through 9.2.3.g show the corresponding disattenuated correlations for the 2013 NeSA tests for each grade. Given that none of these strands has perfect reliabilities (see Chapter Eight), the disattenuated strand correlations are higher than their observed score counterparts. Some within-content-area correlations are very high (e.g., above 0.95), suggesting that the within-content-area strands might be measuring essentially the same construct. This, in turn, suggests that some strand scores might not provide unique information about the strengths or weaknesses of students.

On a fairly consistent basis, the correlations between the strands within each content area were higher than the correlations between strands across different content areas. In general, within-content-area strand correlations were mostly greater than 0.90, while across-content-area strand correlations generally ranged from 0.73 to 0.91. Such a pattern is expected since the two content area tests were designed to measure different constructs.

Table 9.2.3.a Disattenuated Strand Correlations for Reading and Mathematics: Grade 3

Grade 3	R.1	R.2	M.1	M.2	M.3	M.4
R.1						
R.2	0.94					
M.1	0.82	0.79				
M.2	0.83	0.80	0.92			
M.3	0.82	0.81	0.97	0.93		
M.4	0.82	0.79	0.92	0.85	0.95	

Table 9.2.3.b Disattenuated Strand Correlations for Reading and Mathematics: Grade 4

Grade 4	R.1	R.2	M.1	M.2	M.3	M.4
R.1						
R.2	0.97					
M.1	0.83	0.79				
M.2	0.86	0.81	0.95			
M.3	0.78	0.74	0.92	0.90		
M.4	0.86	0.84	0.94	0.92	0.87	

Table 9.2.3.c Disattenuated Strand Correlations for Reading, Mathematics and Science: Grade 5

Grade 5	R.1	R.2	M.1	M.2	M.3	M.4	S.1	S.2	S.3	S.4
R.1										
R.2	0.95									
M.1	0.82	0.78								
M.2	0.79	0.75	0.92							
M.3	0.83	0.80	1.00	0.92						
M.4	0.85	0.84	0.96	0.91	0.99					
S.1	0.89	0.89	0.81	0.79	0.85	0.90				
S.2	0.88	0.83	0.82	0.80	0.84	0.87	0.95			
S.3	0.87	0.83	0.74	0.73	0.76	0.81	0.92	0.96		
S.4	0.85	0.81	0.77	0.77	0.78	0.82	0.92	0.96	0.95	

Table 9.2.3.d Disattenuated Strand Correlations for Reading and Mathematics: Grade 6

Grade 6	R.1	R.2	M.1	M.2	M.3	M.4
R.1						
R.2	0.96					
M.1	0.82	0.80				
M.2	0.81	0.78	0.96			
M.3	0.82	0.81	0.97	0.95		
M.4	0.84	0.86	0.96	0.93	0.95	

Table 9.2.3.e Disattenuated Strand Correlations for Reading and Mathematics: Grade 7

Grade 7	R.1	R.2	M.1	M.2	M.3	M.4
R.1						
R.2	0.96					
M.1	0.81	0.79				
M.2	0.80	0.80	0.94			
M.3	0.85	0.84	0.95	0.93		
M.4	0.84	0.84	0.95	0.96	0.94	

Table 9.2.3.f Disattenuated Strand Correlations for Reading, Mathematics and Science: Grade 8

Grade 8	R.1	R.2	M.1	M.2	M.3	M.4	S.1	S.2	S.3	S.4
R.1										
R.2	0.97									
M.1	0.79	0.81								
M.2	0.77	0.77	0.95							

Grade 8	R.1	R.2	M.1	M.2	M.3	M.4	S.1	S.2	S.3	S.4
M.3	0.79	0.83	0.96	0.89						
M.4	0.80	0.81	0.92	0.91	0.90					
S.1	0.90	0.91	0.85	0.85	0.86	0.87				
S.2	0.82	0.80	0.78	0.80	0.76	0.82	0.92			
S.3	0.91	0.86	0.78	0.77	0.78	0.79	0.92	0.92		
S.4	0.85	0.81	0.78	0.80	0.75	0.78	0.91	0.94	0.95	

Table 9.2.3.g Disattenuated Strand Correlations for Reading, Mathematics and Science: Grade 11

Grade 11	R.1	R.2	M.1	M.2	M.3	M.4	S.1	S.2	S.3	S.4
R.1										
R.2	1.00									
M.1	0.82	0.81								
M.2	0.80	0.78	0.96							
M.3	0.79	0.78	1.00	0.95						
M.4	0.82	0.80	0.92	0.91	0.89					
S.1	0.88	0.86	0.87	0.88	0.85	0.88				
S.2	0.85	0.83	0.86	0.86	0.82	0.88	0.95			
S.3	0.88	0.88	0.82	0.82	0.79	0.83	0.94	0.95		
S.4	0.86	0.84	0.80	0.81	0.77	0.83	0.93	0.97	0.99	

9.3 EVIDENCE RELATED TO THE USE OF THE RASCH MODEL

Since the Rasch model is the basis of all calibration, scaling, and linking analyses associated with the NeSA, the validity of the inferences from these results depends on the degree to which the assumptions of the model are met as well as the fit between the model and test data. As discussed at length in Chapter Five, the underlying assumptions of Rasch models were essentially met for all the NeSA data, indicating the appropriateness of using the Rasch models to analyze the NeSA data.

In addition, the Rasch model was also used to link different operational NeSA tests across years. The accuracy of the linking also affects the accuracy of student scores and the validity of score uses. DRC Psychometric Services staffers conducted verifications to check the accuracy of the procedures, including item calibration, conversions from the raw score to the Rasch ability estimate, and conversions from the Rasch ability estimates to the scale scores.

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Nebraska State Accountability (NeSA)

Reading, Mathematics and Science

Technical Report Appendices

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Appendix A: NeSA-R Test Blueprint

Nebraska State Accountability - Reading (NeSA-R)					
Table of Specifications					
Grade 3					
Gr3 Vocabulary	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 3.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.					
LA 3.1.5.a <i>Apply word structure elements, known words, and word patterns to determine meanings (e.g., contractions, plurals, possessives, basic parts of speech, compounds, syllables)</i>	1	4-6	0	0	4-6
LA 3.1.5.b <i>Relate new grade level vocabulary to prior knowledge and use in new situations</i>	Assessed at the local level				
LA 3.1.5.c <i>Apply context clues (e.g., word, phrase, and sentence clues, re-reading) and text features (e.g., table of contents, maps, charts, font/format styles) to help infer meaning of unknown word</i>	2	2-3	2-3	0	4-6
LA 3.1.5.d <i>Identify semantic relationships (e.g., patterns and categories, synonyms, antonyms, homonyms, multiple meanings)</i>	1	4-6	0	0	4-6
LA 3.1.5.e <i>Identify meaning using print and digital reference materials (e.g., dictionary, glossary)</i>	Assessed at the local level				
LA 3.1.5.f <i>Locate words in reference materials (e.g., alphabetical order, guide words)</i>	Assessed at the local level				
Gr3 Comprehension	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 3.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.					
LA 3.1.6.a <i>Identify author purpose(s) (e.g., explain, entertain, inform, persuade) to support text comprehension</i>	3	0	0-1	1-2	1-3
LA 3.1.6.b <i>Identify elements of narrative text (e.g., characters, setting, plot, point of view)</i>	1	4-6	0	0	4-6
LA 3.1.6.c <i>Retell and summarize narrative text including characters, setting, and plot with supporting details</i>	2	1-2	3-4	0	4-6

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LA 3.1.6.d <i>Identify literary devices and explain the ways in which language is used (e.g., simile, alliteration, onomatopoeia, imagery, rhythm)</i>	2	0-1	1-2	0	1-3
LA 3.1.6.e <i>Retell and summarize the main idea from informational text using supporting details</i>	2	1-2	2-4	0	3-6
LA 3.1.6.f <i>Recognize and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast)</i>	2	1-2	2-3	0	3-5
LA 3.1.6.g <i>Apply knowledge of text features to locate information and gain meaning from a text (e.g., table of contents, maps, charts, illustrations, headings, captions, font/format styles)</i>	2	1-3	2-3	0	3-6
LA 3.1.6.h <i>Describe the defining characteristics of narrative and informational genres (e.g., folk tales, poetry, historical fiction, biographies, chapter books, textbooks)</i>	2	0	1-3	0	1-3
LA 3.1.6.i <i>Use narrative or informational text to develop a multi-cultural perspective</i>	Assessed at the local level				
LA 3.1.6.j <i>Generate and/or answer literal, inferential, and critical questions, supporting answers using prior knowledge and literal and inferential information from the text</i>	3	1-2	1-2	1-2	3-6
LA 3.1.6.k <i>Identify and explain purpose for reading (e.g., information, pleasure, understanding)</i>	Assessed at the local level				
LA 3.1.6.l <i>Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading</i>	Assessed at the local level				
LA 3.1.6.m <i>Self-monitor comprehension by recognizing when meaning is disrupted and apply strategies to clarify, confirm, or correct</i>	Assessed at the local level				
LA 3.1.6.n <i>Make and confirm/modify predictions before, during, and after reading (e.g., captions, headings, character traits, personal experience)</i>	Assessed at the local level				
LA 3.1.6.o <i>Use examples and details in a text to make inferences about a story or situation</i>	Assessed at the local level				
LA 3.1.6.p <i>Respond to text verbally, in writing, or artistically</i>	Assessed at the local level				

Nebraska State Accountability - Reading (NeSA-R)					
Table of Specifications					
Grade 4					
Gr4 Vocabulary	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 4.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.					
LA 4.1.5.a <i>Apply knowledge of word structure elements, known words, and word patterns to determine meaning (e.g., parts of speech, plurals, possessives, suffixes, prefixes, base and root words)</i>	1	4-6	0	0	4-6
LA 4.1.5.b <i>Relate new grade level vocabulary to prior knowledge and use in new situations</i>	Assessed at the local level				
LA 4.1.5.c <i>Apply context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, captions) to infer meaning of unknown words</i>	2	1-2	2-4	0	3-6
LA 4.1.5.d <i>Identify semantic relationships (e.g., patterns and categories, homographs, homophones, synonyms, antonyms, multiple meanings)</i>	1	4-6	0	0	4-6
LA 4.1.5.e <i>Determine meaning using print and digital reference materials (e.g., dictionary, thesaurus, glossary)</i>	Assessed at the local level				
Gr4 Comprehension	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 4.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.					
LA 4.1.6.a <i>Identify author purpose(s) (e.g., explain, entertain, inform, persuade) and recognize how author perspective (e.g., beliefs, assumptions, biases) influences text</i>	3	0	0-1	1-2	1-3
LA 4.1.6.b <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot, theme)</i>	2	2-3	2-3	0	4-6
LA 4.1.6.c <i>Summarize narrative text including characters, setting, and plot with supporting details</i>	2	1-2	2-4	0	3-6
LA 4.1.6.d <i>Identify literary devices and explain the ways in which language is used (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)</i>	2	1-2	1-2	0	2-4

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LA 4.1.6.e <i>Retell and summarize the main idea from informational text using supporting details</i>	2	1-2	2-4	0	3-6
LA 4.1.6.f <i>Recognize and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)</i>	2	1-2	2-4	0	3-6
LA 4.1.6.g <i>Apply knowledge of text features to locate information and gain meaning from a text (e.g., glossary, maps, charts, tables, graphs, illustrations, headings, subheadings, captions, font/format styles)</i>	2	1-3	2-3	0	3-6
LA 4.1.6.h <i>Describe the defining characteristics of narrative and informational genres (e.g., folk tales, poetry, historical fiction, biographies, chapter books, textbooks)</i>	2	0	1-3	0	1-3
LA 4.1.6.i <i>Use narrative or informational text to develop a multi-cultural perspective</i>	Assessed at the local level				
LA 4.1.6.j <i>Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text</i>	3	1-2	1-2	1-2	3-6
LA 4.1.6.k <i>Identify and explain purpose for reading (e.g., information, pleasure, understanding)</i>	Assessed at the local level				
LA 4.1.6.l <i>Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading</i>	Assessed at the local level				
LA 4.1.6.m <i>Self-monitor comprehension by recognizing when meaning is disrupted and apply strategies to clarify, confirm, or correct</i>	Assessed at the local level				
LA 4.1.6.n <i>Make and confirm/modify predictions before, during, and after reading (e.g., title, topic sentences, font, key words, foreshadowing clues)</i>	Assessed at the local level				
LA 4.1.6.o <i>Use examples and details in a text to make inferences about a story or situation</i>	Assessed at the local level				
LA 4.1.6.p <i>Respond to text verbally, in writing, or artistically</i>	Assessed at the local level				

**Nebraska State Accountability - Reading (NeSA-R)
Table of Specifications**

Grade 5

Gr5 Vocabulary	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 5.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.					
LA 5.1.5.a <i>Apply knowledge of word structure elements, known words, and word patterns to determine meaning (e.g., affixes, abbreviations, parts of speech, word origins)</i>	1	4-6	0	0	4-6
LA 5.1.5.b <i>Relate new grade level vocabulary to prior knowledge and use in new situations</i>	Assessed at the local level				
LA 5.1.5.c <i>Select and apply context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, captions, maps) to determine meaning of unknown words in a variety of text structures</i>	2	1-2	3-4	0	4-6
LA 5.1.5.d <i>Identify semantic relationships (e.g., multiple meanings, metaphors, similes, idioms, analogies)</i>	1	2-4	0	0	2-4
LA 5.1.5.e <i>Determine meaning using print and digital reference materials (e.g., dictionary, thesaurus, glossary)</i>	Assessed at the local level				
Gr5 Comprehension	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 5.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.					
LA 5.1.6.a <i>Identify author purpose(s) (e.g., explain, entertain, inform, persuade) and recognize how author perspective (e.g., beliefs, assumptions, biases) influences text</i>	3	0	0-1	1-2	1-3
LA 5.1.6.b <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot, theme)</i>	2	1-2	2-4	0	3-6
LA 5.1.6.c <i>Summarize narrative text including characters, setting, plot, and theme with supporting details</i>	2	1-2	3-4	0	4-6
LA 5.1.6.d <i>Identify literary devices and explain the ways in which language is used (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)</i>	2	1-2	1-2	0	2-4

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LA 5.1.6.e <i>Summarize and analyze the main idea from informational text using supporting details</i>	2	1-2	3-4	0	4-6
LA 5.1.6.f <i>Understand and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)</i>	2	1-2	2-4	0	3-6
LA 5.1.6.g <i>Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, maps, charts, tables, graphs, headings, subheadings)</i>	2	1-2	1-2	0	2-4
LA 5.1.6.h <i>Describe the defining characteristics of narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, essays)</i>	2	0	1-3	0	1-3
LA 5.1.6.i <i>Recognize the social, historical, cultural, and biographical influences in a variety of genres</i>	Assessed at the local level				
LA 5.1.6.j <i>Use narrative and informational text to develop a national and global multi-cultural perspective</i>	Assessed at the local level				
LA 5.1.6.k <i>Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text and additional sources</i>	3	1-2	2-4	1-2	4-8
LA 5.1.6.l <i>Select text for a particular purpose (e.g., information, pleasure, answer a specific question)</i>	Assessed at the local level				
LA 5.1.6.m <i>Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading</i>	Assessed at the local level				
LA 5.1.6.n <i>Self-monitor comprehension by recognizing when meaning is disrupted and apply strategies to clarify, confirm, or correct</i>	Assessed at the local level				
LA 5.1.6.o <i>Use examples and details to make inferences or logical predictions while previewing and reading text</i>	Assessed at the local level				
LA 5.1.6.p <i>Respond to text verbally, in writing, or artistically</i>	Assessed at the local level				

Nebraska State Accountability - Reading (NeSA-R)					
Table of Specifications					
Grade 6					
Gr6 Vocabulary	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 6.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.					
LA 6.1.5.a <i>Determine the meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies</i>	1	4-6	0	0	4-6
LA 6.1.5.b <i>Relate new grade level vocabulary to prior knowledge and use in new situations</i>	Assessed at the local level				
LA 6.1.5.c <i>Select and apply knowledge of context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, index, tables, maps, charts) to determine meaning of unknown words in a variety of text structures</i>	2	1-2	3-4	0	4-6
LA 6.1.5.d <i>Identify semantic relationships (e.g., metaphors, similes, idioms, analogies, comparisons)</i>	1	2-4	0	0	2-4
LA 6.1.5.e <i>Determine meaning using print and digital reference materials (e.g., dictionary, thesaurus, glossary)</i>	Assessed at the local level				
Gr6 Comprehension	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 6.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.					
LA 6.1.6.a <i>Explain how author's purpose and perspective affect the meaning and reliability of the text</i>	3	0	1-2	1-2	2-4
LA 6.1.6.b <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, theme)</i>	2	1-3	2-3	0	3-6
LA 6.1.6.c <i>Summarize narrative text using understanding of characters, setting, sequence of events, plot, and theme</i>	2	1-2	2-4	0	3-6

LA 6.1.6.d <i>Interpret and explain the author's use of literary devices (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)</i>	3	0	1-2	1-2	2-4
LA 6.1.6.e <i>Summarize, analyze, and synthesize informational text using main idea and supporting details</i>	3	1-2	1-2	2-3	4-7
LA 6.1.6.f <i>Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)</i>	2	1-2	2-4	0	3-6
LA 6.1.6.g <i>Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, maps, charts, tables, graphs, headings, subheadings)</i>	2	1-2	1-2	0	2-4
LA 6.1.6.h <i>Distinguish between the defining characteristics of different narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, and essays)</i>	2	0	1-3	0	1-3
LA 6.1.6.i <i>Describe the social, historical, cultural, and biographical influences in a variety of genres</i>	Assessed at the local level				
LA 6.1.6.j <i>Use narrative and informational text to develop a national and global multi-cultural perspective</i>	Assessed at the local level				
LA 6.1.6.k <i>Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text and additional sources</i>	3	1-2	2-4	1-2	4-8
LA 6.1.6.l <i>Select text for a particular purpose (e.g., information, pleasure, answer a specific question)</i>	Assessed at the local level				
LA 6.1.6.m <i>Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading</i>	Assessed at the local level				
LA 6.1.6.n <i>Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct</i>	Assessed at the local level				
LA 6.1.6.o <i>Use examples and details to make inferences or logical predictions while previewing and reading text</i>	Assessed at the local level				
LA 6.1.6.p <i>Respond to text verbally, in writing, or artistically</i>	Assessed at the local level				

Nebraska State Accountability - Reading (NeSA-R)					
Table of Specifications					
Grade 7					
Gr7 Vocabulary	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 7.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.					
LA 7.1.5.a <i>Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies</i>	1	3-5	0	0	3-5
LA 7.1.5.b <i>Relate new grade level vocabulary to prior knowledge and use in new situations.</i>	Assessed at the local level				
LA 7.1.5.c <i>Select and apply knowledge of context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, index, tables, maps, graphs, charts) appropriate to a particular text to determine meaning of unknown words</i>	2	1-2	3-5	0	4-7
LA 7.1.5.d <i>Analyze semantic relationships (e.g., figurative language, connotations, subtle distinctions)</i>	2	1-2	1-2	0	2-4
LA 7.1.5.e <i>Determine meaning using print and digital reference materials</i>	Assessed at the local level				
Gr7 Comprehension	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 7.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension					
LA 7.1.6.a <i>Analyze the meaning, reliability, and validity of the text considering author's purpose and perspective</i>	3	0	1-2	1-2	2-4
LA 7.1.6.b <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, theme)</i>	2	2-4	2-4	0	4-8
LA 7.1.6.c <i>Analyze author's use of literary devices (e.g., foreshadowing, personification, idiom, oxymoron, hyperbole, flashback, suspense, symbolism, irony)</i>	3	0	1-2	1-2	2-4
LA 7.1.6.d <i>Summarize, analyze, and synthesize informational text using main idea and supporting details</i>	3	0	2-3	2-3	4-6

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LA 7.1.6.e <i>Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion, proposition/support)</i>	2	1-2	2-4	0	3-6
LA 7.1.6.f <i>Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, annotations, maps, charts, tables, graphs, headings, subheadings)</i>	2	1-2	1-2	0	2-4
LA 7.1.6.g <i>Explain and make inferences based on the characteristics of narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, essays)</i>	2	0	1-3	0	1-3
LA 7.1.6.h <i>Explain the social, historical, cultural, and biographical influences in a variety of genres</i>	Assessed at the local level				
LA 7.1.6.i <i>Use narrative and informational text to develop a national and global multi-cultural perspective</i>	Assessed at the local level				
LA 7.1.6.j <i>Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing prior knowledge, information from the text and additional sources, to support answers</i>	3	2-3	2-3	1-2	5-8
LA 7.1.6.k <i>Select text for a particular purpose (e.g., understand, interpret, enjoy, solve problems, form an opinion, answer a specific question, discover models for own writing)</i>	Assessed at the local level				
LA 7.1.6.l <i>Build and activate prior knowledge in order to clarify text, deepen understanding, and make connections while reading</i>	Assessed at the local level				
LA 7.1.6.m <i>Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct</i>	Assessed at the local level				
LA 7.1.6.n <i>Use examples and details to make inferences or logical predictions while previewing and reading text</i>	Assessed at the local level				
LA 7.1.6.o <i>Respond to text verbally, in writing, or artistically</i>	Assessed at the local level				

Nebraska State Accountability - Reading (NeSA-R)					
Table of Specifications					
Grade 8					
Gr8 Vocabulary	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 8.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.					
LA 8.1.5.a <i>Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies</i>	1	3-5	0	0	3-5
LA 8.1.5.b <i>Relate new grade level vocabulary to prior knowledge and use in new situations</i>	Assessed at the local level				
LA 8.1.5.c <i>Select a context clue strategy to determine meaning of unknown word appropriate to text (e.g., restatement, example, gloss, annotations, sidebar)</i>	2	1-3	3-5	0	4-8
LA 8.1.5.d <i>Analyze semantic relationships (e.g., figurative language, connotations, subtle distinctions)</i>	2	1-2	1-2	0	2-4
LA 8.1.5.e <i>Determine meaning using print and digital reference materials</i>	Assessed at the local level				
Gr8 Comprehension	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 8.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension					
LA 8.1.6.a <i>Analyze the meaning, reliability, and validity of the text considering author's purpose, perspective, and information from additional sources</i>	3	0	0-1	1-2	1-3
LA 8.1.6.b <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, inferred and recurring themes)</i>	2	1-2	3-5	0	4-7
LA 8.1.6.c <i>Analyze author's use of literary devices (e.g., foreshadowing, personification, idiom, oxymoron, hyperbole, flashback, suspense, symbolism, irony, transitional devices)</i>	3	0	1-2	1-2	2-4
LA 8.1.6.d <i>Summarize, analyze, and synthesize informational text using main idea and supporting details</i>	3	0	3-5	2-3	5-8

LA 8.1.6.e <i>Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare / contrast, fact / opinion, proposition / support)</i>	2	0	4-6	0	4-6
LA 8.1.6.f <i>Analyze and evaluate information from text features (e.g., index, annotations, maps, charts, tables, graphs, headings, subheadings, lists)</i>	2	1-2	1-2	0	2-4
LA 8.1.6.g <i>Analyze and make inferences based on the characteristics of narrative and informational genres</i>	2	1-2	1-2	0	2-4
LA 8.1.6.h <i>Analyze a variety of genres for the social, historical, cultural, and biographical influences</i>	Assessed at the local level				
LA 8.1.6.i <i>Use narrative and informational text to develop a national and global multi-cultural perspective</i>	Assessed at the local level				
LA 8.1.6.j <i>Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing and synthesizing prior knowledge, information from the text and additional sources, to support answers</i>	3	1-2	2-3	1-2	4-7
LA 8.1.6.k <i>Select text for a particular purpose (e.g., understand, interpret, enjoy, solve problems, form an opinion, answer a specific question, discover models for own writing)</i>	Assessed at the local level				
LA 8.1.6.l <i>Build and activate prior knowledge in order to clarify text, deepen understanding, and make connections while reading</i>	Assessed at the local level				
LA 8.1.6.m <i>Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct</i>	Assessed at the local level				
LA 8.1.6.n <i>Make complex or abstract inferences or predictions by synthesizing information while previewing and reading text</i>	Assessed at the local level				
LA 8.1.6.o <i>Respond to text verbally, in writing, or artistically</i>	Assessed at the local level				

Nebraska State Accountability - Reading (NeSA-R)					
Table of Specifications					
Grade 11					
Gr12 Vocabulary	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 12.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.					
LA 12.1.5.a <i>Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies</i>	1	2-4	0	0	2-4
LA 12.1.5.b <i>Relate new grade level vocabulary to prior knowledge and use in new situations.</i>	Assessed at the local level				
LA 12.1.5.c <i>Independently apply appropriate strategy to determine meanings of unknown words in text</i>	2	1-2	2-4	0	3-6
LA 12.1.5.d <i>Use semantic relationships to evaluate, defend, and make judgments</i>	3	0	1-2	1-2	2-4
LA 12.1.5.e <i>Determine meaning using print and digital reference materials</i>	Assessed at the local level				
Gr12 Comprehension	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
LA 12.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.					
LA 12.1.6.a <i>Evaluate the meaning, reliability, and validity of the text considering author's purpose, perspective, and information from additional sources</i>	3	0	1-2	1-2	2-4
LA 12.1.6.b <i>Analyze and evaluate elements of narrative text (e.g., characterization, setting, plot development, internal and external conflict, inferred and recurring themes, point of view, tone, mood)</i>	3	0	2-3	1-2	3-5
LA 12.1.6.c <i>Analyze the function and critique the effects of the author's use of stylistic and literary devices (e.g., allusion, symbolism, irony, foreshadowing, flashback, metaphor, personification, epiphany, oxymoron, dialect, tone, mood, transitional devices)</i>	3	0	2-3	1-2	3-5

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LA 12.1.6.d <i>Summarize, analyze, synthesize, and evaluate informational text</i>	3	0	3-4	2-3	5-7
LA 12.1.6.e <i>Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion, proposition/support, concept definition, question/answer)</i>	2	1-2	3-6	0	4-8
LA 12.1.6.f <i>Analyze and evaluate information from text features (e.g., index, annotations, photographs, charts, tables, graphs, headings, subheadings, lists)</i>	2	1-2	1-2	0	2-4
LA 12.1.6.g <i>Analyze and evaluate inferences based on the characteristics of narrative and informational genres and provide evidence from the text to support understanding</i>	3	1-2	1-2	0	2-4
LA 12.1.6.h <i>Critique the effects of historical, cultural, political, and biographical influences in a variety of genres</i>	Assessed at the local level				
LA 12.1.6.i <i>Use narrative and informational text to develop a national and global multi-cultural perspective</i>	Assessed at the local level				
LA 12.1.6.j <i>Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing, synthesizing, and evaluating prior knowledge, information from the text</i>	3	1-2	2-3	1-2	4-7
LA 12.1.6.k <i>Select a text for a particular purpose (e.g., understand a specific viewpoint, enjoy, solve problems, form an opinion, discover models for own writing, predict outcomes,</i>	Assessed at the local level				
LA 12.1.6.l <i>Build and activate prior knowledge in order to clarify text, deepen understanding, and make connections while reading</i>	Assessed at the local level				
LA 12.1.6.m <i>Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct</i>	Assessed at the local level				
LA 12.1.6.n <i>Make complex or abstract inferences or predictions by synthesizing information while previewing and reading text</i>	Assessed at the local level				
LA 12.1.6.o <i>Respond to text verbally, in writing, or artistically</i>	Assessed at the local level				

Appendix B: NeSA-M Test Blueprint

Nebraska State Accountability - Mathematics (NeSA-M)					
Table of Specifications					
Grade 3					
NUMBER SENSE					
Gr3 Number System	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.1.1 Students will represent and show relationships among positive rational numbers within the base-ten number system.					
<i>MA 3.1.1.a Read and write numbers to one-hundred thousand.</i>	Assessed at the local level				
<i>MA 3.1.1.b Count by multiples of 5 to 200</i>	Assessed at the local level				
<i>MA 3.1.1.c Count by multiples of 10 to 400</i>	Assessed at the local level				
<i>MA 3.1.1.d Count by multiples of 100 to 1000</i>	Assessed at the local level				
MA 3.1.1.e Demonstrate multiple equivalent representations for numbers up to 10,000	1	3-5	0	0	3-5
<i>MA 3.1.1.f Demonstrate multiple equivalent representations for decimals numbers through the tenths place.</i>	Assessed at the local level				
MA 3.1.1.g Compare and order whole numbers through the thousands	1	4-6	0	0	4-6
MA 3.1.1.h Find parts of whole and parts of a set for $\frac{1}{2}$, $\frac{1}{3}$, or $\frac{1}{4}$	2	0-1	3-5	0	3-6
MA 3.1.1.i Round a given number to tens, hundreds, or thousands	1	1-3	0	0	1-3
Gr3 Operations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.1.2 Students demonstrate the meaning of multiplication with whole numbers.					
MA 3.1.2.a Represent multiplication as repeated addition using objects, drawings, words, and symbols	2	0-1	1-2	0	1-3
<i>MA 3.1.2.b Use objects, drawings, words, and symbols to explain the relationship between multiplication and division</i>	Assessed at the local level				
<i>MA 3.1.2.c Use drawings, words and symbols to explain the meaning of the factors and product in a multiplication sentence</i>	Assessed at the local level				
MA 3.1.2.d Use drawings, words, and symbols to explain the meaning of multiplication using an array	2	0-1	1-2	0	1-3
Gr3 Computation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.1.3 Students will compute fluently and accurately using appropriate strategies and tools.					

MA 3.1.3.a Compute whole number multiplication facts 0-10 fluently	Assessed at the local level				
MA 3.1.3.b Add and subtract through four-digit whole numbers with regrouping	Assessed at the local level				
MA 3.1.3.c Select and apply the appropriate methods of computation when problem solving with four-digit whole numbers through the thousands	Assessed at the local level				
Gr3 Estimation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.					
MA 3.1.4.a Estimate the two-digit product of whole number multiplication and check the reasonableness	Assessed at the local level				
GEOMETRIC/MEASUREMENT CONCEPTS					
Gr3 Characteristics	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.2.1 Students will identify characteristics and describe properties of two-dimensional shapes and three-dimensional objects.					
<i>MA 3.2.1.a Identify the number of sides, angles, and vertices of two-dimensional shapes</i>	1	2-4	0	0	2-4
<i>MA 3.2.1.b Identify congruent two-dimensional figures given multiple two-dimensional shapes</i>	1	1-2	0	0	1-2
MA 3.2.1.c Identify lines, line segments, rays, and angles	Assessed at the local level				
MA 3.2.1.d Describe attributes of solid shapes	Assessed at the local level				
Gr3 Coordinate Geometry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.2.2 Students will identify distances on a number line.					
MA 3.2.2.a Draw a number line and plot points	Assessed at the local level				
<i>MA 3.2.2.b Determine the distance between two whole number points on a number line</i>	1	1-3	0	0	1-3
Gr3 Transformations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.2.3 Students will draw all lines of symmetry.					
MA 3.2.3.a Draw all possible lines of symmetry in two-dimensional shapes	Assessed at the local level				
Gr3 Spatial Modeling	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.2.4 Students will create two-dimensional shapes and three-dimensional objects.					
MA 3.2.4.a Sketch and label lines, rays, line segments, and angles	Assessed at the local level				

<i>MA 3.2.4.b Build three-dimensional objects</i>	Assessed at the local level				
Gr3 Measurement	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.2.5 Students will apply appropriate procedures and tools to determine measurements using customary and metric units.					
<i>3.2.5.a Select and use appropriate tools to measure perimeter of simple two-dimensional shapes</i>	Assessed at the local level				
<i>MA 3.2.5.b Count mixed coins and bills greater than \$1.00</i>	Assessed at the local level				
<i>MA 3.2.5.c Identify time of day</i>	Assessed at the local level				
<i>MA 3.2.5.d State multiple ways for the same time using 15 minute intervals</i>	Assessed at the local level				
<i>MA 3.2.5.e Identify the appropriate customary unit for measuring length, weight, and capacity/volume</i>	1	2-4	0	0	2-4
<i>MA 3.2.5.f Measure length to the nearest 1/2 inch and centimeter</i>	Assessed at the local level				
<i>MA 3.2.5.g Compare and order objects according to length using centimeters and meters</i>	1	1-3	0	0	1-3
ALGEBRAIC CONCEPTS					
Gr3 Relationships	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.3.1 Students will represent relationships.					
<i>MA 3.3.1.a Identify, describe, and extend numeric and non-numeric patterns</i>	1	1-3	0	0	1-3
<i>MA 3.3.1.b Identify patterns using words, tables, and graphs</i>	Assessed at the local level				
Gr3 Modeling in Context	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.3.2 Students will create and use models to represent mathematical situations.					
<i>MA 3.3.2.a Model situations that involve the addition and subtraction of whole numbers using objects, number lines, and symbols</i>	3	0	1-2	1-2	2-4
<i>MA 3.3.2.b Describe and model quantitative change involving subtraction</i>	Assessed at the local level				
Gr3 Procedures	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.3.3 Students will identify and apply properties of whole numbers to solve equations involving addition and subtraction.					
<i>MA 3.3.3.a Use symbolic representation of the identity property of addition</i>	Assessed at the local level				
<i>MA 3.3.3.b Solve simple one-step whole number equations involving addition and subtraction</i>	1	2-4	0	0	2-4

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<i>MA 3.3.3.c Explain the procedure(s) used in solving simple one-step whole number equations involving addition and subtraction</i>	Assessed at the local level				
DATA ANALYSIS/PROBABILITY CONCEPTS					
Gr3 Display and Analysis	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.4.1 Students will organize, display, compare, and interpret data.					
<i>MA 3.4.1.a Represent data using horizontal and vertical bar graphs</i>	2	0-1	1-2	0	1-3
<i>MA 3.4.1.b Use comparative language to describe the data</i>	Assessed at the local level				
<i>MA 3.4.1.c Interpret data using horizontal and vertical bar graphs</i>	2	0-1	1-2	0	1-3
Gr3 Predictions and Inferences	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.4.2 Mastery not expected at this level					
Gr3 Probability	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 3.4.3 Students will find and describe experimental probability.					
<i>MA 3.4.3.a Perform simple experiments and describe outcomes as possible, impossible, or certain</i>	Assessed at the local level				

Nebraska State Accountability - Mathematics (NeSA-M)					
Table of Specifications					
Grade 4					
NUMBER SENSE					
Gr4 Number System	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.1.1 Students will represent and show relationships among positive rational numbers within the base-ten number system.					
<i>MA 4.1.1.a Read and write numbers through the millions</i>	Assessed at the local level				
<i>MA 4.1.1.b Demonstrate multiple equivalent representations for decimal numbers through the hundredths place</i>	2	0-1	2-3	0	2-4
<i>MA 4.1.1.c Compare and order whole numbers and decimals through the hundredths place</i>	1	2-4	0	0	2-4
<i>MA 4.1.1.d Classify a number as even or odd</i>	Assessed at the local level				
<i>MA 4.1.1.e Represent a fraction as parts of a whole, and/or parts of a set</i>	2	0-1	1-2	0	1-3
<i>MA 4.1.1.f Use visual models to find equivalent fractions</i>	1	1-3	0	0	1-3
<i>MA 4.1.1.g Determine the size of a fraction relative to one half using equivalent forms</i>	Assessed at the local level				
<i>MA 4.1.1.h Locate fractions on a number line</i>	1	1-3	0	0	1-3
<i>MA 4.1.1.i Round a whole number to millions</i>	Assessed at the local level				
Gr4 Operations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.1.2 Students will demonstrate the meaning of division with whole numbers.					
<i>MA 4.1.2.a Use drawings, words, and symbols to explain the meaning of division</i>	2	0-1	1-2	0	1-3
Gr4 Computation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
4.1.3 Students will compute fluently and accurately using appropriate strategies and tools.					
<i>MA 4.1.3.a Compute whole number division facts 0-10 fluently</i>	Assessed at the local level				
<i>MA 4.1.3.b Add and subtract decimals to the hundredth place</i>	1	1-2	0	0	1-2
<i>MA 4.1.3.c Multiply two-digit whole numbers</i>	1	1-3	0	0	1-3

MA 4.1.3.d Divide a three-digit number by a one digit divisor with and without a remainder	Assessed at the local level				
MA 4.1.3.e Mentally compute multiplication and division involving powers of 10	1	1-3	0	0	1-3
MA 4.1.3.f Select and apply the appropriate method of computation when problem solving	2	0-1	3-4	0	3-5
Gr4 Estimation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
4.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.					
MA 4.1.4.a Estimate the three-digit product and the two-digit quotient of whole number multiplication and division and check the reasonableness	Assessed at the local level				
GEOMETRIC/MEASUREMENT CONCEPTS					
Gr4 Characteristics	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.2.1 Students will classify two-dimensional shapes and three-dimensional objects.					
MA 4.2.1.a Identify two- and three- dimensional shapes according to their sides and angle properties	2	0-1	2-3	0	2-4
MA 4.2.1.b Classify an angle as acute, obtuse, and right	2	0-1	1-2	0	1-3
MA 4.2.1.c Identify parallel, perpendicular, and intersecting lines	1	1-2	0	0	1-2
MA 4.2.1.d Identify the property of congruency when dealing with plane geometric shapes	Assessed at the local level				
Gr4 Coordinate Geometry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.2.2 Students will describe locations using coordinate geometry.					
MA 4.2.2.a Identify the ordered pair of a plotted point in first quadrant by its location	1	1-2	0	0	1-2
Gr4 Transformations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.2.3 Students will identify simple transformations.					
MA 4.2.3.a Given two congruent geometric shapes, identify the transformation applied to an original shape to create a transformed shape	Assessed at the local level				
Gr4 Spatial Modeling	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.2.4 Students will use geometric models to solve problems.					

<i>MA 4.2.4.a Given a geometric model, use it to solve a problem</i>	Assessed at the local level				
Gr4 Measurement	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.2.5 Students will apply appropriate procedures and tools to estimate and determine measurement using customary units and metric units.					
<i>MA 4.2.5.a Select and use appropriate tools to measure perimeter of polygons</i>	Assessed at the local level				
<i>MA 4.2.5.b Identify time to the minute on an analog clock</i>	2	0-1	1-2	0	1-3
<i>MA 4.2.5.c Solve problems involving elapsed time</i>	2	0-1	1-2	0	1-3
<i>MA 4.2.5.d Identify the appropriate metric unit for measuring length, weight, and capacity/volume</i>	1	2-4	0	0	2-4
<i>MA 4.2.5.e Estimate and measure length using customary and metric units</i>	Assessed at the local level				
<i>MA 4.2.5.f Measure weight and temperature using customary units</i>	Assessed at the local level				
<i>MA 4.2.5.g Compute simple unit conversions for length within a system of measurement</i>	2	0-1	1-2	0	1-3
ALGEBRAIC CONCEPTS					
Gr4 Relationships	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.3.1 Students will represent and analyze relationships.					
<i>MA 4.3.1.a Describe, extend, and apply rules about numeric patterns</i>	Assessed at the local level				
<i>MA 4.3.1.b Represent and analyze a variety of patterns using words, tables, and graphs</i>	Assessed at the local level				
<i>MA 4.3.1.c Use \leq and \geq symbols to compare quantities</i>	2	0-1	1-2	0	1-3
<i>MA 4.3.1.d Select appropriate operational and relational symbols to make a number sentence true</i>	2	0-1	1-2	0	1-3
Gr4 Modeling in Context	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.3.2 Students will create and use models to represent mathematical situations.					
<i>MA 4.3.2.a Model situations that involve the multiplication of whole numbers using number lines and symbols</i>	Assessed at the local level				
<i>MA 4.3.2.b Describe and model quantitative change involving quantitative change involving multiplication</i>	Assessed at the local level				
Gr4 Procedures	DOK Level	DOK 1	DOK 2	DOK 3	Item Total

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MA 4.3.3 Students will identify and apply properties of whole numbers to solve equations involving multiplication and division.					
<i>MA 4.3.3.a Represent the idea of a variable as an unknown quantity using a letter or a symbol</i>	Assessed at the local level				
<i>MA 4.3.3.b Use symbolic representation of the identity property of multiplication</i>	Assessed at the local level				
MA 4.3.3.c Use symbolic representations of the commutative property of multiplication	1	1-3	0	0	1-3
MA 4.3.3.d Solve simple one-step whole number equations	1	2-4	0	0	2-4
<i>MA 4.3.3.e Explain the procedures(s) used in solving simple one-step whole number equations</i>	Assessed at the local level				
DATA ANALYSIS/PROBABILITY CONCEPTS					
Gr4 Display and Analysis	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.4.1 Students will organize, display, compare, and interpret data.					
<i>MA 4.4.1.a Represent data using bar dot/line plots</i>	Assessed at the local level				
MA 4.4.1.b Compare different representations of the same data	2	0-1	1-2	0	1-3
MA 4.4.1.c Interpret data and draw conclusions using dot/line plots	2	0-1	1-2	0	1-3
<i>MA 4.4.1.d Find the mode and range for a set of whole numbers</i>	Assessed at the local level				
<i>MA 4.4.1.e Find the whole number mean for a set of whole numbers</i>	Assessed at the local level				
Gr4 Predictions and Inferences	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.4.2 Students will construct predictions based on data.					
MA 4.4.2.a Make predictions based on data to answer questions from tables and bar graphs	2	0-1	1-2	0	1-3
Gr4 Probability	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 4.4.3 Students will find, describe, and compare experimental probabilities.					
<i>MA 4.4.3.a Perform simple experiments and compare the degree of likelihood</i>	Assessed at the local level				

Nebraska State Accountability - Mathematics (NeSA-M)					
Table of Specifications					
Grade 5					
NUMBER SENSE					
Gr5 Number System	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.1.1 Students will represent and show relationships among positive rational numbers.					
<i>MA 5.1.1.a Demonstrate multiple equivalent representations for whole numbers and decimals through the thousandths place</i>	2	0-1	2-3	0	2-4
<i>MA 5.1.1.b Compare and order whole numbers, fractions, and decimals through the thousandths place</i>	1	2-4	0	0	2-4
<i>MA 5.1.1.c Identify and name fractions in their simplest form and find common denominators for fractions</i>	1	2-4	0	0	2-4
<i>MA 5.1.1.d Recognize and generate equivalent forms of commonly used fractions, decimals, and percents</i>	2	0-1	2-3	0	2-4
<i>MA 5.1.1.e Classify a number as prime or composite</i>	1	1-2	0	0	1-2
<i>MA 5.1.1.f Identify factors and multiples of any whole number</i>	1	1-2	0	0	1-2
<i>MA 5.1.1.g Round whole numbers and decimals to any given place</i>	Assessed at the local level				
Gr5 Operations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.1.2 Students will demonstrate the meaning of arithmetic operations with whole numbers.					
<i>MA 5.1.2.a Use words and symbols to explain the meaning of the identity properties for addition and multiplication</i>	Assessed at the local level				
<i>MA 5.1.2.b Use words and symbols to explain the meaning of the commutative and associative properties of addition and multiplication</i>	Assessed at the local level				
<i>MA 5.1.2.c Use words and symbols to explain the distributive property of multiplication over addition</i>	2	0-1	1-2	0	1-3
Gr5 Computation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.1.3 Students will compute fluently and accurately using appropriate strategies and tools.					
<i>MA 5.1.3.a Add and subtract positive rational numbers</i>	1	2-4	0	0	2-4
<i>MA 5.1.3.b Select, apply, and explain the appropriate method of computation when problem solving</i>	2	0-1	3-4	0	3-5

<i>MA 5.1.3.c Multiply decimals</i>	1	1-3	0	0	1-3
<i>MA 5.1.3.d Divide a decimal by a whole number</i>	1	1-3	0	0	1-3
Gr5 Estimation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.					
<i>MA 5.1.4.a Estimate the sums and differences of positive rational numbers to check the reasonableness of such results</i>	2	0-1	1-2	0	1-3
GEOMETRIC/MEASUREMENT CONCEPTS					
Gr5 Characteristics	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.2.1 Students will describe relationships among two-dimensional shapes and three-dimensional objects.					
<i>MA 5.2.1.a Identify the number of edges, faces, and vertices of triangular and rectangular prisms</i>	1	1-3	0	0	1-3
<i>MA 5.2.1.b Justify congruence of two-dimensional shapes</i>	Assessed at the local level				
<i>MA 5.2.1.c Justify the classification of two-dimensional shapes</i>	Assessed at the local level				
<i>MA 5.2.1.d Identify degrees on a circle</i>	1	1-2	0	0	1-2
Gr5 Coordinate Geometry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
5.2.2 Students will identify locations using coordinate geometry.					
<i>MA 5.2.2.a Plot the location of an ordered pair in the first quadrant</i>	1	1-2	0	0	1-2
Gr5 Transformations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.2.3 Students will identify simple transformations.					
<i>MA 5.2.3.a Perform one-step transformations on two-dimensional shapes</i>	Assessed at the local level				
Gr5 Spatial Modeling	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
5.2.4 Students will create and use geometric models to solve problems.					
<i>MA 5.2.4.a Build or sketch a geometric model to solve a problem</i>	Assessed at the local level				
<i>MA 5.2.4.b Sketch congruent shapes</i>	Assessed at the local level				
<i>MA 5.2.4.c Build rectangular prisms using cubes</i>	Assessed at the local level				
Gr5 Measurement	DOK Level	DOK 1	DOK 2	DOK 3	Item Total

MA 5.2.5 Students will apply appropriate procedures, tools, and formulas to determine measurements using customary units and metric units.					
<i>MA 5.2.5.a Select and use appropriate tools to measure perimeter and angles</i>	Assessed at the local level				
MA 5.2.5.b Identify correct unit (customary or metric) to the measurement situation	2	0-1	1-2	0	1-3
<i>MA 5.2.5.c Estimate and measure length with customary units to the nearest 1/4 inch</i>	Assessed at the local level				
<i>MA 5.2.5.d Measure capacity/volume with customary units</i>	Assessed at the local level				
<i>MA 5.2.5.e Measure weight (mass) and temperature using metric units</i>	Assessed at the local level				
MA 5.2.5.f Determine the area of rectangles and squares	2	0-1	1-2	0	1-3
ALGEBRAIC CONCEPTS					
Gr5 Relationships	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.3.1 Students will represent, analyze, and generalize relationships.					
<i>MA 5.3.1.a Describe, extend, apply rules, and make generalizations about numeric and geometric patterns</i>	Assessed at the local level				
<i>MA 5.3.1.b Create and analyze numeric patterns using words, tables, and graphs</i>	Assessed at the local level				
<i>MA 5.3.1.c Communicate relationships using expressions and equations</i>	Assessed at the local level				
Gr5 Modeling in Context	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.3.2 Students will create, use, and compare models representing mathematical situations.					
MA 5.3.2.a Model situations that involve the addition, subtraction, and multiplication of positive rational numbers using words, graphs, and tables	2	0-1	1-2	0	1-3
<i>MA 5.3.2.b Represent a variety of quantitative relationships using tables and graphs</i>	Assessed at the local level				
<i>MA 5.3.2.c Compare different models to represent mathematical situations</i>	Assessed at the local level				
Gr5 Procedures	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.3.3 Students will apply properties of simple positive rational numbers to solve one-step equations.					
<i>MA 5.3.3.a Explain the addition property of equality</i>	Assessed at the local level				

<i>MA 5.3.3.b Use symbolic representations of the associative property</i>	2	0	1-2	0	1-2
<i>MA 5.3.3.c Evaluate numerical expressions by using parentheses with respect to order of operations</i>	1	2-4	0	0	2-4
<i>MA 5.3.3.d Evaluate simple algebraic expressions involving addition and subtraction</i>	2	0	1-2	0	1-2
<i>MA 5.3.3.e Solve one-step addition and subtraction equations involving common positive rational numbers</i>	1	1-2	0	0	1-2
<i>MA 5.3.3.f Identify and explain the properties of equality used in solving one-step equations involving common positive rational numbers</i>	Assessed at the local level				
DATA ANALYSIS/PROBABILITY CONCEPTS					
Gr5 Display and Analysis	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.4.1 Students will organize, display, compare, and interpret data.					
<i>MA 5.4.1.a Represent data using line plots</i>	2	0	1-2	0	1-2
<i>MA 5.4.1.b Represent the same set of data in different formats</i>	2	0-1	1-2	0	1-3
<i>MA 5.4.1.c Draw conclusions based on a set of data</i>	3	0	0-1	1-2	1-3
<i>MA 5.4.1.d Find the mean, median, mode, and range for a set of whole numbers</i>	Assessed at the local level				
<i>MA 5.4.1.e Generate questions and answers from data sets and their graphical representations</i>	Assessed at the local level				
Gr5 Predictions and Inferences	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.4.2 Students will construct predictions based on data.					
<i>MA 5.4.2.a Make predictions based on data to answer questions from tables, bar graphs, and line graphs</i>	Assessed at the local level				
Gr5 Probability	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 5.4.3 Students will determine theoretical probabilities.					
<i>MA 5.4.3.a Perform and record results of probability experiments</i>	Assessed at the local level				
<i>MA 5.4.3.b Generate a list of possible outcomes for a simple event</i>	1	1-3	0	0	1-3
<i>MA 5.4.3.c Explain the likelihood of an event that can be represented by a number from 0 to 1</i>	1	1-3	0	0	1-3

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Table of Specifications					
Grade 6					
NUMBER SENSE					
Gr6 Number System	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.1.1 Students will represent and show relationships among positive rational numbers and integers.					
<i>MA 6.1.1.a Show equivalence among common fractions and non-repeating decimals and percents</i>	Assessed at the local level				
<i>MA 6.1.1.b Compare and order positive and negative integers</i>	1	1-3	0	0	1-3
<i>MA 6.1.1.c Identify integers less than 0 on a number line</i>	Assessed at the local level				
<i>MA 6.1.1.d Represent large numbers using exponential notation</i>	1	1-2	0	0	1-2
<i>MA 6.1.1.e Identify the prime factorization of numbers</i>	1	1-3	0	0	1-3
<i>MA 6.1.1.f Classify numbers as natural, whole, or integer</i>	Assessed at the local level				
Gr6 Operations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.1.2 Students will demonstrate the meaning of arithmetic operations with positive fractions and decimals.					
<i>MA 6.1.2.a Use drawings, words, and symbols to explain the meaning of addition and subtraction of fractions</i>	2	0-1	1-3	0	1-4
<i>MA 6.1.2.b Use drawings, words and symbols to explain the meaning of addition and subtraction of decimals</i>	2	0-1	1-3	0	1-4
Gr6 Computation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.1.3 Students will compute fluently and accurately using appropriate strategies and tools.					
<i>MA 6.1.3.a Multiply and divide positive rational numbers</i>	1	1-3	0	0	1-3
<i>MA 6.1.3.b Select and apply the appropriate method of computation when problem solving</i>	2	0-1	2-3	0	2-4
Gr6 Estimation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total

MA 6.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.					
<i>MA 6.1.4.a Use appropriate estimation methods to check the reasonableness of solutions for problems involving positive rational numbers</i>	2	0-1	1-2	0	1-3
GEOMETRIC/MEASUREMENT CONCEPTS					
Gr6 Characteristics	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.2.1 Students will compare and contrast properties among two-dimensional shapes and three-dimensional objects.					
<i>MA 6.2.1.a Justify the classification of three-dimensional objects</i>	Assessed at the local level				
Gr6 Coordinate Geometry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.2.2 Students will label points using coordinate geometry.					
<i>MA 6.2.2.a Identify the ordered pair of a plotted point in the coordinate plane</i>	1	1-3	0	0	1-3
Gr6 Transformations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.2.3 Students will use and describe results of transformations on geometric shapes.					
<i>MA 6.2.3.a Perform and describe positions and orientation of shapes under single transformations not on a coordinate plane</i>	Assessed at the local level				
Gr6 Spatial Modeling	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.2.4 Students will use visualization of geometric models to solve problems.					
<i>MA 6.2.4.a Identify two-dimensional drawings of three-dimensional objects</i>	2	1-2	1-2	0	2-4
Gr6 Measurement	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.2.5 Students will apply appropriate procedures, tools, and formulas to determine measurements.					
<i>MA 6.2.5.a Estimate and measure length with customary and metric units to the nearest 1/16 inch and mm</i>	Assessed at the local level				
<i>MA 6.2.5.b Measure volume/capacity using the metric system</i>	Assessed at the local level				
<i>MA 6.2.5.c Convert length, weight, and liquid capacity from one unit to another within the same system</i>	Assessed at the local level				
<i>MA 6.2.5.d Determine the perimeter of polygons</i>	2	1-2	1-2	0	2-4

<i>MA 6.2.5.e Determine the area of parallelograms and triangles</i>	2	1-2	1-2	0	2-4
<i>MA 6.2.5.f Determine the volume of rectangular prisms</i>	2	1-2	1-2	0	2-4
ALGEBRAIC CONCEPTS					
Gr6 Relationships	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.3.1 Students will represent, analyze, and use relationships to make generalizations.					
<i>MA 6.3.1.a Describe and create simple algebraic expressions from words and tables</i>	2	0-1	1-2	0	1-3
<i>MA 6.3.1.b Use a variable to describe a situation with an equation</i>	2	0-1	1-2	0	1-3
<i>MA 6.3.1.c Identify relationships as increasing, decreasing, or constant</i>	Assessed at the local level				
Gr6 Modeling in Context	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.3.2 Students will create, use, and interpret models of quantitative relationships.					
<i>MA 6.3.2.a Model contextualized problems using various representations</i>	2	2-3	2-3	0	4-6
<i>MA 6.3.2.b Represent a variety of quantitative relationships using symbols and words</i>	Assessed at the local level				
Gr6 Procedures	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.3.3 Students will apply properties to solve equations.					
<i>MA 6.3.3.a Explain the multiplication property of equality</i>	Assessed at the local level				
<i>MA 6.3.3.b Evaluate numerical expressions containing multiple operations with respect to order of operations</i>	1	2-4	0	0	2-4
<i>MA 6.3.3.c Evaluate simple algebraic expressions involving multiplication and division</i>	1	1-3	0	0	1-3
<i>MA 6.3.3.d Solve one-step equations involving positive rational numbers</i>	1	1-3	0	0	1-3
<i>MA 6.3.3.e Identify and explain the properties of equality used in solving one-step equations</i>	2	0-1	1-2	0	1-3
DATA ANALYSIS/PROBABILITY CONCEPTS					
Gr6 Display and Analysis	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.4.1 Students will organize, display, compare, and interpret data.					
<i>MA 6.4.1.a Represent data using stem and leaf plots, histograms, and frequency charts</i>	Assessed at the local level				

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MA 6.4.1.b Compare and interpret data sets and their graphical representations	2	0-1	3-4	0	3-5
MA 6.4.1.c Find the mean, median, mode, and range for a set of data	1	2-4	0	0	2-4
MA 6.4.1.d Compare the mean, median, mode, and range from two sets of data	Assessed at the local level				
Gr6 Predictions and Inferences	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.4.2 Students will construct predictions based on data.					
MA 6.4.2.a Make predictions based on data and create questions to further investigate the quality of the predictions	Assessed at the local level				
Gr6 Probability	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 6.4.3 Students will apply basic concepts of probability.					
MA 6.4.3.a Describe the theoretical probability of an event using a fraction, percentage, decimal, or ratio	Assessed at the local level				
MA 6.4.3.b Compute theoretical probabilities for independent events	2	0-1	1-2	0	1-3
MA 6.4.3.c Find experimental probability for independent events	1	1-3	0	0	1-3

Nebraska State Accountability - Mathematics (NeSA-M)					
Table of Specifications					
Grade 7					
NUMBER SENSE					
Gr7 Number System	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.1.1 Students will represent and show relationships among rational numbers.					
<i>MA 7.1.1.a Show equivalence among fractions, decimals, and percents</i>	2	0-1	2-3	0	2-4
<i>MA 7.1.1.b Compare and order rational numbers</i>	2	0-1	1-2	0	1-3
<i>MA 7.1.1.c Represent large numbers using scientific notation</i>	1	1-3	0	0	1-3
<i>MA 7.1.1.d Classify numbers as natural, whole, integer, or rational</i>	Assessed at the local level				
<i>MA 7.1.1.e Find least common multiple and greatest common divisor given two numbers</i>	Assessed at the local level				
Gr7 Operations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.1.2 Students will demonstrate the meaning of arithmetic operations with positive fractions, decimals, and integers.					
<i>MA 7.1.2.a Use drawings, words, and symbols to explain the meaning of multiplication and division of fractions</i>	Assessed at the local level				
<i>MA 7.1.2.b Use drawings, words, and symbols to explain the meaning of multiplication and division of decimals</i>	Assessed at the local level				
<i>MA 7.1.2.c Use drawings, words, and symbols to explain the addition and subtraction of integers</i>	Assessed at the local level				
Gr7 Computation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.1.3 Students will compute fluently and accurately using appropriate strategies and tools.					
<i>MA 7.1.3.a Compute accurately with integers</i>	1	2-3	0	0	2-3
<i>MA 7.1.3.b Select, apply, and explain the method of computation when problem solving using integers and positive rational numbers</i>	2	1-2	1-2	0	2-4
<i>MA 7.1.3.c Solve problems involving percent of numbers</i>	2	1-2	1-2	0	2-4
Gr7 Estimation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total

MA 7.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.					
<i>MA 7.1.4.a Use estimation methods to check the reasonableness of solutions for problems involving integers and positive rational numbers</i>	2	0-1	1-2	0	1-3
GEOMETRIC/MEASUREMENT CONCEPTS					
Gr7 Characteristics	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.2.1 Students will describe, compare, and contrast properties and relationships of geometric shapes and objects.					
<i>MA 7.2.1.a Identify and describe similarity of two-dimensional shapes using side and angle measurement</i>	Assessed at the local level				
<i>MA 7.2.1.b Name line, line segment, ray, and angle</i>	Assessed at the local level				
Gr7 Coordinate Geometry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.2.2 Students will specify locations and describe relationships using coordinate geometry.					
<i>MA 7.2.2.a Plot the location of an ordered pair in the coordinate plane</i>	1	1-2	0	0	1-2
<i>MA 7.2.2.b Identify the quadrant of a given point in the coordinate plane</i>	Assessed at the local level				
<i>MA 7.2.2.c Find the distance between points along horizontal and vertical lines of a coordinate plane</i>	1	1-2	0	0	1-2
Gr7 Transformations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.2.3 Students will use transformations and symmetry to analyze geometric shapes.					
<i>MA 7.2.3.a Identify lines of symmetry for a reflection</i>	Assessed at the local level				
<i>MA 7.2.3.b Perform and describe positions and orientation of shapes under a single transformation on a coordinate plane</i>	2	0-1	1-2	0	1-3
Gr7 Spatial Modeling	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.2.4 Students will use visualization to create geometric models in solving problems.					
<i>MA 7.2.4.a Identify the shapes that make up the three-dimensional object</i>	Assessed at the local level				
<i>MA 7.2.4.b Create two-dimensional representations of three-dimensional objects to visualize and solve problems</i>	Assessed at the local level				
<i>MA 7.2.4.c Draw angles to given degree</i>	Assessed at the local level				

Gr7 Measurement	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.2.5 Students will select and apply appropriate procedures, tools, and formulas to determine measurements.					
<i>MA 7.2.5.a Measure angles to the nearest degree</i>	Assessed at the local level				
MA 7.2.5.b Determine the area of trapezoids and circles, and the circumference of circles	2	1-2	2-3	0	3-5
<i>MA 7.2.5.c Recognize the inverse relationship between the size of a unit and the number of units used when measuring</i>	Assessed at the local level				
ALGEBRAIC CONCEPTS					
Gr7 Relationships	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.3.1 Students will represent and analyze relationships using algebraic symbols.					
MA 7.3.1.a Describe and create algebraic expressions from words, tables, and graphs	2	0-1	2-3	0	2-4
MA 7.3.1.b Use a variable to describe a situations with an inequality	2	0	1-2	0	1-2
<i>MA 7.3.1.c Recognize and generate equivalent forms of simple algebraic expressions</i>	Assessed at the local level				
Gr7 Modeling in Context	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.3.2 Students will create, use, and interpret models of quantitative relationships.					
MA 7.3.2.a Model contextualized problems using various representations	2	1-2	2-3	0	3-5
<i>MA 7.3.2.b Represent a variety of quantitative relationships using algebraic expressions and one-step equations</i>	Assessed at the local level				
Gr7 Procedures	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.3.3 Students will apply properties to solve equations and inequalities.					
<i>MA 7.3.3.a Explain additive inverse of addition</i>	Assessed at the local level				
<i>MA 7.3.3.b Use symbolic representation of the distributive property</i>	Assessed at the local level				
MA 7.3.3.c Given the value of the variable(s), evaluate algebraic expressions with respect to order of operations	1	3-5	0	0	3-5
MA 7.3.3.d Solve two-step equations involving integers and positive rational numbers	2	0-1	1-3	0	2-4
MA 7.3.3.e Solve one-step inequalities involving positive rational numbers	2	0-1	2-3	0	2-4

MA 7.3.3.f Identify and explain the properties used in solving two-step equations	Assessed at the local level				
DATA ANALYSIS/PROBABILITY CONCEPTS					
Gr7 Display and Analysis	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.4.1 Students will formulate questions that can be addressed with data, and then organize, display, and analyze the relevant data to answer their questions.					
<i>MA 7.4.1.a Analyze data sets and interpret their graphical representations</i>	2	0-1	2-3	0	2-4
<i>MA 7.4.1.b Find and interpret mean, median, mode, and range for sets of data</i>	2	0-1	1-2	0	1-3
MA 7.4.1.c Explain the difference between a population and a sample	Assessed at the local level				
MA 7.4.1.d List biases that may be created by various data collection processes	Assessed at the local level				
MA 7.4.1.e Formulate a question about a characteristic that can be answered by simulation or a survey	Assessed at the local level				
Gr7 Predictions and Inferences	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.4.2 Students will evaluate predictions and make inferences based on data.					
MA 7.4.2.a Determine if data collected from a sample can be used to make predictions about a population	Assessed at the local level				
Gr7 Probability	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 7.4.3 Students will apply and interpret basic concepts of probability.					
<i>MA 7.4.3.a Find the probability of independent compound events</i>	2	0	1-2	0	1-2
<i>MA 7.4.3.b Compare and contrast theoretical and experimental probabilities</i>	2	0	1-2	0	1-2

Nebraska State Accountability - Mathematics (NeSA-M)					
Table of Specifications					
Grade 8					
NUMBER SENSE					
Gr8 Number System	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.1.1 Students will represent and show relationships among real numbers.					
<i>MA 8.1.1.a Compare and order real numbers</i>	2	0	1-2	0	1-2
<i>MA 8.1.1.b Demonstrate relative position of real numbers on the number line</i>	Assessed at the local level				
<i>MA 8.1.1.c Represent small numbers using scientific notation</i>	2	0-1	1-2	0	1-3
<i>MA 8.1.1.d Classify numbers as natural, whole, integer, rational, irrational, or real</i>	1	1-2	0	0	1-2
Gr8 Operations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.1.2 Students will demonstrate the meaning of arithmetic operations with integers.					
<i>MA 8.1.2.a Use drawings, words, and symbols to explain the meaning of addition, subtraction, multiplication, and division of integers</i>	Assessed at the local level				
<i>MA 8.1.2.b Use words and symbols to explain the zero property of multiplication</i>	Assessed at the local level				
<i>MA 8.1.2.c Use words and symbols to explain why division by zero is undefined</i>	Assessed at the local level				
Gr8 Computation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.1.3 Students will compute fluently and accurately using appropriate strategies and tools.					
<i>MA 8.1.3.a Compute accurately with rational numbers</i>	1	2-4	0	0	2-4
<i>MA 8.1.3.b Evaluate expressions involving absolute value of integers</i>	1	1-3	0	0	1-3
<i>MA 8.1.3.c Calculate squares of integers, the square roots of perfect squares, and the square roots of whole numbers using technology</i>	Assessed at the local level				
<i>MA 8.1.3.d Select, apply, and explain the method of computation when problem solving using rational numbers</i>	2	0-1	2-3	0	2-4
<i>MA 8.1.3.e Solve problems involving ratios and proportions</i>	2	0-1	2-3	0	2-4

Gr8 Estimation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.					
<i>MA 8.1.4.a Use estimation methods to check the reasonableness of solutions for problems involving rational numbers</i>	2	0-1	1-2	0	1-3
GEOMETRIC/MEASUREMENT CONCEPTS					
Gr8 Characteristics	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.2.1 Students will describe, compare, and contrast characteristics, properties, and relationships of geometric shapes and objects.					
<i>MA 8.2.1.a Identify and describe similarity of three-dimensional objects</i>	Assessed at the local level				
<i>MA 8.2.1.b Compare and contrast relationships between similar and congruent objects</i>	Assessed at the local level				
<i>MA 8.2.1.c Identify geometric properties of parallel lines cut by a transversal and related angles</i>	1	2-4	0	0	2-4
<i>MA 8.2.1.d Identify pairs of angles</i>	1	2-4	0	0	2-4
<i>MA 8.2.1.e Examine the relationships of the interior angles of a triangle</i>	2	0-1	1-2	0	1-3
Gr8 Coordinate Geometry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.2.2 Students will specify locations and describe spatial relationships using coordinate geometry.					
<i>MA 8.2.2.a Use coordinate geometry to represent and examine the properties of rectangles and squares using horizontal and vertical segments</i>	2	0-1	1-2	0	1-3
Gr8 Transformations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.2.3 Students will perform transformations and use them to analyze the orientation and size of geometric shapes.					
<i>MA 8.2.3.a Identify the similarity of dilated shapes</i>	Assessed at the local level				
<i>MA 8.2.3.b Perform and describe positions and sizes of shapes under dilations</i>	Assessed at the local level				
Gr8 Spatial Modeling	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.2.4 Students will use visualization, spatial reasoning, and geometric modeling to solve problems.					

MA 8.2.4.a Draw geometric objects with specified properties	Assessed at the local level				
Gr8 Measurement	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.2.5 Students will select and apply appropriate procedures, tools, and formulas to determine measurements.					
MA 8.2.5.a Use strategies to find the perimeter and area of complex shapes	Assessed at the local level				
MA 8.2.5.b Determine surface area and volume of three-dimensional objects	Assessed at the local level				
MA 8.2.5.c Apply the Pythagorean theorem to find missing lengths in right triangles and to solve problems	2	0-1	2-3	0	2-4
MA 8.2.5.d Use scale factors to find missing lengths in similar shapes	1	1-3	0	0	1-3
MA 8.2.5.e Convert between metric and standard units of measurement, given conversion factors	Assessed at the local level				
ALGEBRAIC CONCEPTS					
Gr8 Relationships	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.3.1 Students will represent and analyze relationships using algebraic symbols.					
MA 8.3.1.a Represent and analyze a variety of patterns with tables, graphs, words, and algebraic equations	Assessed at the local level				
MA 8.3.1.b Describe relationships using algebraic expressions, equations, and inequalities	2	0-1	2-4	0	2-5
MA 8.3.1.c Identify constant slope from tables and graphs	Assessed at the local level				
Gr8 Modeling in Context	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.3.2 Students will create, use, and interpret models of quantitative relationships.					
MA 8.3.2.a Model contextualized problems using various representations	3	0	2-3	1-2	3-5
MA 8.3.2.b Represent a variety of quantitative relationships using algebraic expressions and two-step/one-step variable equations	Assessed at the local level				
Gr8 Procedures	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.3.3 Students will apply properties to solve equations and inequalities.					
MA 8.3.3.a Explain the multiplicative inverse	Assessed at the local level				

MA 8.3.3.b Evaluate numerical expressions containing whole number exponents	2	1-3	1-2	0	2-5
MA 8.3.3.c Solve multi-step equations involving rational numbers	2	0-1	2-4	0	2-5
MA 8.3.3.d Solve two-step inequalities involving rational numbers	2	0-1	2-4	0	2-5
<i>MA 8.3.3.e Identify and explain the properties used in solving two-step inequalities and multi-step equations</i>	Assessed at the local level				
DATA ANALYSIS/PROBABILITY CONCEPTS					
Gr8 Display and Analysis	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.4.1 Students will formulate questions that can be addressed with data, and then organize, display, and analyze the relevant data to answer their questions.					
<i>MA 8.4.1.a Represent data using circle graphs and box plots with and without the use of technology</i>	Assessed at the local level				
MA 8.4.1.b Compare characteristics between sets of data or within a given set of data	3	0	1-2	1-2	2-4
<i>MA 8.4.1.c Find, interpret, and compare measures of central tendency (mean, median, and mode) and the quartiles for sets of data</i>	Assessed at the local level				
MA 8.4.1.d Select the most appropriate unit of central tendency for sets of data	2	0-1	1-2	0	1-3
MA 8.4.1.e Identify misrepresentation and misinterpretation of data represented in circle graphs and box plots	2	0-1	1-2	0	1-3
Gr8 Predictions and Inferences	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.4.2 Students will evaluate predictions and make inferences based on data.					
<i>MA 8.4.2.a Evaluate predictions to formulate new questions and plan new studies</i>	Assessed at the local level				
<i>MA 8.4.2.b Compare and contrast two sets of data to make inferences</i>	Assessed at the local level				
Gr8 Probability	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 8.4.3 Students will apply and interpret basic concepts of probability.					
MA 8.4.3.a Identify complementary events and calculate their probabilities	2	0-1	1-2	0	1-3
MA 8.4.3.b Compute probabilities for independent compound events	2	0-1	1-2	0	1-3

Nebraska State Accountability - Mathematics (NeSA-M)					
Table of Specifications					
Grade 11					
NUMBER SENSE					
Gr11 Number System	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.1.1 Students will represent and show relationships among real numbers.					
<i>MA 12.1.1.a Demonstrate multiple equivalent forms of irrational numbers</i>	Assessed at the local level				
<i>MA 12.1.1.b Compare, contrast, and apply the properties of numbers and the real number system, including the rational, irrational, imaginary and complex numbers</i>	Assessed at the local level				
Gr11 Operations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.1.2 Students will demonstrate the meaning and effects of arithmetic operations with real numbers.					
<i>MA 12.1.2.a Use drawings, words, and symbols to explain the effects of such operations as multiplication and division, and computing positive powers and roots on the magnitude of quantities</i>	Assessed at the local level				
<i>MA 12.1.2.b Use drawings, words, and symbols to explain that the distance between two numbers on the number line is the absolute value of their difference</i>	Assessed at the local level				
Gr11 Computation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.1.3 Students will compute fluently and accurately using appropriate strategies and tools.					
<i>MA 12.1.3.a Compute accurately with real numbers</i>	1	1-2	0	0	1-2
<i>MA 12.1.3.b Simplify exponential expressions</i>	2	0	1-2	0	1-2
<i>MA 12.1.3.c Multiply and divide numbers using scientific notation</i>	Assessed at the local level				
<i>MA 12.1.3.d Select, apply, and explain the method of computation when problem solving using real numbers</i>	Assessed at the local level				
Gr11 Estimation	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.					

MA 12.1.4.a Use estimation methods to check the reasonableness of real number computations and decide if the problem calls for an approximation or an exact number	2	0-1	1-2	0	1-3
<i>MA 12.1.4.b Distinguish relevant from irrelevant information, identify missing information and either find what is needed or make appropriate estimates</i>	Assessed at the local level				
GEOMETRIC/MEASUREMENT CONCEPTS					
Gr11 Characteristics	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.2.1 Students will analyze characteristics, properties, and relationships among geometric shapes and objects.					
<i>12.2.1.a Identify and explain the necessity of and give examples of definitions and theorems</i>	Assessed at the local level				
<i>MA 12.2.1.b Analyze properties and relationships among classes of two and three dimensional geometric objects using inductive reasoning and counterexamples</i>	Assessed at the local level				
<i>MA 12.2.1.c State and prove geometric theorems using deductive reasoning</i>	Assessed at the local level				
MA 12.2.1.d Apply geometric properties to solve problems	2	0-1	3-4	0	3-5
MA 12.2.1.e Identify and apply right triangle relationships	2	0-1	2-4	0	2-5
<i>MA 12.2.1.f Recognize that there are geometries, other than Euclidean geometry, in which the parallel postulate is not true</i>	Assessed at the local level				
<i>MA 12.2.1.g Know the definitions and basic properties of a circle and use them to prove basic theorems and solve problems</i>	Assessed at the local level				
Gr11 Coordinate Geometry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.2.2 Students will use coordinate geometry to analyze and describe relationships in the coordinate plane.					
MA 12.2.2.a Use coordinate geometry to analyze geometric situations	2	0-1	2-3	0	2-4
<i>MA 12.2.2.b Apply the midpoint formula</i>	Assessed at the local level				
MA 12.2.2.c Apply the distance formula	2	0-1	1-2	0	1-3
MA 12.2.2.d Prove special types of triangles and quadrilaterals	3	0	0-1	1-2	1-3
Gr11 Transformations	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.2.3 Students will apply and analyze transformations.					

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MA 12.2.3.a Explain and justify the effects of simple transformations on the ordered pairs of two-dimensional shapes	Assessed at the local level				
MA 12.2.3.b Perform and describe multiple transformations	Assessed at the local level				
Gr11 Spatial Modeling	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.2.4 Students will use visualization, spatial reasoning, and geometric modeling to solve problems.					
MA 12.2.4.a Sketch and draw appropriate representations of geometric objects using ruler, protractor, or technology	Assessed at the local level				
MA 12.2.4.b Use geometric models to visualize, describe, and solve problems	2	0-1	2-3	0	2-4
Gr11 Measurement	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.2.5 Students will apply the units, systems, and formulas to solve problems.					
MA 12.2.5.a Use strategies to find surface area and volume of complex objects	Assessed at the local level				
MA 12.2.5.b Apply appropriate units and scales to solve problems involving measurement	Assessed at the local level				
MA 12.5.c Convert between various units of area ad volume, such as square feet to square yards	Assessed at the local level				
MA 12.2.5.d Convert equivalent rates	2	1-2	1-2	0	2-4
MA 12.2.5.e Find arc length and area of sectors of a circle	Assessed at the local level				
MA 12.2.5.f Determine surface area and volume of three-dimensional objects	Assessed at the local level				
MA 12.2.5.g Know that the effect of a scale factor k on length, area and volume is to multiply each k , k^2 and k^3 , respectively	Assessed at the local level				
ALGEBRAIC CONCEPTS					
Gr11 Relationships	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.3.1 Students will generalize, represent, and analyze relationships using algebraic symbols.					
MA 12.3.1.a Represent, interpret, and analyze functions with graphs, tables, and algebraic notation, and convert among these representations	3	0	2-3	1-2	3-5
MA 12.3.1.b Identify domain and range of functions represented in either symbolic or graphical form	Assessed at the local level				

MA 12.3.1.c Identify the slope and intercepts of a linear relationship from an equation or graph	2	0-1	2-3	0	2-4
MA 12.3.1.d Identify characteristics of linear and non-linear functions	3	0	2-3	1-2	3-5
MA 12.3.1.e Graph linear and non-linear functions	Assessed at the local level				
MA 12.3.1.f Compare and analyze the rate of change by using ordered pairs, tables, graphs, and equations	3	0	1-2	1-2	2-4
MA 12.3.1.g Graph and interpret linear inequalities	Assessed at the local level				
MA 12.3.1.h Represent, interpret, and analyze functions and their inverses	Assessed at the local level				
MA 12.3.1.i Determine if a relation is a function	Assessed at the local level				
Gr11 Modeling in Context	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.3.2 Students will model and analyze quantitative relationships.					
MA 12.3.2.a Model contextualized problems using various representations	Assessed at the local level				
MA 12.3.2.b Represent a variety of quantitative relationships using linear equations and one variable inequalities	3	0	0	2-4	2-4
MA 12.3.2.c Analyze situations to determine the type of algebraic relationship	Assessed at the local level				
MA 12.3.2.d Model contextualized problems using various representations for non-linear functions	Assessed at the local level				
Gr11 Procedures	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.3.3 Students will represent and solve equations and inequalities.					
MA 12.3.3.a Explain/apply the reflexive, symmetric, and transitive properties of equality	Assessed at the local level				
MA 12.3.3.b Simplify algebraic expressions involving exponents	1	1-3	0	0	1-3
MA 12.3.3.c Add and subtract polynomials	1	1-3	0	0	1-3
MA 12.3.3.d Multiply and divide polynomials	1	1-3	0	0	1-3
MA 12.3.3.e Factor polynomials	Assessed at the local level				
MA 12.3.3.f Identify and generate equivalent forms of linear equations	1	1-3	0	0	1-3
MA 12.3.3.g Solve linear equations and inequalities including absolute value	Assessed at the local level				
MA 12.3.3.h Identify and explain the properties used in solving equations and inequalities	Assessed at the local level				

MA 12.3.3.i Solve quadratic equations	Assessed at the local level				
MA 12.3.3.j Add, subtract, and simplify rational expressions	Assessed at the local level				
MA 12.3.3.k Multiply, divide, and simplify rational expressions	Assessed at the local level				
MA 12.3.3.l Evaluate polynomial and rational expressions and expressions containing radicals and absolute values at specified values of their variables	Assessed at the local level				
MA 12.3.3.m Derive and use the formulas for the general term and summation of finite arithmetic and geometric series	Assessed at the local level				
MA 12.3.3.n Combine functions by composition, as well as by addition, subtraction, multiplication, and division	Assessed at the local level				
MA 12.3.3.o Solve an equation involving several variables for one variable in terms of the others	Assessed at the local level				
MA 12.3.3.p Analyze and solve systems of two linear equations in two variables algebraically and graphically	Assessed at the local level				
DATA ANALYSIS/PROBABILITY CONCEPTS					
Gr11 Display and Analysis	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.4.1 Students will formulate a question and design a survey or an experiment in which data is collected and displayed in a variety of formats, then select and use appropriate statistical methods to analyze the data.					
MA 12.4.1.a Interpret data represented by the normal distribution and formulate conclusions	Assessed at the local level				
MA 12.4.1.b Compute, identify, and interpret measures of central tendency (mean, median, mode) when provided a graph or data set	Assessed at the local level				
MA 12.4.1.c Explain how sample size and transformations of data affect measures of central tendency	Assessed at the local level				
MA 12.4.1.d Describe the shape and determine the spread (variance, standard deviation) and outliers of a data set	2	0	2-3	0	2-3
MA 12.4.1.e Explain how statistics are used or misused in the world	Assessed at the local level				
MA 12.4.1.f Create scatter plots, analyze patterns, and describe relationships in paired data	Assessed at the local level				
MA 12.4.1.g Explain the impact of sampling methods, bias, and the phrasing of questions asked during data collection and the conclusions that can rightfully be made	Assessed at the local level				

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<i>MA 12.4.1.h Explain the differences between randomized experiment and observational studies</i>	Assessed at the local level				
Gr11 Predictions and Inferences	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.4.2 Students will develop and evaluate inferences to make predictions.					
<i>MA 12.4.2.a Compare data sets and evaluate conclusions using graphs and summary statistics</i>	Assessed at the local level				
<i>MA 12.4.2.b Support inferences with valid arguments</i>	Assessed at the local level				
<i>MA 12.4.2.c Develop linear equations for linear models to predict unobserved outcomes using regression line and correlation coefficient</i>	Assessed at the local level				
<i>MA 12.4.2.d Recognize when arguments based on data confuse correlation with causation</i>	Assessed at the local level				
Gr11 Probability	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
MA 12.4.3 Students will apply and analyze concepts of probability.					
<i>MA 12.4.3.a Construct a sample space and a probability distribution</i>	Assessed at the local level				
<i>MA 12.4.3.b Identify dependent and independent events and calculate their probabilities</i>	2	1-2	1-2	0	2-4
<i>MA 12.4.3.c Use the appropriate counting techniques to determine the probability of an event</i>	2	1-2	0-1	0	1-3
<i>MA 12.4.3.d Analyze events to determine if they are mutually exclusive</i>	2	0-1	1-2	0	1-3
<i>MA 12.4.3.e Determine the relative frequency of a specified outcome of an event to estimate the probability of the outcome</i>	Assessed at the local level				

Appendix C: NeSA-S Test Blueprint

Nebraska State Accountability - Science (NeSA-S)					
Table of Specifications					
Grade 5					
Inquiry, The Nature of Science, and Technology					
Grade 5 Abilities to do Scientific Inquiry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.1.1 Students will plan and conduct investigations that lead to the development of explanations.					8-13
<i>SC 5.1.1.a Ask testable scientific questions</i>	2				
<i>SC 5.1.1.b Plan and conduct investigations and identify factors that have the potential to impact an investigation</i>	3				
<i>SC 5.1.1.c Select and use equipment correctly and accurately</i>	1				
<i>SC 5.1.1.d Make relevant observations and measurements</i>	2				
<i>SC 5.1.1.e Collect and organize data</i>	2				
<i>SC 5.1.1.f Develop a reasonable explanation based on collected data</i>	3				
<i>SC 5.1.1.g Share information, procedures, and results with peers and/or adults</i>	2				
<i>SC 5.1.1.h Provide feedback on scientific investigations</i>	3				
<i>SC 5.1.1.i Use appropriate mathematics in all aspects of scientific inquiry</i>	2				
Grade 5 Nature of Science	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.1.2 Students will describe how scientists go about their work.	Assessed at the local level				
<i>SC 5.1.2.a Recognize that scientific explanations are based on evidence and scientific knowledge</i>	1				
<i>SC 5.1.2.b Recognize that new discoveries are always being made which impact scientific knowledge</i>	1				
<i>SC 5.1.2.c Recognize many different people study science</i>	1				

Grade 5 Technology	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.1.3 Students will solve a simple design problem.	Assessed at the local level				
<i>SC 5.1.3.a Identify a simple problem</i>	2				
<i>SC 5.1.3.b Propose a solution to a simple problem</i>	2				
<i>SC 5.1.3.c Implement the proposed solution</i>	3				
<i>SC 5.1.3.d Evaluate the implementation</i>	3				
<i>SC 5.1.3.e Communicate the problem, design, and solution</i>	2				
PHYSICAL SCIENCE					
Grade 5 Matter	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.2.1 Students will explore and describe the physical properties of matter and its changes.					3-6
<i>SC 5.2.1.a Identify mixtures and pure substances</i>	1				
<i>SC 5.2.1.b Identify physical properties of matter (color, odor, elasticity, weight, volume)</i>	1				
<i>SC 5.2.1.c Use appropriate metric measurements to describe physical properties</i>	1				
<i>SC 5.2.1.d Identify state change caused by heating and cooling solids, liquids, and gasses</i>	1				
Grade 5 Force and Motion	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.2.2 Students will identify the influence of forces on motion.					3-5
<i>SC 5.2.2.a Describe motion by tracing and measuring an object's position over a period of time (speed)</i>	2				
<i>SC 5.2.2.b Describe changes in motion due to outside forces (push, pull, gravity)</i>	1				
<i>SC 5.2.2 c Describe magnetic behavior in terms of attraction and repulsion</i>	1				
Grade 5 Energy	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.2.3 Students will observe and identify signs of energy transfer.					4-7
<i>SC 5.2.3.a Recognize that sound is produced from vibrating objects; the sound can be changed by changing the vibration</i>	1				
<i>SC 5.2.3.b Recognize that light travels in a straight line and can be reflected by an object (mirror)</i>	1				

SC 5.2.3.c Recognize that light can travel through certain materials and not others (transparent, translucent, opaque)	1				
SC 5.2.3.d Identify ways to generate heat (friction, burning, incandescent light bulb)	1				
SC 5.2.3.e Identify materials that act as thermal conductors or insulators	1				
SC 5.2.3.f Recognize that the transfer of electricity in an electrical circuit requires a closed loop	1				
LIFE SCIENCE					
Grade 5 Life Science	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.3.1 Students will investigate and compare the characteristics of living things.					2-4
SC 5.3.1.a Compare and contrast characteristics of living and nonliving things	2				
SC 5.3.1.b Identify how parts of plants and animals function to meet basic needs (e.g., leg of an insect helps an insect move, root of a plant helps the plant obtain water)	1				
Grade 5 Heredity	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.3.2 Students will identify variations of inherited characteristics and life cycles.					2-4
SC 5.3.2.a Identify inherited characteristics of plants and animals	1				
SC 5.3.2.b Identify the life cycle of an organism	1				
SC 5.3.3 Students will describe relationships within an ecosystem.					4-7
SC 5.3.3.a Diagram and explain a simple food chain beginning with the Sun	2				
SC 5.3.3.b Identify the role of producers, consumers, and decomposers in an ecosystem	1				
SC 5.3.3.c Recognize the living and nonliving factors that impact the survival of organisms in an ecosystem	1				
SC 5.3.3.d Recognize all organisms cause changes, some beneficial and some detrimental, in the environment where they live	1				
SC 5.3.4 Students will describe changes in organisms over time.					1-2
SC 5.3.4.a Describe adaptations made by plants or animals to survive environmental changes	1				

EARTH AND SPACE SCIENCE					
Grade 5 Earth in Space	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.4.1 Students will observe and describe characteristics, patterns, and changes in the sky.					1-2
<i>SC 5.4.1.a Recognize that the observed shape of the Moon changes from day to day during a one month period</i>	1				
<i>SC 5.4.1.b Recognize the motion of objects in the sky (the Sun, the Moon, stars) change over time in recognizable patterns</i>	1				
Grade 5 Earth Structures and Processes	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.4.2 Students will observe and describe Earth's materials, structure, and processes.					4-6
<i>SC 5.4.2.a Describe the characteristics of rocks, minerals, soil, water, and the atmosphere</i>	1				
<i>SC 5.4.2.b Identify weathering, erosion, and deposition as processes that build up or break down Earth's surface</i>	1				
<i>SC 5.4.2.c Identify how Earth materials are used (fuels, building materials, sustaining plant life)</i>	1				
Grade 5 Energy in Earth's Systems	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.4.3 Students will observe and describe the effects of energy changes on Earth.					3-5
<i>SC 5.4.3.a Describe the Sun's warming effect on the land and water</i>	1				
<i>SC 5.4.3.b Observe, measure, and record changes in weather (temperature, wind direction and speed, precipitation)</i>	2				
<i>SC 5.4.3.c Recognize the difference between weather, climate, and seasons</i>	1				
Grade 5 Earth's History	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 5.4.4 Students will describe changes in Earth.					1-3
<i>SC 5.4.4.a Describe how slow processes (erosion, weathering, deposition) and rapid processes (landslides, volcanic eruptions, earthquakes) change Earth's surface</i>	1				

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Table of Specifications					
Grade 8					
Inquiry, The Nature of Science, and Technology					
Grade 8 Abilities to do Scientific Inquiry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.1.1 Students will design and conduct investigations that will lead to descriptions of relationships between evidence and explanations.					8-13
<i>SC 8.1.1.a Formulate testable questions that lead to predictions and scientific investigations</i>	2				
<i>SC 8.1.1.b Design and conduct logical and sequential investigations including repeated trials</i>	3				
<i>SC 8.1.1.c Determine controls and use dependent (responding) and independent (manipulated) variables</i>	3				
<i>SC 8.1.1.d Select and use equipment appropriate to the investigation, demonstrate correct techniques</i>	1				
<i>SC 8.1.1.e Make qualitative and quantitative observations</i>	2				
<i>SC 8.1.1.f Record and represent data appropriately and review for quality, accuracy, and relevancy</i>	3				
<i>SC 8.1.1.g Evaluate predictions, draw logical inferences based on observed patterns/relationships, and account for non-relevant information</i>	3				
<i>SC 8.1.1.h Share information, procedures, results, and conclusions with appropriate audiences</i>	2				
<i>SC 8.1.1.i Analyze and provide appropriate critique of scientific investigations</i>	3				
<i>SC 8.1.1.j Use appropriate mathematics in all aspects of scientific inquiry</i>	2				
Grade 8 Nature of Science	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.1.2 Students will apply the nature of science to their own investigations.	Assessed at the local level				
<i>SC 8.1.2.a Recognize science is an ongoing process and the scientific community accepts and uses explanations until they encounter new experimental evidence not matching existing explanations</i>	1				
<i>SC 8.1.2.b Describe how scientific discoveries influence and change society</i>	2				

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SC 8.1.2.c Recognize scientists from various cultures have made many contributions to explain the natural world	1				
Grade 8 Technology	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.1.3 Students will solve a design problem which involves one or two science concepts.	Assessed at the local level				
SC 8.1.3.a Identify problems for technical design	2				
SC 8.1.3.b Design a solution or product	3				
SC 8.1.3.c Implement the proposed design	3				
SC 8.1.3.d Evaluate completed technological designs or products	3				
SC 8.1.3.e Communicate the process of technical design	2				
SC 8.1.3.f Distinguish between scientific inquiry (asking questions about the natural world) and technological design (using science to solve practical problems)	1				
SC 8.1.3.g Describe how science and technology are reciprocal	1				
SC 8.1.3.h Recognize that solutions have intended and unintended consequences	1				
SC 8.1.3.i Compare and contrast the reporting of scientific knowledge and the reporting of technological knowledge	2				
PHYSICAL SCIENCE					
Grade 8 Matter	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.2.1 Students will identify and describe the particulate nature of matter including physical and chemical interactions.					4-7
SC 8.2.1.a Compare and contrast elements, compounds, and mixtures	2				
SC 8.2.1.b Describe physical and chemical properties of matter	2				
SC 8.2.1.c Recognize most substances can exist as a solid, liquid, or gas depending on temperature	1				
SC 8.2.1.d Compare and contrast solids, liquids, and gasses based on properties of these states of matter	2				
SC 8.2.1.e Distinguish between physical and chemical changes (phase changes, dissolving, burning, rusting)	1				
SC 8.2.1.f Recognize conservation of matter in physical and chemical changes	1				

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<i>SC 8.2.1.g Classify substances into similar groups based on physical properties</i>	2				
Grade 8 Force and Motion	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.2.2 Students will investigate and describe forces and motion.					3-6
<i>SC 8.2.2.a Describe motion of an object by its position and velocity</i>	2				
<i>SC 8.2.2.b Recognize an object that is not being subjected to a force will continue to move at a constant speed in a straight line or stay at rest (Newton's 1st law)</i>	1				
<i>SC 8.2.2.c Compare the motion of objects related to the effects of balanced and unbalanced forces</i>	2				
<i>SC 8.2.2.d Recognize that everything on or around Earth is pulled towards Earth's center by gravitational force</i>	1				
Grade 8 Energy	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.2.3 Students will identify and describe how energy systems and matter interact.					3-6
<i>SC 8.2.3.a Recognize that vibrations set up wave-like disturbances that spread away from the source (sound, seismic, water waves)</i>	1				
<i>SC 8.2.3.b Identify that waves move at different speeds in different materials</i>	1				
<i>SC 8.2.3.c Recognize that light interacts with matter by transmission (including refraction), absorption, or scattering (including reflection)</i>	1				
<i>SC 8.2.3.d Recognize that to see an object, light from the surface of the object must enter the eye; the color seen depends on the properties of the surface and the color of the available light sources</i>	1				
<i>SC 8.2.3.e Recognize that heat moves from warmer objects to cooler objects until both reach the same temperature</i>	1				
<i>SC 8.2.3.f Describe transfer of energy from electrical and magnetic sources to different energy forms (heat, light, sound, chemical)</i>	1				
<i>SC 8.2.3.g Recognize all energy is neither created nor destroyed</i>	1				

LIFE SCIENCE					
Grade 8 Structure and Function of Living Systems	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.3.1 Students will investigate and describe the structure and function of living organisms.					4-7
<i>SC 8.3.1.a Recognize the levels of organization in living organisms (cells, tissues, organs, organ systems, organisms)</i>	1				
<i>SC 8.3.1.b Recognize that all organisms are composed of one or many cells; that these cells must grow, divide, and use energy; and that all cells function similarly</i>	1				
<i>SC 8.3.1.c Recognize specialized cells perform specialized functions in multicellular organisms</i>	1				
<i>SC 8.3.1.d Identify the organs and functions of the major systems of the human body and describe ways that these systems interact with each other</i>	1				
<i>SC 8.3.1.e Describe how plants and animals respond to environmental stimuli</i>	1				
Grade 8 Heredity	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.3.2 Students will investigate and describe the relationship between reproduction and heredity.					1-3
<i>SC 8.3.2.a Recognize that hereditary information is contained in genes within the chromosomes of each cell</i>	1				
<i>SC 8.3.2.b Compare and contrast sexual and asexual reproduction</i>	2				
Grade 8 Flow of Matter and Energy in Ecosystems	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.3.3 Students will describe populations and ecosystems.					3-6
<i>SC 8.3.3.a Diagram and explain the flow of energy through a simple food web</i>	2				
<i>SC 8.3.3.b Compare the roles of producers, consumers, and decomposers in an ecosystem</i>	2				
<i>SC 8.3.3.c Recognize that producers transform sunlight into chemical energy through photosynthesis</i>	1				
<i>SC 8.3.3.d Determine the biotic and abiotic factors that impact the number of organisms an ecosystem can support</i>	2				
<i>SC 8.3.3.e Recognize a population is all the individuals of a species at a given place and time</i>	1				

SC 8.3.3.f Identify symbiotic relationships among organisms	1				
SC 8.3.3.g Identify positive and negative effects of natural and human activity on an ecosystem	2				
Grade 8 Biodiversity	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.3.4 Students will identify characteristics of organisms that help them survive.					2-4
SC 8.3.4.a Describe how an inherited characteristic enables an organism to improve its survival rate	2				
SC 8.3.4.b Recognize the extinction of a species is caused by the inability to adapt to an environmental change	1				
SC 8.3.4.c Use anatomical features of an organism to infer similarities among other organisms	2				
EARTH AND SPACE SCIENCE					
Grade 8 Earth in Space	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.4.1 Students will investigate and describe Earth and the solar system.					2-4
SC 8.4.1.a Describe the components of the solar system (the Sun, planets, moons, asteroids, comets)	1				
SC 8.4.1.b Describe the relationship between motion of objects in the solar system and the phenomena of day, year, eclipses, phases of the Moon and seasons	2				
SC 8.4.1.c Describe the effects of gravity on Earth (tides) and the effect of gravity on objects in the solar system	2				
Grade 8 Earth Structures and Processes	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.4.2 Students will investigate and describe Earth's structure, systems, and processes.					6-10
SC 8.4.2.a Describe the layers of Earth (core, mantle, crust, atmosphere)	1				
SC 8.4.2.b Describe the physical composition of soil	1				
SC 8.4.2.c Describe the mixture of gasses in Earth's atmosphere and how the atmosphere's properties change at different elevations	1				
SC 8.4.2.d Describe evidence of Earth's magnetic field	1				
SC 8.4.2.e Compare and contrast constructive and destructive forces (deposition, erosion, weathering, plate motion causing uplift, volcanoes, earthquakes) that impact Earth's surface	2				
SC 8.4.2.f Describe the rock cycle	1				

<i>SC 8.4.2.g Describe the water cycle (evaporation, condensation, precipitation)</i>	1				
<i>SC 8.4.2.h Classify Earth materials as renewable or nonrenewable</i>	2				
Grade 8 Energy in Earth's Systems	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.4.3 Students will investigate and describe energy in Earth's systems.					2-4
<i>SC 8.4.3.a Describe how energy from the Sun influences the atmosphere and provides energy for plant growth</i>	1				
<i>SC 8.4.3.b Identify factors that influence daily and seasonal changes on Earth (tilt of the Earth, humidity, air pressure, air masses)</i>	1				
<i>SC 8.4.3.c Describe atmospheric movements that influence weather and climate (air masses, jet stream)</i>	1				
Grade 8 Earth's History	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 8.4.4 Students will use evidence to draw conclusions about changes in Earth.					1-3
<i>SC 8.4.4.a Recognize that Earth processes we see today are similar to those that occurred in the past (uniformity of processes)</i>	1				
<i>SC 8.4.4.b Describe how environmental conditions have changed through use of the fossil record</i>	2				

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Table of Specifications					
Grade 11					
Inquiry, The Nature of Science, and Technology					
Grade 11 Abilities to do Scientific Inquiry	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.1.1 Students will design and conduct investigations that lead to the use of logic and evidence in the formulation of scientific explanations and models.					8-13
<i>SC 12.1.1.a Formulate a testable hypothesis supported by prior knowledge to guide an investigation</i>	2				
<i>SC 12.1.1.b Design and conduct logical and sequential scientific investigations with repeated trials and apply findings to new investigations</i>	3				
<i>SC 12.1.1.c Identify and manage variables and constraints</i>	3				
<i>SC 12.1.1.d Select and use lab equipment and technology appropriately and accurately</i>	1				
<i>SC 12.1.1.e Use tools and technology to make detailed qualitative and quantitative observations</i>	1				
<i>SC 12.1.1.f Represent and review collected data in a systematic, accurate, and objective manner</i>	3				
<i>SC 12.1.1.g Analyze and interpret data, synthesize ideas, formulate and evaluate models, and clarify concepts and explanations</i>	3				
<i>SC 12.1.1.h Use results to verify or refute a hypothesis</i>	2				
<i>SC 12.1.1.i Propose and/or evaluate possible revisions and alternate explanations</i>	3				
<i>SC 12.1.1.j Share information, procedures, results, conclusions, and defend findings to a scientific community (peers, science fair audience, policy makers)</i>	3				
<i>SC 12.1.1.k Evaluate scientific investigations and offer revisions and new ideas as appropriate</i>	3				
<i>SC 12.1.1.l Use appropriate mathematics in all aspects of scientific inquiry</i>	2				
Grade 11 Nature of Science	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.1.2 Students will apply the nature of scientific knowledge to their own investigations and in the evaluation of scientific explanations.	Assessed at the local level				

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SC 12.1.2.a Recognize that scientific explanations must be open to questions, possible modifications, and must be based upon historical and current scientific knowledge	1				
SC 12.1.2.b Describe how society influences the work of scientists and how science, technology, and current scientific discoveries influence and change society	2				
SC 12.1.2.c Recognize that the work of science results in incremental advances, almost always building on prior knowledge, in our understanding of the world	1				
SC 12.1.2.d Research and describe the difficulties experienced by scientific innovators who had to overcome commonly held beliefs of their times to reach conclusions that we now take for granted	2				
Grade 11 Technology	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.1.3 Students will solve a complex design problem.	Assessed at the local level				
SC 12.1.3.a Propose designs and choose between alternative solutions of a problem	3				
SC 12.1.3.b Assess the limits of a technological design	3				
SC 12.1.3.c Implement the selected solution	3				
SC 12.1.3.d Evaluate the solution and its consequences	3				
SC 12.1.3.e Communicate the problem, process, and solution	2				
SC 12.1.3.f Compare and contrast the reasons for the pursuit of science and the pursuit of technology	2				
SC 12.1.3.g Explain how science advances with the introduction of new technology	1				
SC 12.1.3.h Recognize creativity, imagination, and a good knowledge base are all needed to advance the work of science and engineering	1				
PHYSICAL SCIENCE					
Grade 11 Matter	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.2.1 Students will investigate and describe matter in terms of its structure, composition and conservation.					4-7
SC 12.2.1.a Recognize bonding occurs when outer electrons are transferred (ionic) or shared (covalent)	1				
SC 12.2.1.b Describe the energy transfer associated with phase changes between solids, liquids, and gasses	1				

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SC 12.2.1.c Describe the three normal states of matter (solid, liquid, gas) in terms of energy, particle arrangement, particle motion, and strength of bond between molecules	1				
SC 12.2.1.d Recognize a large number of chemical reactions involve the transfer of either electrons (oxidation/reduction) or hydrogen ions (acid/base) between reacting ions, molecules, or atoms	1				
SC 12.2.1.e Identify factors affecting rates of chemical reactions (temperature, particle size, surface area)	1				
SC 12.2.1.f Recognize the charges and relative locations of subatomic particles (neutrons, protons, electrons)	1				
SC 12.2.1.g Describe properties of atoms, ions, and isotopes	1				
SC 12.2.1.h Describe the organization of the periodic table of elements with respect to patterns of physical and chemical properties	1				
Grade 11 Force and Motion	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.2.2 Students will investigate and describe the nature of field forces and their interactions with matter.					4-8
SC 12.2.2.a Describe motion with respect to displacement and acceleration	2				
SC 12.2.2.b Describe how the law of inertia (Newton's 1st law) is evident in a real-world event	2				
SC 12.2.2.c Make predictions based on relationships among net force, mass, and acceleration (Newton's 2nd law)	2				
SC 12.2.2.d Recognize that all forces occur in equal and opposite pairs (Newton's 3rd law)	1				
SC 12.2.2.e Describe how Newton's 3rd law of motion is evident in a real-world event	2				
SC 12.2.2.f Describe gravity as a force that each mass exerts on another mass, which is proportional to the masses and the distance between them	2				
SC 12.2.2.g Recognize that an attractive or repulsive electric force exists between two charged particles and that this force is proportional to the magnitude of the charges and the distance between them	1				
Grade 11 Energy	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.2.3 Students will describe and investigate energy systems relating to the conservation and interaction of energy and matter.					4-8

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SC 12.2.3.a Describe mechanical wave properties (speed, wavelength, frequency, amplitude) and how waves travel through a medium	1				
SC 12.2.3.b. Recognize that the energy in waves can be changed into other forms of energy	1				
SC 12.2.3.c Recognize that light can behave as a wave (diffraction and interference)	1				
SC 12.2.3.d Distinguish between temperature (a measure of the average kinetic energy of atomic or molecular motion) and heat (the quantity of thermal energy that transfers due to a change in temperature)	2				
SC 12.2.3.e Compare and contrast methods of heat transfer and the interaction of heat with matter via conduction, convection, and radiation	2				
SC 12.2.3.f Recognize that the production of electromagnetic waves is a result of changes in the motion of charges or by a changing magnetic field	1				
SC 12.2.3.g Compare and contrast segments of the electromagnetic spectrum (radio, micro, infrared, visible, ultraviolet, x-rays, gamma) based on frequency and wavelength	2				
SC 12.2.3.h Recognize that nuclear reactions (fission, fusion, radioactive decay) convert a fraction of the mass of interacting particles into energy, and this amount of energy is much greater than the energy in chemical interactions	1				
SC 12.2.3.i Interpret the law of conservation of energy to make predictions for the outcome of an event	2				
SC 12.2.3.j Identify that all energy can be considered to be either kinetic, potential, or energy contained by a field (e.g. electromagnetic waves)	1				
SC 12.2.3.k Identify endothermic and exothermic reactions	1				
LIFE SCIENCE					
Grade 11 Structure and Function of Living Systems	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.3.1 Students will investigate and describe the chemical basis of the growth, development, and maintenance of cells.					4-7
SC 12.3.1.a Identify the complex molecules (carbohydrates, lipids, proteins, nucleic acids) that make up living organisms	1				
SC 12.3.1.b Identify the form and function of sub-cellular structures that regulate cellular activities	1				

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SC 12.3.1.c Describe the cellular functions of photosynthesis, respiration, cell division, protein synthesis, transport of materials, and energy capture/release	2				
SC 12.3.1.d Describe how an organism senses changes in its internal or external environment and responds to ensure survival	2				
Grade 11 Heredity	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.3.2 Students will describe the molecular basis of reproduction and heredity.					3-6
SC 12.3.2.a Identify that information passed from parents to offspring is coded in DNA molecules	1				
SC 12.3.2.b Describe the basic structure of DNA and its function in genetic inheritance	1				
SC 12.3.2.c Recognize how mutations could help, harm, or have no effect on individual organisms	1				
SC 12.3.2.d Describe that sexual reproduction results in a largely predictable, variety of possible gene combinations in the offspring of any two parents	2				
Grade 11 Flow of Matter and Energy in Ecosystems	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.3.3 Students will describe, on a molecular level, the cycling of matter and the flow of energy between organisms and their environment.					1-3
SC 12.3.3.a Explain how the stability of an ecosystem is increased by biological diversity	2				
SC 12.3.3.b Recognize that atoms and molecules cycle among living and nonliving components of the biosphere	1				
SC 12.3.3.c Explain how distribution and abundance of different organisms in ecosystems are limited by the availability of matter and energy and the ability of the ecosystem to recycle materials	2				
SC 12.3.3.d Analyze factors which may influence environmental quality	2				
Grade 11 Biodiversity	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.3.4 Students will describe the theory of biological evolution.					2-5
SC 12.3.4.a Identify different types of adaptations necessary for survival (morphological, physiological, behavioral)	1				

SC 12.3.4.b Recognize that the concept of biological evolution is a theory which explains the consequence of the interactions of: (1) the potential for a species to increase its numbers, (2) the genetic variability of offspring due to mutation and recombination of genes, (3) a finite supply of the resources required for life, and (4) the ensuing selection by the environment of those offspring better able to survive and leave offspring	1				
SC 12.3.4.c Explain how natural selection provides a scientific explanation of the fossil record and the molecular similarities among the diverse species of living organisms	2				
SC 12.3.4.d Apply the theory of biological evolution to explain diversity of life over time	2				
EARTH AND SPACE SCIENCE					
Grade 11 Earth in Space	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.4.1 Students will investigate and describe the known universe.					2-4
SC 12.4.1.a Describe the formation of the universe using the Big Bang Theory	1				
SC 12.4.1.b Recognize that stars, like the Sun, transform matter into energy by nuclear reactions which leads to the formation of other elements	1				
SC 12.4.1.c Describe stellar evolution	1				
Grade 11 Earth Structures and Processes	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.4.2 Students will investigate the relationships among Earth's structure, systems, and processes.					3-5
SC 12.4.2.a Recognize how Earth materials move through geochemical cycles (carbon, nitrogen, oxygen) resulting in chemical and physical changes in matter	1				
SC 12.4.2.b Describe how heat convection in the mantle propels the plates comprising Earth's surface across the face of the globe (plate tectonics)	2				
SC 12.4.2.c Evaluate the impact of human activity and natural causes on Earth's resources (groundwater, rivers, land, fossil fuels)	2				

Grade 11 Energy in Earth's Systems	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.4.3 Students will investigate and describe the relationships among the sources of energy and their efforts on Earth's systems.					3-5
<i>SC 12.4.3.a Describe how radiation, conduction, and convection transfer heat in Earth's systems</i>	1				
<i>SC 12.4.3.b Identify internal and external sources of heat energy in Earth's systems</i>	2				
<i>SC 12.4.3.c Compare and contrast benefits of renewable and nonrenewable energy sources</i>	2				
<i>SC 12.4.3.d Describe natural influences (Earth's rotation, mountain ranges, oceans, differential heating) on global climate</i>	2				
Grade 11 Earth's History	DOK Level	DOK 1	DOK 2	DOK 3	Item Total
SC 12.4.4 Students will explain the history and evolution of Earth.					2-5
<i>SC 12.4.4.a Recognize that in any sequence of sediments or rocks that has not been overturned, the youngest sediments or rocks are at the top of the sequence and the oldest are at the bottom (law of superposition)</i>	1				
<i>SC 12.4.4.b Interpret Earth's history by observing rock sequences, using fossils to correlate the sequences at various locations, and using data from radioactive dating methods</i>	2				
<i>SC 12.4.4.c Compare and contrast the physical and biological differences of the early Earth with the planet we live on today</i>	2				

Appendix D: Confidentiality Agreement

NEBRASKA DEPARTMENT OF EDUCATION



NEBRASKA STATE ACCOUNTABILITY

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MONTH YEAR

CONFIDENTIALITY AGREEMENT

TEST SECURITY IS OF THE UTMOST IMPORTANCE TO THE NEBRASKA DEPARTMENT OF EDUCATION. AS A PARTICIPANT IN THIS _____, YOU HAVE ACCESS TO TEST ITEMS THAT MUST BE REGARDED AS CONFIDENTIAL. **DO NOT REPRODUCE ANY MATERIALS, DIRECTLY OR INDIRECTLY, DISCLOSE THE CONTENTS OF THESE MATERIALS, OR DISCUSS THE MATERIALS OR ANY ISSUES THAT ARISE DURING THE MEETINGS WITH INDIVIDUALS OUTSIDE OF THE MEETING ITSELF.**

WE ARE CERTAIN THAT YOU SHARE OUR CONCERN FOR TEST SECURITY AND ASK THAT YOU ACKNOWLEDGE YOUR ADHERENCE TO THIS AGREEMENT BY SIGNING BELOW.

LEGAL FIRST NAME

MI

LEGAL LAST NAME

SCHOOL

SIGNATURE

DATE

Appendix E: Fairness in Testing Manual

FAIRNESS IN TESTING

Guidelines for Training Bias, Fairness, and Sensitivity Issues

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INTRODUCTION

The most important part of the development of any new test is to ensure balanced treatment and control of potential bias, stereotyping, and insensitivity in the items or in the test-related materials. Data Recognition Corporation (DRC) understands that the presence of any type of bias in a test is undesirable not only from a civil rights point of view, but also from a measurement point of view. Issues of bias, fairness, and sensitivity in testing can have a direct impact on test scores. Our test developers are committed to the development of items and tests that are fair for all students. At every stage of the item and test development process, we employ procedures that are designed to ensure that our items and tests meet Standard 7.4 of the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999).

Standard 7.4: Test developers should strive to identify and eliminate language, symbols, words, phrases, and content that are generally regarded as offensive by members of racial, ethnic, gender, or other groups, except when judged to be necessary for adequate representation of the domain.

In meeting Standard 7.4, DRC employs a series of internal quality steps that we believe are among some of the best in the industry. We provide specific training for our test developers, item writers, and reviewers on how to write, review, revise, and edit items for issues of bias, fairness, and sensitivity, as well as for technical quality. Our training also includes an awareness of and sensitivity to issues of cultural diversity.

In addition to providing *internal* training in reviewing items in order to eliminate potential bias, we also provide *external* training to our clients, including state departments of education, review panels of minority experts, teachers, and other stakeholders. DRC understands the importance of having external panels with a wide variety of expertise in reviewing items and tests for potential bias. External panels of professionals provide a review of items for subtle forms of bias that often can be perceived only by individuals who possess a wide variety of appropriate expertise and represent specific constituencies.

This manual has been prepared to summarize DRC's guidelines for bias, fairness, and sensitivity, including how to eliminate language, symbols, words, phrases, and content that might be considered offensive by members of racial, ethnic, gender, or other groups. Our guidelines may be modified to meet client's requirements and/or state-specific guidelines.

DEFINITION OF BIAS

While there are many definitions of bias, the following definition is provided on page 76 of the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999):

The term *bias* in tests and testing refers to construct-irrelevant components that result in systematically lower or higher scores for identifiable groups of examinees. In other words, **bias is the presence of some characteristic of an item and/or test that results in two individuals of the same ability but from different subgroups performing differently on the item and/or test.** Therefore, it is most important that there are no ambiguities in the test items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries.

TYPES OF BIAS

There are many types of bias. They include stereotyping and discriminating against people because of gender, regional or geographical differences, ethnicity or culture, socioeconomic or class status, religion, or age, as well as bias against other groups of people, including those with disabilities. Another form of bias involves the use of questions and/or activities in the items or on a test as a whole that are not relevant to the life experiences of the students responding to the items or test. A definition of each type of bias, along with samples, is provided below.

STEREOTYPING

“Stereotype is an image formed by ascribing certain characteristics (e.g., physical, cultural, personal, occupational, historical) to all members of a group” (National Evaluation Systems, Inc. page 2). Stereotyping in test items and tests might include physical characteristics, intellectual characteristics, emotions, careers, activities, and domestic or social roles. In writing or reviewing test items, it is very important that all groups are portrayed fairly, without stereotyping. As a result, there should be a range of characteristics, careers, and social roles across all groups, and no one group should be characterized by any one particular attribute or characteristic. Following are examples of stereotyping.

Stereotype

Examples

PHYSICAL CHARACTERISTICS

MALES ARE STRONG AND CAPABLE LEADERS.
Females are weak.

Types of Bias

Stereotyping (continued)

The elderly are feeble and sickly.
Children are healthy and full of energy.
The elderly are dependent upon others.
People with disabilities are dependent upon others.
Females worry about their hair.

Intellectual characteristics

Males do better in mathematics and science.
Females do better in reading and language arts.
Asian Americans excel in academics.

Emotions

Males are aggressive, courageous, and strong.
Females are weak, weepy, tender, and fearful.

Stereotyping

Examples

Careers

Females are nurses, teachers, and secretaries.
Males are doctors, principals, superintendents,
lawyers, and skilled laborers (e.g., plumbers, construction
workers, painters).
African-Americans are athletes.
Hispanics operate lawn care businesses.
Asian-Americans own dry cleaning businesses.

Activities

Females play with dolls and read books.
Females do domestic chores (e.g., clean house, cook, sew).
Females spend money.
Males play sports and work with tools.
Boys are rowdy.
Girls are quiet.

Domestic and/or Social Roles

Females are responsible for childcare.
Men work outside of the home and are the breadwinners.

Community

Asian-Americans live in ethnic neighborhoods.
African-Americans live in high-rise apartment buildings
located in urban areas.
American Indians live on reservations.

Leadership

Men are leaders and rulers.

Women are followers.
Women are dependent on men.
Men are elected to political positions.
Females in leadership roles are aggressive and pushy.

TYPES OF BIAS (CONTINUED)

GENDER BIAS

Gender bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that show members of either sex in stereotypical activities, emotions, occupations, characteristics, and/or situations. Gender bias also involves the use of demeaning labels.

Examples of gender bias

TITLES AND SPECIFIC TERMS REFERRING TO HUMANITY AT LARGE, SUCH AS

- Mankind
- Manhood
- Manpower
- Man of the hour
- Man-hours
- Man-made

Use of gender specific terms for occupations, such as

- Fireman
- Workman
- Chairman
- Policeman
- Mailman
- Salesman
- Insurance man
- Businessman
- Congressman

Use of pronouns that imply a stereotype, such as

- The nurse went to the hospital, and *she* was able to talk with the patient.
- The factory worker needed to earn more money for *his* family.
- When the lawyer delivered *his* closing remarks, the jury listened carefully.
- A politician must give a lot of speeches when *he* runs for office.

TYPES OF BIAS

GENDER BIAS (CONTINUED)

Use of phrases that identify genders in terms of their roles or occupations, such as

- Men and girls were invited to the lecture.
- The travelers took their wives and children with them.
- The happy couple was introduced as man and wife.

Use of phrases or words with an emphasis on marital status, such as

- Abraham Lincoln and Mrs. Lincoln attended the play.
- George Washington and Martha visited the new building.
- Dr. and Mrs. Jones attended the opening of the new warehouse.
- The admirable Dr. George Halstead and his wife, Maria, visited the library.

Use of words that identify genders in the salutation of a business letter, such as

- Dear Sir:
- Dear Madam:
- Dear Gentlemen:

Use of words or phrases that are not parallel, such as

- The girls' restroom is down the hall, and the men's restroom is on the second floor.
- The boys' locker room door is painted green, and the women's locker room door is painted yellow.
- The men's department is on the right; the ladies' department is on the left.

Use of figures of speech, such as

- Old wives' tale
- Right-hand man
- Man versus nature
- The best man for the job
- The better half

Use of gender-specific terms or diminutive words, such as

- Sweet young thing
- Usherette
- Housewife
- Maid
- Cleaning lady
- Little woman
- Career girl
- Houseboy
- Steward

TYPES OF BIAS (CONTINUED)

Regional or Geographical Bias

Regional and/or geographical bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are not commonly used nationwide or within a particular region or state to which the test will be given. It also involves the use of terms that have different connotations in different parts of the country and/or geographical regions. It is important to note that some experiences may not be common to all students. For example, within a given geographic area not all students might be familiar with snow, so questions involving sleds and toboggans, for example, may well reflect a regional or geographical bias.

Examples of regional or geographical bias

- She ordered a new davenport (couch or sofa).
- Go get your toboggan (hat or type of sled).
- The students stood in line at the bubbler (water fountain or drinking fountain).
- Turn left at the berm (curb).
- Take the pike (road).

Ethnic or Cultural Bias

Ethnic bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to a particular ethnic group or culture. In addition, no minority group should be portrayed as being uneducated or poor.

Examples of ethnic or cultural bias

- Maria was in the kitchen making tacos.
- The Chinese owned a laundry in our area.
- Native Americans are very close to nature.

Terminology

Terms that have a negative connotation or that reinforce negative judgments should also be avoided. Following is a list of **acceptable** terms.

- African-American
- Asian-American or Pacific Island American
- Latino, Mexican-American, Hispanic
- Tribal name (preferred), Native American, American Indian
- European-American

TYPES OF BIAS (CONTINUED)

Socioeconomic or Class Bias

Socioeconomic or class bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include activities, possessions, or ideas that may not be common to all students within a given area. For example, not all students in a given area own CD players or video games, nor do all students in a given area participate in certain sports activities, such as golf, snow skiing, or sailing. In addition, not all students in a given area take expensive vacations or attend expensive schools.

Examples of socioeconomic or class bias

- They were members of the country club.
- Boarding school.
- How many golf balls landed in the lake?
- The club members plan to go snow skiing over the holidays.
- My great aunt lives in a town house overlooking Lake Michigan.

Religious Bias

Religious bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to a particular religious group.

Examples of religious bias

- The house on Smith Street is decorated for Halloween.
- There were several Christmas trees in the window.
- The students in the class will stand and say the *Pledge of Allegiance*.
- The high school students will be attending a rock-and-roll dance at the community center.

It is also important to note that no religious belief or practice should be portrayed as a universal norm or as inferior or superior to any other.

TYPES OF BIAS

Ageism (Bias Against a Particular Age Group)

There are other subtle forms of bias, including bias against the elderly or ageism. Ageism involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to the elderly or older persons (65 years or older). Ageism can also involve issues of bias with other age groups, including teenagers and young children.

It is important to note, however, that representing older persons or any age group fairly does not mean that the content of the items has to be revised or rewritten to seem unrealistic. Rather, as a whole, the items and the test should show older people or any age group in a variety of roles and activities whenever they appear naturally in the test content.

Examples of ageism (bias against a particular age group)

- Despite the fact that she was very old, she was able to walk down the stairs.
- The child's grandfather seemed senile.
- They were acting like typical irresponsible teenagers.

Bias Against Persons with Disabilities

Another form of subtle bias involves issues of bias related to persons with disabilities. This type of bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to persons with disabilities. It is important to note, however, that representing persons with disabilities does not mean that the content of the items has to be revised or rewritten to seem unrealistic. Rather, as a whole, the items and the test should show people with disabilities in a variety of roles and activities whenever they appear naturally in the test content.

Examples of bias against persons with disabilities

- After the car accident, the student was confined to a wheelchair.
- He became a successful writer despite his disability.
- She is a blind person.
- The student is handicapped.
- The child made great strides in overcoming her disability.

TYPES OF BIAS

Bias Against Persons with Disabilities (continued)

Terminology

Terms that have a negative connotation or that reinforce negative judgments (crippled, victim, afflicted, confined, etc.) should also be avoided. It is also important that no one with a disability should be pictured as helpless or portrayed as pitiful.

Do not use

Use

Retarded

Developmentally delayed

Hard of hearing

Hearing impaired

Deaf and Dumb or Deaf-mute

Deaf or hard-of-hearing used accurately

Learning-disabled

Person with a learning disability

Handicap

Disability

Visually-impaired or Blind used accurately

EXPERIENTIAL BIAS

The questions and activities reflected in the items or test, as a whole, should also be relevant to the life experiences of the students responding to the items. In other words, for a student to respond sensibly to the test questions, he or she must know what the question is about. In addition, culturally specific knowledge should be avoided, along with the use of difficult words and figures of speech.

Examples of experiential bias

- Pat knew she would win the race as she had an ace up her sleeve.
- Put the pedal to the metal and clean up your room.
- I needed change for the subway turnstile.
- The arroyos filled quickly during the storm.
- The super takes care of cleaning the foyer.

MAINTAINING BALANCE

Bias may also occur as a result of having a lack of balance through underrepresentation of a particular ethnic group and/or gender. Therefore, whenever possible, tests and test-related materials should contain content that is balanced across ethnic groups and across gender. The content of the pool of items and/or test, as a whole, should also reflect cultural diversity. In order to achieve balance, the test developers at DRC review the pool of items or the test, as a whole, to determine whether or not there is an adequate representation of

- Females and males in both traditional and nontraditional roles
- Female and male names
- Minority groups in various environments and occupations
- Minority groups, including the use of names

The issue of fairness also involves content inclusiveness. Subtle forms of bias can result from omitting certain areas of information and/or from omitting certain topics. Wherever possible, the content should show people in everyday situations and groups should be depicted as fully integrated in the society, reflecting the diverse multicultural composition of society as a whole (NES, page 9).

TOPICS TO AVOID

Because issues of bias, fairness, and sensitivity in testing can have a direct impact on the test scores, it is also important that sensitive and offensive topics be avoided. A topic might be considered offensive or controversial if it offends teachers, students, parents, or the community at large. This includes highly charged and controversial topics such as abortion, the death penalty, and evolution. Unacceptable content might also include less controversial topics, such as the use of tobacco or topics that could evoke unpleasant emotions on the part of a given student. In addition, topics that appear to promote or defend a particular set of values should be avoided. It is important to remember that the ability of the student to take the test should never be undermined. Following are examples of topics generally to be avoided.

Examples of topics to be generally avoided

- *ABORTION*
- Alcohol, including beer and wine
- Behaviors that are inappropriate, including stealing, cheating, lying, and other criminal and/or anti-social behaviors and activities
- Biographies of controversial figures whether or not they are still alive
- Birthdays
- Cancer and other diseases that might be considered fatal (HIV, AIDS)
- Criticism of democracy or capitalism
- Dangerous behavior
- Death of animals or animals dying or being mistreated
- Death, murder, and suicide
- Disasters, including tornadoes, hurricanes, etc. (unless treated as scientific subjects)
- Disrespect of any mainstream racial or religious group
- Double meanings of words that have sexually suggestive meanings
- Evolution
- Family experiences that may be upsetting, including divorce or loss of a job
- Feminist or chauvinistic topics
- Gambling
- Guns and gun control
- Holidays of religious origin (e.g., Halloween, Christmas, Easter)
- Junk food, including candy, gum, chips
- Left- or right-wing politics
- Luxuries (homes with swimming pools, expensive clothes, expensive vacations, and sports activities that typically require the purchase of expensive equipment such as snow skiing)
- Parapsychology

- Physical, emotional, and/or mental abuse, including animal, child, and/or spousal abuse
- Religions, except in appropriate historical context; mythology, folk tales, and fables may contain religious elements as part of appropriately presented literary excerpts.
- Sex, including kissing and dating
- Slavery (unless presented in an historical context and presented appropriately)
- Tobacco
- Violence against a particular group of people or animals
- Rock music, including rap and heavy metal
- Wars
- Witchcraft, sorcery, or magic
- Words that might be problematic to a specific ethnic group

SPECIAL CIRCUMSTANCES

In certain subject areas, a sensitive topic may be acceptable because the topic is a part of the course of study or may be required in order to measure the specific curriculum content standards and/or test objectives. For example, it may be appropriate to have test questions dealing with hurricanes. However, the questions should not focus unduly upon the destruction of property or the deaths of human beings. Other special circumstances include historical and literary contexts. A discussion of these special circumstances is provided below.

Historical Contexts

In order to measure the content curriculum standards, social studies tests often include topics that might otherwise be deemed as controversial. For example, in a history test, the topic of slavery might be used. The student would know that such a controversial topic is used to assess knowledge of a particular curriculum content standard and/or set of objectives and, therefore, the topic would not reflect the views of the test developer.

Literary Contexts

Today's tests often require the use of authentic or previously published passages. As a result, sometimes a given passage or prompt might contain controversial material, including sentences, phrases, and/or words. If the overall passage or prompt is acceptable, it may be possible to edit and or delete the objectionable sentences, phrases, words, and/or references in order to eliminate the potential bias. In such cases, DRC test developers request permission from the publisher to make such edits and/or changes, and they would do so only if permission is granted.

Points to Remember

When reviewing items (questions and responses), passages prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries for issues of bias, fairness, and sensitivity, the following questions should be asked.

1. Do the items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries:

Demean any religious, ethnic, cultural, or social group?

Portray anyone or any group in a stereotypical manner?

Contain any other forms of bias, including gender, regional or geographical, ethnic or cultural, socioeconomic or class, religious, age-related bias, or bias against persons with disabilities?

2. Are there any topics that might disadvantage a student for any reason?
3. Are there any culturally specific sets of knowledge, terms, difficult words and/or figures of speech that might disadvantage a group of students?
4. Are the questions and activities reflected in the items or test, as a whole, relevant to the life experiences of the students responding to the items?
5. As a whole, does the test or pool of items have a balance across ethnic groups and across genders, including an adequate representation of:

Females and males in both traditional and nontraditional roles

Female and male names

Minority groups in various environments and occupations

Minority groups, including the use of ethnic names

6. Wherever possible, does the content show minority groups in everyday situations and groups depicted as fully integrated in the society, reflecting the multicultural composition of society as a whole?

Sample Review Form

Name: _____

Date: _____

Subject Area: _____ **Grade Level:** _____

Item No.	Type of Bias							
	Gender	Regional	Ethnic	Socio-economic	Religious	Age	Experiential	Other

Comments:

Appendix E References

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Appendix F: Reading Key Verification and Foil Analysis

Grade 3

Grade 3 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	p-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	562909	A	22717	.81	.81	.03	.13	.02	.00	.00	.47	.47	-.23	-.33	-.21
OP	562917	C	22717	.62	.08	.24	.62	.06	.00	.00	.41	-.26	-.20	.41	-.17
OP	562918	D	22717	.71	.11	.10	.08	.71	.00	.00	.37	-.19	-.17	-.20	.37
OP	562920	D	22717	.45	.06	.35	.13	.45	.00	.00	.45	-.22	-.24	-.16	.45
OP	562927	B	22717	.84	.04	.84	.07	.06	.00	.00	.42	-.21	.42	-.22	-.25
OP	562930	B	22717	.78	.08	.78	.03	.10	.00	.00	.42	-.26	.42	-.20	-.21
OP	562931	C	22717	.68	.22	.03	.68	.06	.00	.00	.50	-.29	-.24	.50	-.29
OP	562971	B	22717	.81	.03	.81	.08	.07	.00	.00	.42	-.21	.42	-.18	-.28
OP	562978	A	22717	.72	.72	.14	.06	.08	.00	.00	.47	.47	-.25	-.24	-.25
OP	562987	C	22717	.73	.11	.08	.73	.08	.00	.00	.52	-.28	-.27	.52	-.26
OP	562989	A	22717	.60	.60	.07	.12	.21	.00	.00	.41	.41	-.28	-.21	-.14
OP	562990	D	22717	.83	.06	.04	.07	.83	.00	.00	.40	-.19	-.19	-.26	.40
OP	562992	B	22717	.56	.05	.56	.31	.08	.00	.00	.41	-.21	.41	-.23	-.18
OP	632719	B	22717	.86	.03	.86	.05	.07	.00	.00	.48	-.23	.48	-.25	-.30
OP	632720	A	22717	.65	.65	.15	.12	.08	.00	.00	.49	.49	-.33	-.12	-.28
OP	632721	D	22717	.69	.11	.11	.08	.69	.00	.00	.50	-.29	-.23	-.23	.50
OP	632722	C	22717	.54	.29	.09	.54	.08	.00	.00	.46	-.18	-.28	.46	-.26
OP	632723	B	22717	.57	.09	.57	.14	.20	.00	.00	.40	-.16	.40	-.24	-.17
OP	632724	A	22717	.74	.74	.11	.12	.03	.00	.00	.30	.30	-.17	-.12	-.24
OP	632725	C	22717	.89	.02	.04	.89	.04	.00	.00	.44	-.21	-.25	.44	-.28
OP	632727	C	22717	.63	.08	.08	.63	.20	.00	.00	.49	-.31	-.19	.49	-.24
OP	632954	B	22717	.54	.23	.54	.15	.08	.00	.00	.36	-.10	.36	-.23	-.21
OP	632955	B	22717	.70	.06	.70	.11	.13	.00	.00	.52	-.23	.52	-.23	-.32
OP	632959	D	22717	.78	.04	.09	.09	.78	.00	.00	.49	-.22	-.26	-.30	.49
OP	632962	C	22717	.65	.15	.08	.65	.12	.00	.00	.47	-.28	-.19	.47	-.21
OP	632963	C	22717	.82	.09	.07	.82	.02	.00	.00	.48	-.30	-.26	.48	-.21
OP	645590	A	22717	.67	.67	.17	.09	.06	.00	.00	.38	.38	-.15	-.26	-.18
OP	645591	D	22717	.67	.05	.24	.05	.67	.00	.00	.44	-.20	-.30	-.19	.44
OP	645592	A	22717	.65	.65	.12	.04	.19	.00	.00	.37	.37	-.22	-.17	-.18
OP	645594	C	22717	.81	.05	.10	.81	.05	.00	.00	.42	-.25	-.20	.42	-.25
OP	645596	C	22717	.85	.08	.05	.85	.02	.00	.00	.47	-.34	-.24	.47	-.16
OP	645598	D	22717	.55	.14	.10	.21	.55	.00	.00	.40	-.13	-.12	-.28	.40

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Grade 3 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	p-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	645602	C	22717	.42	.40	.06	.42	.13	.00	.00	.40	-.22	-.16	.40	-.16
OP	645605	A	22717	.59	.59	.05	.06	.30	.00	.00	.40	.40	-.10	-.22	-.26
OP	645608	B	22717	.56	.23	.56	.12	.09	.00	.00	.43	-.25	.43	-.13	-.21
OP	645609	B	22717	.80	.06	.80	.08	.06	.00	.00	.47	-.21	.47	-.35	-.17
OP	645611	C	22717	.63	.03	.04	.63	.29	.00	.00	.35	-.24	-.25	.35	-.16
OP	645613	C	22717	.61	.04	.25	.61	.10	.00	.00	.46	-.23	-.24	.46	-.25
OP	645640	A	22717	.70	.70	.09	.11	.10	.00	.00	.51	.51	-.25	-.23	-.30
OP	645641	B	22717	.41	.28	.41	.15	.16	.00	.00	.40	-.11	.40	-.29	-.12
OP	645642	C	22717	.71	.07	.12	.71	.10	.00	.00	.34	-.18	-.12	.34	-.23
OP	645645	D	22717	.49	.13	.11	.26	.49	.00	.00	.47	-.16	-.25	-.22	.47
OP	645646	C	22717	.80	.10	.07	.80	.04	.00	.00	.44	-.18	-.30	.44	-.25
OP	645652	D	22717	.84	.05	.08	.03	.84	.00	.00	.40	-.23	-.22	-.21	.40
OP	645655	A	22717	.59	.59	.03	.35	.02	.00	.00	.38	.38	-.23	-.26	-.16
FT	658122	A	5853	.37	.37	.20	.27	.16	.00	.00	.22	.22	-.05	-.09	-.11
FT	658123	B	5853	.59	.12	.59	.09	.19	.00	.00	.41	-.16	.41	-.23	-.20
FT	658124	D	5853	.68	.05	.05	.21	.68	.00	.00	.19	-.12	-.21	-.03	.19
FT	658125	C	5853	.74	.03	.15	.74	.08	.00	.00	.27	-.18	-.06	.27	-.23
FT	658126	D	5853	.63	.13	.20	.05	.63	.00	.00	.12	-.02	-.04	-.15	.12
FT	658128	B	5853	.61	.07	.61	.24	.08	.00	.00	.39	-.23	.39	-.16	-.21
FT	658130	A	5853	.33	.33	.10	.09	.48	.00	.00	.23	.23	-.22	-.25	.06
FT	658131	A	5853	.85	.85	.02	.05	.07	.00	.00	.37	.37	-.21	-.17	-.23
FT	658132	C	5853	.58	.08	.18	.58	.16	.00	.00	.35	-.20	-.15	.35	-.16
FT	658134	C	5853	.71	.03	.18	.71	.07	.00	.00	.36	-.25	-.12	.36	-.29
FT	658136	C	4247	.25	.17	.19	.25	.38	.00	.00	.19	-.02	-.16	.19	-.03
FT	658137	B	4247	.42	.14	.42	.24	.20	.00	.00	.35	-.20	.35	-.09	-.16
FT	658138	C	4247	.69	.11	.10	.69	.11	.00	.00	.48	-.25	-.25	.48	-.22
FT	658139	A	4247	.61	.61	.07	.20	.12	.00	.00	.42	.42	-.25	-.23	-.16
FT	658140	C	4247	.47	.22	.13	.47	.18	.00	.00	.44	-.20	-.22	.44	-.16
FT	658141	A	4247	.51	.51	.21	.16	.12	.00	.00	.29	.29	-.18	-.12	-.09
FT	658142	D	4247	.58	.07	.22	.13	.58	.00	.00	.40	-.21	-.18	-.21	.40
FT	658143	D	4247	.37	.19	.24	.20	.37	.00	.00	.31	-.26	-.06	-.06	.31
FT	658144	B	4247	.73	.12	.73	.05	.10	.00	.00	.49	-.27	.49	-.26	-.24
FT	658147	A	4247	.81	.81	.09	.06	.04	.00	.00	.43	.43	-.23	-.26	-.20
FT	658150	C	4224	.77	.09	.07	.77	.06	.00	.00	.43	-.18	-.21	.43	-.29
FT	658151	B	4224	.67	.07	.67	.11	.15	.00	.00	.48	-.31	.48	-.18	-.25
FT	658152	D	4224	.82	.07	.04	.07	.82	.00	.00	.45	-.32	-.21	-.20	.45
FT	658156	A	4224	.47	.47	.17	.20	.16	.00	.00	.32	.32	-.08	-.16	-.18
FT	658158	B	4224	.66	.13	.66	.14	.07	.00	.00	.52	-.25	.52	-.26	-.28
FT	658159	C	4224	.73	.16	.08	.73	.03	.00	.00	.42	-.23	-.29	.42	-.13
FT	658160	D	4224	.72	.05	.07	.16	.72	.00	.00	.38	-.14	-.21	-.24	.38

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Grade 3 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	p-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	658161	A	4224	.80	.80	.03	.10	.07	.00	.00	.26	.26	-.13	-.17	-.12
FT	658162	A	4224	.47	.47	.23	.22	.08	.00	.00	.29	.29	-.23	-.06	-.08
FT	658163	D	4224	.79	.10	.04	.06	.79	.00	.00	.44	-.28	-.22	-.21	.44
FT	658165	C	4167	.70	.12	.11	.70	.07	.00	.00	.37	-.12	-.20	.37	-.25
FT	658166	B	4167	.56	.30	.56	.11	.04	.00	.00	.39	-.23	.39	-.15	-.21
FT	658167	A	4167	.65	.65	.06	.11	.18	.00	.00	.45	.45	-.21	-.18	-.28
FT	658168	B	4167	.31	.39	.31	.14	.17	.00	.00	.17	.03	.17	-.19	-.07
FT	658169	D	4167	.58	.19	.09	.13	.58	.00	.00	.35	-.23	-.17	-.08	.35
FT	658170	C	4167	.82	.02	.09	.82	.07	.00	.00	.33	-.18	-.08	.33	-.31
FT	658171	D	4167	.71	.15	.07	.07	.71	.00	.00	.34	-.13	-.23	-.19	.34
FT	658172	D	4167	.76	.10	.04	.10	.76	.00	.00	.44	-.23	-.24	-.24	.44
FT	658173	C	4167	.79	.06	.03	.79	.12	.00	.00	.43	-.17	-.22	.43	-.29
FT	658175	A	4167	.68	.68	.08	.20	.05	.00	.00	.36	.36	-.21	-.16	-.23
FT	658177	C	4224	.80	.08	.04	.80	.09	.00	.00	.45	-.27	-.23	.45	-.23
FT	658179	A	4224	.67	.67	.06	.24	.03	.00	.00	.35	.35	-.21	-.18	-.24
FT	658180	D	4224	.67	.17	.11	.05	.67	.00	.00	.45	-.20	-.28	-.23	.45
FT	658181	A	4224	.61	.61	.16	.04	.19	.00	.00	.39	.39	-.21	-.25	-.17
FT	658182	C	4224	.65	.19	.08	.65	.08	.00	.00	.40	-.13	-.26	.40	-.26
FT	658184	B	4224	.57	.08	.57	.26	.09	.00	.00	.31	-.25	.31	-.09	-.16
FT	658185	B	4224	.64	.09	.64	.05	.22	.00	.00	.35	-.16	.35	-.22	-.17
FT	658186	C	4224	.51	.31	.06	.51	.12	.00	.00	.26	-.08	-.17	.26	-.16
FT	658187	D	4224	.75	.16	.02	.06	.75	.00	.00	.33	-.19	-.22	-.15	.33
FT	658189	A	4224	.61	.61	.11	.13	.15	.00	.00	.25	.25	-.07	-.16	-.13

Grade 4

Grade 4 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	563227	B	22210	.79	.03	.79	.03	.15	.00	.00	.53	-.24	.53	-.21	-.38
OP	563229	B	22210	.69	.06	.69	.20	.05	.00	.00	.40	-.22	.40	-.19	-.25
OP	563231	C	22210	.81	.09	.04	.81	.06	.00	.00	.47	-.26	-.23	.47	-.27
OP	563236	A	22210	.83	.83	.05	.08	.04	.00	.00	.41	.41	-.23	-.22	-.22
OP	563237	D	22210	.61	.22	.13	.04	.61	.00	.00	.36	-.14	-.20	-.25	.36
OP	563244	A	22210	.95	.95	.03	.02	.01	.00	.00	.34	.34	-.23	-.19	-.13
OP	563382	C	22210	.54	.02	.11	.54	.32	.00	.00	.40	-.18	-.21	.40	-.24
OP	563383	B	22210	.79	.12	.79	.02	.06	.00	.00	.48	-.38	.48	-.22	-.16
OP	563384	A	22210	.80	.80	.02	.13	.06	.00	.00	.50	.50	-.16	-.34	-.27
OP	563392	A	22210	.76	.76	.21	.01	.02	.00	.00	.36	.36	-.30	-.15	-.12

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Grade 4 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	565129	C	22210	.80	.09	.07	.80	.05	.00	.00	.45	-.23	-.28	.45	-.21
OP	565176	C	22210	.86	.05	.06	.86	.03	.00	.00	.42	-.25	-.23	.42	-.23
OP	633075	B	22210	.57	.02	.57	.15	.25	.00	.00	.38	-.13	.38	-.14	-.27
OP	633077	B	22210	.72	.05	.72	.17	.05	.00	.00	.44	-.18	.44	-.26	-.25
OP	633081	A	22210	.68	.68	.04	.22	.06	.00	.00	.35	.35	-.16	-.21	-.19
OP	633087	D	22210	.61	.03	.19	.17	.61	.00	.00	.33	-.21	-.12	-.20	.33
OP	633088	B	22210	.59	.16	.59	.03	.23	.00	.00	.40	-.10	.40	-.20	-.30
OP	633093	C	22210	.59	.28	.05	.59	.08	.00	.00	.36	-.21	-.22	.36	-.12
OP	633098	B	22210	.81	.11	.81	.06	.03	.00	.00	.34	-.25	.34	-.12	-.17
OP	633099	B	22210	.57	.10	.57	.21	.12	.00	.00	.35	-.24	.35	-.17	-.09
OP	633102	C	22210	.87	.01	.11	.87	.02	.00	.00	.36	-.17	-.27	.36	-.18
OP	633106	C	22210	.73	.11	.08	.73	.08	.00	.00	.41	-.22	-.25	.41	-.16
OP	633107	A	22210	.82	.82	.03	.08	.06	.00	.00	.32	.32	-.09	-.24	-.17
OP	633111	D	22210	.61	.09	.22	.08	.61	.00	.00	.37	-.17	-.15	-.25	.37
OP	633114	C	22210	.51	.12	.32	.51	.04	.00	.00	.33	-.25	-.08	.33	-.22
OP	645682	D	22210	.52	.40	.07	.02	.52	.00	.00	.33	-.16	-.20	-.23	.33
OP	645684	C	22210	.57	.21	.08	.57	.14	.00	.00	.45	-.24	-.23	.45	-.19
OP	645686	C	22210	.59	.14	.17	.59	.10	.00	.00	.52	-.28	-.23	.52	-.24
OP	645688	A	22210	.84	.84	.06	.07	.03	.00	.00	.47	.47	-.24	-.28	-.25
OP	645690	D	22210	.55	.13	.21	.10	.55	.00	.00	.39	-.13	-.22	-.18	.39
OP	645692	B	22210	.84	.07	.84	.02	.07	.00	.00	.36	-.21	.36	-.15	-.22
OP	645696	C	22210	.75	.16	.06	.75	.02	.00	.00	.42	-.32	-.16	.42	-.15
OP	645698	D	22210	.90	.02	.03	.04	.90	.00	.00	.44	-.22	-.26	-.25	.44
OP	645699	A	22210	.67	.67	.11	.14	.08	.00	.00	.33	.33	-.24	-.11	-.15
OP	645701	A	22210	.49	.49	.30	.11	.09	.00	.00	.30	.30	.01	-.23	-.28
OP	645703	C	22210	.61	.09	.18	.61	.12	.00	.00	.42	-.20	-.17	.42	-.25
OP	645706	B	22210	.87	.03	.87	.04	.07	.00	.00	.34	-.18	.34	-.23	-.17
OP	645711	B	22210	.82	.05	.82	.07	.06	.00	.00	.43	-.25	.43	-.21	-.25
OP	645726	C	22210	.61	.15	.06	.61	.17	.00	.00	.37	-.18	-.15	.37	-.21
OP	645729	B	22210	.46	.21	.46	.20	.13	.00	.00	.42	-.21	.42	-.11	-.24
OP	645732	B	22210	.65	.08	.65	.12	.15	.00	.00	.47	-.24	.47	-.20	-.26
OP	645735	A	22210	.47	.47	.15	.22	.16	.00	.00	.50	.50	-.22	-.20	-.24
OP	645736	A	22210	.69	.69	.13	.12	.05	.00	.00	.53	.53	-.39	-.19	-.22
OP	645737	D	22210	.75	.06	.12	.07	.75	.00	.00	.42	-.21	-.27	-.16	.42
OP	645738	C	22210	.50	.22	.12	.50	.16	.00	.00	.37	-.06	-.20	.37	-.25
FT	658191	A	5500	.62	.62	.09	.19	.10	.00	.00	.32	.32	-.15	-.08	-.27
FT	658192	B	5500	.85	.04	.85	.04	.07	.00	.00	.44	-.22	.44	-.25	-.25
FT	658193	B	5500	.56	.33	.56	.05	.05	.00	.00	.42	-.22	.42	-.21	-.27
FT	658195	C	5500	.76	.11	.06	.76	.07	.00	.00	.49	-.24	-.24	.49	-.29
FT	658197	A	5500	.89	.89	.02	.07	.02	.00	.00	.39	.39	-.19	-.27	-.20

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Grade 4 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	658198	C	5500	.56	.28	.11	.56	.05	.00	.00	.38	-.16	-.17	.38	-.29
FT	658200	D	5500	.56	.07	.30	.07	.56	.00	.00	.37	-.30	-.10	-.23	.37
FT	658201	D	5500	.75	.07	.10	.08	.75	.00	.00	.46	-.20	-.25	-.26	.46
FT	658202	D	5500	.72	.08	.05	.15	.72	.00	.00	.47	-.21	-.26	-.27	.47
FT	658203	A	5500	.84	.84	.08	.02	.06	.00	.00	.38	.38	-.18	-.19	-.27
FT	658204	D	4164	.60	.29	.03	.08	.60	.00	.00	.21	-.07	-.17	-.16	.21
FT	658205	D	4164	.65	.05	.05	.25	.65	.00	.00	.16	-.10	-.17	-.04	.16
FT	658206	A	4164	.93	.93	.02	.03	.02	.00	.00	.34	.34	-.15	-.23	-.19
FT	658207	C	4164	.92	.04	.02	.92	.02	.00	.00	.37	-.24	-.20	.37	-.19
FT	658208	B	4164	.78	.04	.78	.14	.03	.00	.00	.44	-.23	.44	-.27	-.24
FT	658209	B	4164	.71	.16	.71	.03	.10	.00	.00	.38	-.21	.38	-.18	-.22
FT	658210	A	4164	.70	.70	.05	.25	.01	.00	.00	.22	.22	-.29	-.07	-.11
FT	658211	B	4164	.48	.20	.48	.19	.14	.00	.00	.26	-.05	.26	-.19	-.11
FT	658214	A	4164	.76	.76	.04	.16	.04	.00	.00	.35	.35	-.18	-.21	-.18
FT	658215	C	4164	.52	.08	.28	.52	.13	.00	.00	.36	-.19	-.13	.36	-.22
FT	658216	B	4110	.79	.09	.79	.04	.09	.00	.00	.31	-.14	.31	-.20	-.18
FT	658217	C	4110	.60	.09	.27	.60	.04	.00	.00	.46	-.24	-.28	.46	-.19
FT	658220	B	4110	.75	.08	.75	.03	.14	.00	.00	.35	-.19	.35	-.18	-.19
FT	658221	B	4110	.92	.02	.92	.04	.02	.00	.00	.34	-.16	.34	-.22	-.20
FT	658222	D	4110	.86	.08	.03	.03	.86	.00	.00	.40	-.23	-.26	-.21	.40
FT	658223	D	4110	.83	.05	.08	.04	.83	.00	.00	.48	-.28	-.26	-.24	.48
FT	658224	C	4110	.68	.07	.14	.68	.11	.00	.00	.46	-.34	-.18	.46	-.21
FT	658226	A	4110	.88	.88	.08	.04	.01	.00	.00	.42	.42	-.30	-.23	-.16
FT	658227	D	4110	.77	.08	.08	.07	.77	.00	.00	.39	-.19	-.20	-.22	.39
FT	658228	A	4110	.68	.68	.15	.08	.09	.00	.00	.35	.35	-.14	-.22	-.19
FT	658229	A	4211	.76	.76	.02	.03	.19	.00	.00	.25	.25	-.15	-.20	-.13
FT	658230	D	4211	.42	.08	.19	.31	.42	.00	.00	.31	-.15	-.13	-.13	.31
FT	658232	B	4211	.89	.05	.89	.03	.04	.00	.00	.44	-.26	.44	-.23	-.25
FT	658233	D	4211	.69	.13	.06	.12	.69	.00	.00	.38	-.21	-.21	-.17	.38
FT	658234	C	4211	.52	.22	.17	.52	.09	.00	.00	.41	-.23	-.15	.41	-.17
FT	658235	C	4211	.66	.06	.09	.66	.19	.00	.00	.33	-.13	-.22	.33	-.16
FT	658236	A	4211	.48	.48	.30	.14	.08	.00	.00	.34	.34	-.03	-.26	-.25
FT	658237	B	4211	.79	.04	.79	.06	.11	.00	.00	.43	-.18	.43	-.25	-.25
FT	658239	C	4211	.77	.04	.13	.77	.06	.00	.00	.36	-.17	-.20	.36	-.22
FT	658240	D	4211	.62	.02	.15	.21	.62	.00	.00	.42	-.22	-.25	-.20	.42
FT	658242	C	4224	.66	.17	.09	.66	.08	.00	.00	.34	-.13	-.21	.34	-.18
FT	658243	C	4224	.55	.06	.04	.55	.35	.00	.00	.27	-.21	-.20	.27	-.10
FT	658244	D	4224	.74	.14	.10	.02	.74	.00	.00	.34	-.14	-.26	-.17	.34
FT	658245	A	4224	.90	.90	.03	.01	.06	.00	.00	.43	.43	-.26	-.19	-.27
FT	658246	C	4224	.82	.02	.14	.82	.02	.00	.00	.31	-.21	-.17	.31	-.22

Grade 4 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	658247	B	4224	.45	.24	.45	.19	.12	.00	.00	.29	-.01	.29	-.23	-.16
FT	658248	B	4224	.09	.20	.09	.04	.67	.00	.00	-.08	.01	-.08	-.13	.10
FT	658249	D	4224	.78	.11	.06	.04	.78	.00	.00	.40	-.25	-.24	-.14	.40
FT	658250	B	4224	.84	.06	.84	.05	.05	.00	.00	.37	-.18	.37	-.19	-.24
FT	658251	A	4224	.81	.81	.08	.05	.05	.00	.00	.40	.40	-.15	-.25	-.25

Grade 5

Grade 5 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	563579	A	21988	.58	.58	.21	.09	.13	.00	.00	.41	.41	-.20	-.21	-.19
OP	563581	D	21988	.54	.17	.08	.21	.54	.00	.00	.42	-.20	-.29	-.13	.42
OP	565321	D	21988	.53	.13	.25	.09	.53	.00	.00	.33	-.11	-.21	-.14	.33
OP	565324	B	21988	.63	.34	.63	.02	.02	.00	.00	.36	-.24	.36	-.21	-.23
OP	565325	A	21988	.83	.83	.05	.10	.02	.00	.00	.48	.48	-.29	-.28	-.24
OP	602474	C	21988	.67	.12	.15	.67	.06	.00	.00	.45	-.27	-.23	.45	-.19
OP	602475	C	21988	.77	.09	.10	.77	.04	.00	.00	.47	-.27	-.30	.47	-.16
OP	602477	B	21988	.52	.18	.52	.13	.18	.00	.00	.41	-.16	.41	-.21	-.19
OP	602478	D	21988	.68	.06	.05	.22	.68	.00	.00	.52	-.28	-.28	-.29	.52
OP	602479	B	21988	.68	.12	.68	.03	.17	.00	.00	.37	-.20	.37	-.25	-.17
OP	602481	A	21988	.80	.80	.10	.06	.05	.00	.00	.53	.53	-.28	-.34	-.26
OP	602483	C	21988	.77	.07	.07	.77	.09	.00	.00	.52	-.25	-.28	.52	-.30
OP	602484	C	21988	.48	.06	.11	.48	.35	.00	.00	.40	-.19	-.27	.40	-.14
OP	602485	B	21988	.56	.24	.56	.10	.09	.00	.00	.36	-.16	.36	-.21	-.15
OP	602488	A	21988	.74	.74	.02	.06	.17	.00	.00	.45	.45	-.25	-.10	-.36
OP	602489	B	21988	.72	.05	.72	.09	.15	.00	.00	.45	-.24	.45	-.25	-.22
OP	602490	A	21988	.89	.89	.03	.04	.04	.00	.00	.48	.48	-.23	-.27	-.29
OP	602491	D	21988	.79	.09	.05	.07	.79	.00	.00	.38	-.23	-.20	-.18	.38
OP	602492	D	21988	.83	.07	.07	.03	.83	.00	.00	.41	-.24	-.19	-.25	.41
OP	602493	B	21988	.65	.06	.65	.23	.05	.00	.00	.46	-.27	.46	-.21	-.28
OP	633281	A	21988	.54	.54	.15	.10	.21	.00	.00	.42	.42	-.31	-.26	-.04
OP	633283	C	21988	.82	.04	.09	.82	.04	.00	.00	.52	-.28	-.33	.52	-.24
OP	633284	B	21988	.62	.25	.62	.08	.06	.00	.00	.36	-.22	.36	-.17	-.14
OP	633291	B	21988	.86	.03	.86	.05	.06	.00	.00	.39	-.20	.39	-.31	-.13
OP	633293	C	21988	.70	.05	.09	.70	.17	.00	.00	.49	-.22	-.25	.49	-.29
OP	645744	A	21988	.68	.68	.08	.08	.15	.00	.00	.51	.51	-.22	-.26	-.28
OP	645746	D	21988	.79	.05	.13	.02	.79	.00	.00	.48	-.27	-.29	-.23	.48
OP	645747	A	21988	.65	.65	.07	.05	.22	.00	.00	.33	.33	-.30	-.22	-.07

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Grade 5 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	645750	C	21988	.73	.06	.03	.73	.18	.00	.00	.55	-.31	-.23	.55	-.34
OP	645751	D	21988	.85	.09	.05	.02	.85	.00	.00	.42	-.26	-.22	-.21	.42
OP	645755	D	21988	.47	.18	.15	.20	.47	.00	.00	.33	-.10	-.18	-.16	.33
OP	645756	C	21988	.87	.04	.04	.87	.05	.00	.00	.32	-.16	-.23	.32	-.14
OP	645757	C	21988	.66	.08	.12	.66	.14	.00	.00	.40	-.17	-.11	.40	-.31
OP	645763	B	21988	.64	.07	.64	.21	.08	.00	.00	.48	-.25	.48	-.25	-.23
OP	645764	A	21988	.70	.70	.10	.09	.10	.00	.00	.45	.45	-.13	-.27	-.28
OP	645769	A	21988	.73	.73	.06	.11	.11	.00	.00	.44	.44	-.20	-.21	-.28
OP	645772	D	21988	.82	.08	.08	.02	.82	.00	.00	.45	-.25	-.25	-.25	.45
OP	645773	C	21988	.91	.03	.03	.91	.04	.00	.00	.39	-.22	-.20	.39	-.22
OP	645774	B	21988	.45	.16	.45	.12	.27	.00	.00	.36	-.21	.36	-.09	-.17
OP	645775	A	21988	.69	.69	.05	.20	.06	.00	.00	.37	.37	-.16	-.25	-.15
OP	645776	D	21988	.76	.11	.11	.03	.76	.00	.00	.33	-.16	-.19	-.20	.33
OP	645777	A	21988	.66	.66	.09	.09	.16	.00	.00	.48	.48	-.23	-.25	-.24
OP	645822	C	21988	.71	.08	.05	.71	.16	.00	.00	.51	-.31	-.24	.51	-.25
OP	645823	A	21988	.63	.63	.07	.05	.25	.00	.00	.42	.42	-.24	-.26	-.19
OP	645824	D	21988	.62	.12	.21	.05	.62	.00	.00	.39	-.19	-.18	-.24	.39
OP	645825	C	21988	.62	.09	.19	.62	.10	.00	.00	.43	-.25	-.16	.43	-.24
OP	645828	B	21988	.56	.32	.56	.07	.04	.00	.00	.39	-.19	.39	-.22	-.23
OP	645829	B	21988	.74	.06	.74	.16	.04	.00	.00	.50	-.24	.50	-.34	-.17
FT	658253	D	5388	.55	.16	.10	.19	.55	.00	.00	.42	-.18	-.14	-.25	.42
FT	658256	B	5388	.59	.09	.59	.12	.20	.00	.00	.41	-.18	.41	-.13	-.26
FT	658257	D	5388	.55	.10	.13	.22	.55	.00	.00	.38	-.23	-.15	-.16	.38
FT	658258	A	5388	.63	.63	.11	.14	.12	.00	.00	.45	.45	-.23	-.20	-.24
FT	658259	A	5388	.51	.51	.22	.11	.15	.00	.00	.33	.33	-.08	-.21	-.18
FT	658260	D	5388	.50	.05	.34	.11	.50	.00	.00	.28	-.23	-.07	-.17	.28
FT	658261	A	5388	.46	.46	.30	.07	.16	.01	.00	.22	.22	.02	-.14	-.24
FT	658262	B	5388	.49	.42	.49	.05	.04	.00	.00	.42	-.22	.42	-.25	-.25
FT	658264	C	5388	.76	.16	.04	.76	.04	.00	.00	.37	-.20	-.22	.37	-.20
FT	658265	C	5388	.53	.24	.13	.53	.10	.00	.00	.44	-.12	-.26	.44	-.27
FT	658267	C	4253	.83	.11	.04	.83	.03	.00	.00	.34	-.20	-.16	.34	-.22
FT	658268	D	4253	.88	.02	.04	.06	.88	.00	.00	.42	-.25	-.16	-.29	.42
FT	658269	D	4253	.67	.21	.05	.07	.67	.00	.00	.42	-.28	-.19	-.16	.42
FT	658270	C	4253	.75	.17	.04	.75	.04	.00	.00	.32	-.12	-.27	.32	-.21
FT	658271	A	4253	.59	.59	.19	.07	.16	.00	.00	.39	.39	-.13	-.19	-.26
FT	658272	A	4253	.85	.85	.05	.05	.05	.00	.00	.46	.46	-.30	-.25	-.19
FT	658273	D	4253	.63	.12	.07	.18	.63	.00	.00	.39	-.12	-.25	-.22	.39
FT	658274	B	4253	.78	.08	.78	.09	.05	.00	.00	.42	-.21	.42	-.23	-.23
FT	658275	C	4253	.79	.05	.02	.79	.13	.00	.00	.40	-.20	-.19	.40	-.26
FT	658276	B	4253	.70	.15	.70	.08	.07	.00	.00	.28	-.05	.28	-.22	-.19

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Grade 5 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	658278	C	4074	.79	.03	.13	.79	.05	.00	.00	.44	-.22	-.26	.44	-.24
FT	658279	A	4074	.82	.82	.07	.06	.05	.00	.00	.35	.35	-.25	-.17	-.14
FT	658280	C	4074	.70	.05	.20	.70	.06	.00	.00	.42	-.19	-.22	.42	-.28
FT	658281	D	4074	.72	.10	.10	.08	.72	.00	.00	.40	-.23	-.17	-.22	.40
FT	658282	B	4074	.85	.04	.85	.06	.05	.00	.00	.41	-.22	.41	-.25	-.20
FT	658283	B	4074	.53	.19	.53	.12	.15	.00	.00	.34	-.15	.34	-.11	-.21
FT	658284	A	4074	.40	.40	.11	.18	.31	.00	.00	.27	.27	-.14	-.19	-.03
FT	658285	C	4074	.73	.10	.06	.73	.10	.00	.00	.30	-.03	-.23	.30	-.23
FT	658286	D	4074	.72	.14	.07	.07	.72	.00	.00	.41	-.22	-.17	-.25	.41
FT	658287	B	4074	.83	.03	.83	.06	.08	.00	.00	.37	-.22	.37	-.26	-.15
FT	658288	A	4149	.49	.49	.26	.10	.14	.00	.00	.25	.25	-.07	-.18	-.11
FT	658289	C	4149	.65	.05	.15	.65	.14	.00	.00	.42	-.21	-.30	.42	-.13
FT	658290	D	4149	.65	.11	.07	.17	.65	.00	.00	.30	-.15	-.15	-.15	.30
FT	658291	D	4149	.86	.03	.03	.08	.86	.00	.00	.39	-.18	-.22	-.24	.39
FT	658292	A	4149	.77	.77	.12	.06	.06	.00	.00	.48	.48	-.26	-.25	-.26
FT	658293	D	4149	.58	.20	.11	.11	.58	.00	.00	.37	-.13	-.18	-.24	.37
FT	658294	B	4149	.38	.27	.38	.03	.32	.00	.00	.25	-.15	.25	-.25	-.03
FT	658295	C	4149	.62	.11	.21	.62	.06	.00	.00	.39	-.16	-.20	.39	-.24
FT	658296	B	4149	.43	.32	.43	.12	.13	.00	.00	.29	-.14	.29	-.13	-.11
FT	658297	C	4149	.59	.05	.07	.59	.29	.00	.00	.21	-.15	-.13	.21	-.09
FT	658300	D	4122	.48	.39	.07	.06	.48	.00	.00	.26	-.01	-.20	-.30	.26
FT	658301	A	4122	.78	.78	.02	.14	.07	.00	.00	.30	.30	-.18	-.16	-.16
FT	658302	B	4122	.88	.09	.88	.02	.01	.00	.00	.35	-.27	.35	-.20	-.09
FT	658303	C	4122	.88	.03	.04	.88	.05	.00	.00	.39	-.18	-.17	.39	-.30
FT	658304	D	4122	.74	.03	.20	.03	.74	.00	.00	.25	-.22	-.10	-.20	.25
FT	658305	B	4122	.45	.28	.45	.06	.21	.00	.00	.25	.03	.25	-.28	-.17
FT	658306	C	4122	.75	.12	.08	.75	.06	.00	.00	.46	-.25	-.21	.46	-.26
FT	658307	A	4122	.55	.55	.08	.08	.29	.00	.00	.19	.19	-.20	-.14	-.01
FT	658308	B	4122	.81	.10	.81	.05	.04	.00	.00	.42	-.25	.42	-.21	-.23
FT	658984	A	4122	.86	.86	.02	.09	.03	.00	.00	.43	.43	-.21	-.30	-.21

Grade 6

Grade 6 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	563825	C	21655	.89	.05	.04	.89	.02	.00	.00	.50	-.32	-.28	.50	-.20
OP	563827	A	21655	.64	.64	.12	.05	.18	.00	.00	.43	.43	-.21	-.21	-.23
OP	563828	B	21655	.69	.07	.69	.17	.06	.00	.00	.39	-.24	.39	-.16	-.23
OP	563834	A	21655	.81	.81	.08	.09	.02	.00	.00	.53	.53	-.28	-.36	-.19
OP	563838	C	21655	.70	.11	.04	.70	.14	.00	.00	.36	-.16	-.14	.36	-.24
OP	563852	A	21655	.59	.59	.28	.03	.10	.00	.00	.33	.33	-.09	-.21	-.29
OP	563855	D	21655	.78	.02	.03	.17	.78	.00	.00	.31	-.15	-.16	-.21	.31
OP	563857	B	21655	.72	.10	.72	.13	.04	.00	.00	.42	-.26	.42	-.18	-.24
OP	563859	B	21655	.91	.03	.91	.03	.03	.00	.00	.43	-.24	.43	-.25	-.21
OP	563866	D	21655	.46	.12	.22	.20	.46	.00	.00	.40	-.07	-.25	-.19	.40
OP	565832	D	21655	.84	.12	.02	.03	.84	.00	.00	.38	-.29	-.14	-.17	.38
OP	632746	B	21655	.84	.03	.84	.05	.08	.00	.00	.48	-.24	.48	-.27	-.28
OP	632747	A	21655	.58	.58	.34	.05	.03	.00	.00	.54	.54	-.38	-.21	-.23
OP	632750	A	21655	.70	.70	.09	.09	.12	.00	.00	.38	.38	-.18	-.14	-.25
OP	632752	C	21655	.49	.23	.22	.49	.05	.00	.00	.32	-.07	-.23	.32	-.15
OP	632754	B	21655	.80	.07	.80	.10	.03	.00	.00	.56	-.30	.56	-.34	-.24
OP	632758	B	21655	.52	.31	.52	.04	.14	.00	.00	.43	-.33	.43	-.21	-.06
OP	632763	C	21655	.62	.04	.28	.62	.05	.00	.00	.41	-.09	-.26	.41	-.28
OP	632765	D	21655	.62	.25	.07	.05	.62	.00	.00	.50	-.32	-.15	-.28	.50
OP	632767	C	21655	.83	.05	.03	.83	.09	.00	.00	.52	-.27	-.27	.52	-.31
OP	632768	B	21655	.56	.07	.56	.03	.34	.00	.00	.43	-.24	.43	-.23	-.23
OP	632771	C	21655	.73	.13	.04	.73	.09	.00	.00	.47	-.19	-.20	.47	-.35
OP	632787	C	21655	.61	.12	.21	.61	.06	.00	.00	.39	-.16	-.22	.39	-.21
OP	632788	C	21655	.35	.23	.28	.35	.14	.00	.00	.32	-.15	-.10	.32	-.13
OP	632789	A	21655	.82	.82	.03	.08	.08	.00	.00	.51	.51	-.18	-.32	-.30
OP	632791	C	21655	.86	.07	.02	.86	.06	.00	.00	.43	-.30	-.19	.43	-.22
OP	632792	B	21655	.81	.11	.81	.03	.04	.00	.00	.47	-.32	.47	-.21	-.21
OP	632796	A	21655	.46	.46	.22	.17	.14	.00	.00	.38	.38	-.09	-.13	-.29
OP	645851	C	21655	.46	.06	.17	.46	.31	.00	.00	.43	-.17	-.28	.43	-.15
OP	645852	D	21655	.48	.43	.03	.06	.48	.00	.00	.40	-.23	-.17	-.23	.40
OP	645855	B	21655	.81	.09	.81	.09	.01	.00	.00	.37	-.12	.37	-.31	-.20
OP	645860	B	21655	.83	.06	.83	.06	.05	.00	.00	.46	-.23	.46	-.27	-.23
OP	645862	C	21655	.86	.06	.04	.86	.04	.00	.00	.49	-.29	-.27	.49	-.25
OP	645864	A	21655	.40	.40	.17	.11	.32	.00	.00	.33	.33	-.20	-.26	-.02
OP	645865	A	21655	.55	.55	.30	.11	.04	.00	.00	.33	.33	-.11	-.24	-.18
OP	645868	D	21655	.66	.13	.06	.14	.66	.00	.00	.50	-.17	-.23	-.36	.50
OP	645870	A	21655	.87	.87	.06	.05	.02	.00	.00	.36	.36	-.24	-.18	-.15
OP	645873	D	21655	.74	.09	.06	.11	.74	.00	.00	.41	-.24	-.22	-.19	.41

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Grade 6 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	645878	B	21655	.45	.05	.45	.29	.21	.00	.00	.47	-.24	.47	-.22	-.18
OP	645880	C	21655	.56	.12	.09	.56	.23	.00	.00	.38	-.16	-.05	.38	-.28
OP	645881	C	21655	.79	.04	.11	.79	.05	.00	.00	.43	-.26	-.21	.43	-.25
OP	645885	D	21655	.82	.07	.10	.02	.82	.00	.00	.34	-.28	-.12	-.16	.34
OP	645886	A	21655	.84	.84	.02	.12	.02	.00	.00	.46	.46	-.27	-.32	-.16
OP	645887	D	21655	.92	.02	.02	.04	.92	.00	.00	.43	-.25	-.24	-.25	.43
OP	645888	C	21655	.54	.13	.24	.54	.09	.00	.00	.38	-.16	-.20	.38	-.16
OP	645889	B	21655	.61	.16	.61	.14	.10	.00	.00	.49	-.30	.49	-.22	-.17
OP	645891	A	21655	.79	.79	.18	.02	.01	.00	.00	.42	.42	-.35	-.13	-.16
OP	645895	C	21655	.78	.12	.07	.78	.03	.00	.00	.44	-.27	-.21	.44	-.24
FT	658310	A	4172	.77	.77	.02	.12	.09	.00	.00	.41	.41	-.19	-.19	-.30
FT	658311	D	4172	.37	.14	.19	.30	.37	.00	.00	.42	-.23	-.29	-.01	.42
FT	658312	C	4172	.94	.02	.03	.94	.01	.00	.00	.40	-.16	-.30	.40	-.20
FT	658314	B	4172	.72	.08	.72	.15	.05	.00	.00	.43	-.24	.43	-.19	-.27
FT	658315	B	4172	.70	.05	.70	.14	.11	.00	.00	.42	-.26	.42	-.20	-.21
FT	658316	D	4172	.85	.04	.06	.05	.85	.00	.00	.51	-.25	-.27	-.32	.51
FT	658317	D	4172	.65	.09	.20	.06	.65	.00	.00	.33	-.27	-.10	-.16	.33
FT	658318	C	4172	.66	.02	.28	.66	.04	.00	.00	.21	-.20	-.07	.21	-.20
FT	658319	A	4172	.78	.78	.02	.19	.02	.00	.00	.31	.31	-.20	-.19	-.20
FT	658320	B	4172	.29	.16	.29	.14	.41	.00	.00	.20	-.17	.20	-.16	.06
FT	658322	D	5186	.89	.01	.05	.04	.89	.00	.00	.36	-.17	-.20	-.22	.36
FT	658323	A	5186	.85	.85	.09	.04	.03	.00	.00	.48	.48	-.30	-.25	-.22
FT	658324	B	5186	.69	.07	.69	.13	.11	.00	.00	.40	-.28	.40	-.19	-.14
FT	658325	B	5186	.64	.24	.64	.06	.06	.00	.00	.37	-.13	.37	-.28	-.22
FT	658326	D	5186	.89	.03	.03	.04	.89	.00	.00	.41	-.18	-.19	-.29	.41
FT	658327	C	5186	.53	.38	.05	.53	.03	.00	.00	.17	.01	-.22	.17	-.20
FT	658328	B	5186	.73	.02	.73	.21	.04	.00	.00	.41	-.20	.41	-.27	-.22
FT	658330	A	5186	.73	.73	.12	.06	.10	.00	.00	.45	.45	-.27	-.26	-.17
FT	658331	C	5186	.86	.06	.06	.86	.03	.00	.00	.42	-.25	-.23	.42	-.21
FT	658332	D	5186	.78	.04	.13	.05	.78	.00	.00	.32	-.20	-.10	-.26	.32
FT	658336	D	4087	.61	.12	.03	.23	.61	.00	.00	.18	-.09	-.14	-.07	.18
FT	658337	A	4087	.80	.80	.03	.04	.13	.00	.00	.31	.31	-.20	-.19	-.16
FT	658339	C	4087	.52	.29	.06	.52	.12	.00	.00	.30	-.06	-.15	.30	-.26
FT	658340	C	4087	.71	.05	.21	.71	.03	.00	.00	.42	-.19	-.30	.42	-.15
FT	658341	D	4087	.86	.04	.04	.07	.86	.00	.00	.44	-.19	-.23	-.30	.44
FT	658343	C	4087	.56	.23	.09	.56	.12	.00	.00	.41	-.22	-.17	.41	-.19
FT	658345	A	4087	.86	.86	.02	.06	.05	.00	.00	.39	.39	-.22	-.23	-.20
FT	658347	B	4087	.85	.08	.85	.05	.02	.00	.00	.39	-.20	.39	-.26	-.19
FT	658348	D	4087	.82	.07	.07	.05	.82	.00	.00	.39	-.19	-.22	-.21	.39
FT	658350	B	4087	.49	.07	.49	.28	.17	.00	.00	.35	-.20	.35	-.15	-.16

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Grade 6 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	658352	A	4129	.92	.92	.02	.03	.02	.00	.00	.35	.35	-.15	-.25	-.18
FT	658354	D	4129	.79	.10	.08	.03	.79	.00	.00	.33	-.19	-.14	-.22	.33
FT	658358	B	4129	.48	.06	.48	.17	.29	.00	.00	.32	-.22	.32	-.05	-.20
FT	658359	A	4129	.73	.73	.06	.04	.17	.00	.00	.32	.32	-.23	-.15	-.16
FT	658360	C	4129	.49	.46	.03	.49	.01	.00	.00	.16	-.06	-.21	.16	-.11
FT	658361	D	4129	.89	.04	.03	.04	.89	.00	.00	.45	-.26	-.24	-.25	.45
FT	658362	B	4129	.83	.08	.83	.06	.02	.00	.00	.44	-.31	.44	-.21	-.20
FT	658363	D	4129	.79	.05	.13	.03	.79	.00	.00	.40	-.22	-.23	-.22	.40
FT	658364	A	4129	.97	.97	.01	.03	.00	.00	.00	.19	.19	-.10	-.17	-.02
FT	658365	C	4129	.79	.05	.10	.79	.06	.00	.00	.35	-.21	-.11	.35	-.28
FT	658366	D	4078	.67	.05	.09	.18	.67	.00	.00	.43	-.23	-.13	-.29	.43
FT	658367	D	4078	.88	.01	.10	.01	.88	.00	.00	.37	-.20	-.26	-.20	.37
FT	658368	D	4078	.62	.08	.16	.13	.62	.00	.00	.38	-.17	-.20	-.19	.38
FT	658369	C	4078	.70	.02	.05	.70	.23	.00	.00	.44	-.17	-.29	.44	-.27
FT	658370	C	4078	.86	.03	.04	.86	.06	.00	.00	.36	-.21	-.22	.36	-.18
FT	658372	C	4078	.68	.07	.19	.68	.06	.00	.00	.39	-.20	-.19	.39	-.23
FT	658374	A	4078	.66	.66	.06	.22	.07	.00	.00	.44	.44	-.27	-.19	-.26
FT	658375	B	4078	.82	.04	.82	.08	.06	.00	.00	.39	-.26	.39	-.21	-.19
FT	658378	B	4078	.69	.18	.69	.09	.03	.00	.00	.34	-.06	.34	-.28	-.28
FT	658379	A	4078	.84	.84	.01	.05	.10	.00	.00	.53	.53	-.22	-.31	-.34

Grade 7

Grade 7 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	633154	C	21439	.74	.05	.10	.74	.10	.00	.00	.47	-.25	-.19	.47	-.29
OP	633155	A	21439	.64	.64	.10	.18	.08	.00	.00	.45	.45	-.22	-.23	-.22
OP	633157	D	21439	.72	.13	.07	.09	.72	.00	.00	.50	-.30	-.26	-.21	.50
OP	633160	A	21439	.72	.72	.06	.06	.17	.00	.00	.46	.46	-.27	-.27	-.22
OP	633161	C	21439	.74	.04	.19	.74	.04	.00	.00	.54	-.22	-.38	.54	-.23
OP	633165	B	21439	.70	.08	.70	.16	.07	.00	.00	.53	-.26	.53	-.32	-.23
OP	633171	C	21439	.47	.08	.20	.47	.25	.00	.00	.23	-.19	-.16	.23	.01
OP	633172	D	21439	.86	.09	.04	.01	.86	.00	.00	.49	-.33	-.28	-.19	.49
OP	633173	A	21439	.37	.37	.26	.19	.18	.00	.00	.42	.42	-.12	-.29	-.09
OP	633174	D	21439	.80	.03	.10	.07	.80	.00	.00	.47	-.19	-.30	-.25	.47
OP	633176	B	21439	.61	.12	.61	.03	.24	.00	.00	.37	-.34	.37	-.19	-.08
OP	633177	C	21439	.54	.18	.21	.54	.08	.00	.00	.46	-.29	-.14	.46	-.24
OP	633182	A	21439	.77	.77	.08	.09	.06	.00	.00	.54	.54	-.30	-.30	-.25

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Grade 7 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	633183	B	21439	.63	.12	.63	.14	.12	.00	.00	.41	-.16	.41	-.23	-.21
OP	633204	B	21439	.59	.07	.59	.12	.23	.00	.00	.46	-.20	.46	-.29	-.19
OP	633208	C	21439	.67	.03	.05	.67	.25	.00	.00	.42	-.23	-.30	.42	-.21
OP	633211	D	21439	.87	.02	.05	.06	.87	.00	.00	.50	-.23	-.30	-.29	.50
OP	633213	D	21439	.80	.13	.05	.03	.80	.00	.00	.52	-.34	-.29	-.21	.52
OP	633214	C	21439	.76	.05	.02	.76	.17	.00	.00	.43	-.19	-.21	.43	-.29
OP	633215	C	21439	.79	.05	.06	.79	.10	.00	.00	.48	-.27	-.25	.48	-.25
OP	645919	D	21439	.49	.09	.17	.25	.49	.00	.00	.35	-.22	-.08	-.18	.35
OP	645922	A	21439	.77	.77	.05	.09	.08	.00	.00	.38	.38	-.24	-.15	-.22
OP	645923	A	21439	.69	.69	.04	.23	.03	.00	.00	.40	.40	-.25	-.23	-.20
OP	645924	C	21439	.80	.06	.09	.80	.05	.00	.00	.44	-.22	-.24	.44	-.24
OP	645926	A	21439	.75	.75	.10	.09	.06	.00	.00	.46	.46	-.29	-.22	-.19
OP	645929	A	21439	.71	.71	.17	.11	.01	.00	.00	.37	.37	-.22	-.21	-.15
OP	645934	A	21439	.67	.67	.14	.09	.10	.00	.00	.34	.34	-.23	-.15	-.12
OP	645937	D	21439	.63	.09	.18	.10	.63	.00	.00	.47	-.14	-.26	-.29	.47
OP	645938	C	21439	.57	.24	.06	.57	.13	.00	.00	.38	-.14	-.27	.38	-.19
OP	645940	C	21439	.48	.10	.26	.48	.15	.00	.00	.38	-.13	-.15	.38	-.23
OP	645941	B	21439	.72	.06	.72	.15	.07	.00	.00	.44	-.23	.44	-.26	-.20
OP	645959	D	21439	.87	.01	.01	.11	.87	.00	.00	.37	-.18	-.17	-.28	.37
OP	645962	A	21439	.58	.58	.26	.12	.04	.00	.00	.44	.44	-.21	-.27	-.19
OP	645964	B	21439	.51	.24	.51	.20	.05	.00	.00	.44	-.20	.44	-.22	-.20
OP	645965	C	21439	.83	.02	.14	.83	.01	.00	.00	.38	-.15	-.32	.38	-.14
OP	645967	D	21439	.93	.01	.03	.03	.93	.00	.00	.42	-.20	-.25	-.24	.42
OP	645970	B	21439	.81	.09	.81	.03	.07	.00	.00	.41	-.22	.41	-.22	-.23
OP	646029	B	21439	.72	.10	.72	.05	.13	.00	.00	.38	-.19	.38	-.26	-.17
OP	646030	D	21439	.84	.04	.11	.02	.84	.00	.00	.47	-.16	-.37	-.22	.47
OP	646034	A	21439	.64	.64	.10	.09	.17	.00	.00	.50	.50	-.23	-.20	-.30
OP	646035	C	21439	.65	.09	.23	.65	.03	.00	.00	.41	-.18	-.23	.41	-.24
OP	646036	A	21439	.75	.75	.06	.06	.13	.00	.00	.53	.53	-.20	-.30	-.31
OP	646037	B	21439	.76	.14	.76	.04	.06	.00	.00	.38	-.18	.38	-.28	-.19
OP	646038	D	21439	.57	.16	.04	.23	.57	.00	.00	.46	-.22	-.29	-.22	.46
OP	646041	C	21439	.59	.17	.08	.59	.16	.00	.00	.46	-.25	-.25	.46	-.17
OP	646043	A	21439	.74	.74	.15	.06	.04	.00	.00	.49	.49	-.27	-.26	-.26
OP	646045	C	21439	.70	.12	.06	.70	.11	.00	.00	.45	-.23	-.27	.45	-.19
OP	646047	D	21439	.63	.02	.22	.12	.63	.00	.00	.39	-.14	-.15	-.32	.39
FT	658382	A	4145	.72	.72	.04	.16	.08	.00	.00	.21	.21	-.16	-.12	-.08
FT	658383	D	4145	.69	.20	.08	.03	.69	.00	.00	.39	-.19	-.26	-.19	.39
FT	658386	D	4145	.57	.09	.14	.20	.57	.00	.00	.48	-.23	-.29	-.17	.48
FT	658387	B	4145	.64	.22	.64	.09	.05	.00	.00	.41	-.18	.41	-.26	-.24
FT	658388	C	4145	.40	.16	.38	.40	.06	.00	.00	.05	-.01	.04	.05	-.17

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Grade 7 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	658389	B	4145	.31	.47	.31	.14	.07	.00	.00	.16	-.07	.16	-.01	-.14
FT	658390	B	4145	.65	.02	.65	.29	.04	.00	.00	.41	-.12	.41	-.29	-.24
FT	658391	A	4145	.54	.54	.18	.13	.14	.00	.00	.50	.50	-.20	-.24	-.26
FT	658393	C	4145	.76	.12	.06	.76	.05	.00	.00	.47	-.28	-.24	.47	-.23
FT	658394	A	4145	.69	.69	.16	.05	.11	.00	.00	.24	.24	-.12	-.22	-.07
FT	658397	D	4142	.41	.03	.08	.48	.41	.00	.00	.21	-.18	-.20	-.03	.21
FT	658400	B	4142	.87	.09	.87	.02	.02	.00	.00	.37	-.28	.37	-.19	-.14
FT	658401	A	4142	.87	.87	.08	.03	.02	.00	.00	.40	.40	-.27	-.21	-.19
FT	658404	C	4142	.60	.22	.07	.60	.10	.00	.00	.24	-.12	-.16	.24	-.08
FT	658405	A	4142	.90	.90	.06	.02	.02	.00	.00	.48	.48	-.37	-.22	-.18
FT	658406	C	4142	.77	.05	.04	.77	.15	.00	.00	.42	-.17	-.27	.42	-.26
FT	658407	B	4142	.71	.25	.71	.03	.01	.00	.00	.37	-.26	.37	-.24	-.15
FT	658408	A	4142	.80	.80	.04	.09	.07	.00	.00	.49	.49	-.21	-.29	-.28
FT	658409	D	4142	.51	.28	.14	.07	.51	.00	.00	.27	-.17	-.06	-.15	.27
FT	658410	D	4142	.69	.07	.12	.12	.69	.00	.00	.37	-.22	-.23	-.12	.37
FT	658413	C	4840	.69	.18	.09	.69	.04	.00	.00	.41	-.20	-.25	.41	-.20
FT	658414	C	4840	.58	.15	.20	.58	.06	.00	.00	.42	-.11	-.29	.42	-.18
FT	658417	A	4840	.89	.89	.04	.05	.02	.00	.00	.49	.49	-.29	-.31	-.18
FT	658418	A	4840	.37	.37	.42	.09	.12	.00	.00	.13	.13	.02	-.26	.01
FT	658420	C	4840	.60	.14	.12	.60	.14	.00	.00	.47	-.26	-.21	.47	-.19
FT	658421	D	4840	.80	.07	.07	.07	.80	.00	.00	.50	-.28	-.21	-.30	.50
FT	658422	D	4840	.65	.16	.16	.03	.65	.00	.00	.35	-.10	-.20	-.26	.35
FT	658424	B	4840	.60	.12	.60	.04	.23	.00	.00	.38	-.17	.38	-.22	-.19
FT	658427	D	4840	.33	.35	.06	.25	.33	.00	.00	.21	.00	-.19	-.11	.21
FT	658429	B	4840	.56	.06	.56	.05	.33	.00	.00	.41	-.28	.41	-.22	-.18
FT	658431	C	4127	.58	.08	.19	.58	.14	.00	.00	.14	-.23	-.14	.14	.15
FT	658433	C	4127	.73	.09	.04	.73	.15	.00	.00	.57	-.31	-.24	.57	-.34
FT	658434	A	4127	.73	.73	.12	.07	.08	.00	.00	.31	.31	-.23	-.09	-.15
FT	658435	C	4127	.80	.06	.03	.80	.11	.00	.00	.44	-.24	-.19	.44	-.27
FT	658436	B	4127	.29	.08	.29	.24	.39	.00	.00	.13	-.26	.13	-.03	.06
FT	658437	B	4127	.65	.13	.65	.07	.15	.00	.00	.47	-.25	.47	-.27	-.19
FT	658438	D	4127	.50	.29	.13	.08	.50	.00	.00	.26	.04	-.21	-.28	.26
FT	658439	D	4127	.84	.04	.09	.03	.84	.00	.00	.44	-.21	-.31	-.18	.44
FT	658440	B	4127	.47	.09	.47	.08	.36	.00	.00	.36	-.19	.36	-.22	-.13
FT	658441	A	4127	.80	.80	.12	.07	.01	.00	.00	.28	.28	-.14	-.19	-.16
FT	658442	B	4184	.40	.02	.40	.53	.05	.00	.00	-.12	-.06	-.12	.20	-.15
FT	658443	C	4184	.88	.02	.07	.88	.03	.00	.00	.47	-.21	-.35	.47	-.19
FT	658444	C	4184	.71	.14	.10	.71	.04	.00	.00	.28	-.09	-.28	.28	-.03
FT	658447	D	4184	.44	.10	.12	.34	.44	.00	.00	.45	-.14	-.28	-.19	.45
FT	658448	A	4184	.64	.64	.28	.05	.04	.00	.00	.30	.30	-.14	-.22	-.20

Grade 7 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	658450	B	4184	.63	.18	.63	.11	.08	.00	.00	.35	-.05	.35	-.33	-.18
FT	658451	D	4184	.40	.23	.18	.19	.40	.00	.00	.36	-.14	-.15	-.14	.36
FT	658452	A	4184	.71	.71	.04	.08	.18	.00	.00	.28	.28	-.19	-.28	-.04
FT	658453	B	4184	.77	.08	.77	.08	.08	.00	.00	.33	-.10	.33	-.30	-.13
FT	658454	C	4184	.62	.14	.07	.62	.17	.00	.00	.43	-.30	-.18	.43	-.15

Grade 8

Grade 8 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	564128	B	20996	.53	.21	.53	.03	.23	.00	.00	.21	-.06	.21	-.19	-.10
OP	564133	D	20996	.63	.15	.09	.13	.63	.00	.00	.43	-.12	-.27	-.25	.43
OP	564136	B	20996	.60	.03	.60	.02	.35	.00	.00	.45	-.16	.45	-.22	-.34
OP	564137	D	20996	.89	.04	.04	.03	.89	.00	.00	.40	-.22	-.18	-.25	.40
OP	564139	B	20996	.70	.15	.70	.04	.11	.00	.00	.38	-.12	.38	-.23	-.27
OP	564228	A	20996	.65	.65	.19	.10	.06	.00	.00	.45	.45	-.27	-.19	-.22
OP	564229	B	20996	.72	.10	.72	.11	.07	.00	.00	.50	-.21	.50	-.32	-.25
OP	564232	B	20996	.72	.07	.72	.05	.16	.00	.00	.41	-.21	.41	-.28	-.19
OP	564233	C	20996	.82	.03	.07	.82	.08	.00	.00	.42	-.20	-.21	.42	-.28
OP	564236	A	20996	.83	.83	.07	.06	.04	.00	.00	.51	.51	-.32	-.25	-.24
OP	564238	D	20996	.88	.01	.01	.10	.88	.00	.00	.32	-.17	-.20	-.21	.32
OP	564242	C	20996	.58	.04	.25	.58	.13	.00	.00	.45	-.20	-.24	.45	-.23
OP	564244	C	20996	.89	.03	.07	.89	.01	.00	.00	.36	-.21	-.24	.36	-.15
OP	633343	D	20996	.69	.07	.18	.06	.69	.00	.00	.40	-.16	-.24	-.22	.40
OP	633346	A	20996	.51	.51	.14	.29	.06	.00	.00	.33	.33	-.23	-.14	-.07
OP	633347	C	20996	.76	.14	.06	.76	.04	.00	.00	.37	-.19	-.27	.37	-.13
OP	633348	C	20996	.76	.06	.05	.76	.13	.00	.00	.34	-.21	-.25	.34	-.12
OP	633351	D	20996	.72	.15	.12	.02	.72	.00	.00	.44	-.18	-.31	-.23	.44
OP	633353	C	20996	.74	.07	.10	.74	.08	.00	.00	.53	-.38	-.22	.53	-.24
OP	633355	A	20996	.64	.64	.08	.19	.09	.00	.00	.26	.26	-.24	-.07	-.11
OP	633356	A	20996	.52	.52	.03	.24	.21	.00	.00	.37	.37	-.20	-.17	-.19
OP	633361	A	20996	.69	.69	.12	.05	.14	.00	.00	.52	.52	-.28	-.26	-.26
OP	633365	D	20996	.60	.04	.14	.21	.60	.00	.00	.42	-.21	-.30	-.13	.42
OP	633367	D	20996	.63	.08	.05	.24	.63	.00	.00	.37	-.24	-.27	-.12	.37
OP	633370	B	20996	.69	.15	.69	.09	.08	.00	.00	.41	-.25	.41	-.19	-.17
OP	633371	B	20996	.85	.05	.85	.05	.05	.00	.00	.46	-.25	.46	-.29	-.20
OP	633374	C	20996	.64	.16	.17	.64	.03	.00	.00	.36	-.12	-.23	.36	-.23
OP	633376	A	20996	.76	.76	.04	.12	.09	.00	.00	.45	.45	-.26	-.25	-.21

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Grade 8 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	633378	D	20996	.68	.13	.04	.15	.68	.00	.00	.44	-.23	-.28	-.19	.44
OP	633380	D	20996	.65	.02	.18	.14	.65	.00	.00	.35	-.25	-.07	-.28	.35
OP	633382	A	20996	.80	.80	.03	.13	.04	.00	.00	.49	.49	-.27	-.26	-.30
OP	633383	A	20996	.76	.76	.07	.09	.08	.00	.00	.41	.41	-.33	-.15	-.16
OP	645975	D	20996	.68	.05	.17	.10	.68	.00	.00	.41	-.23	-.23	-.17	.41
OP	645976	C	20996	.83	.05	.06	.83	.06	.00	.00	.46	-.25	-.25	.46	-.23
OP	645977	B	20996	.89	.04	.89	.03	.04	.00	.00	.41	-.27	.41	-.26	-.15
OP	645980	B	20996	.66	.08	.66	.12	.14	.00	.00	.44	-.25	.44	-.30	-.11
OP	645982	A	20996	.75	.75	.17	.04	.05	.00	.00	.45	.45	-.30	-.25	-.16
OP	645984	D	20996	.68	.14	.06	.11	.68	.00	.00	.41	-.12	-.23	-.29	.41
OP	646084	C	20996	.86	.03	.02	.86	.08	.00	.00	.37	-.25	-.24	.37	-.17
OP	646087	B	20996	.78	.17	.78	.03	.03	.00	.00	.45	-.33	.45	-.19	-.20
OP	646089	D	20996	.37	.25	.09	.29	.37	.00	.00	.33	-.18	-.16	-.08	.33
OP	646090	C	20996	.78	.07	.12	.78	.03	.00	.00	.49	-.23	-.32	.49	-.23
OP	646092	D	20996	.71	.14	.08	.06	.71	.00	.00	.55	-.29	-.27	-.31	.55
OP	646094	C	20996	.74	.17	.02	.74	.07	.00	.00	.46	-.26	-.21	.46	-.27
OP	646095	D	20996	.69	.07	.14	.09	.69	.00	.00	.56	-.23	-.35	-.26	.56
OP	646097	A	20996	.72	.72	.06	.07	.16	.00	.00	.51	.51	-.27	-.23	-.30
OP	646099	C	20996	.77	.02	.12	.77	.09	.00	.00	.41	-.23	-.24	.41	-.21
OP	646100	B	20996	.75	.07	.75	.05	.12	.00	.00	.46	-.26	.46	-.26	-.22
OP	646101	A	20996	.54	.54	.31	.06	.08	.00	.00	.37	.37	-.20	-.19	-.15
OP	646103	D	20996	.80	.14	.03	.02	.80	.00	.00	.53	-.37	-.25	-.22	.53
FT	658455	A	4128	.73	.73	.12	.06	.09	.00	.00	.53	.53	-.36	-.22	-.24
FT	658456	C	4128	.79	.03	.03	.79	.15	.00	.00	.48	-.20	-.24	.48	-.34
FT	658457	A	4128	.38	.38	.16	.27	.20	.00	.00	.32	.32	-.17	-.12	-.10
FT	658459	B	4128	.55	.35	.55	.05	.05	.00	.00	.33	-.15	.33	-.24	-.18
FT	658460	C	4128	.83	.12	.04	.83	.01	.00	.00	.42	-.30	-.24	.42	-.12
FT	658461	D	4128	.52	.04	.21	.23	.52	.00	.00	.43	-.13	-.32	-.13	.43
FT	658462	A	4128	.81	.81	.10	.07	.02	.00	.00	.43	.43	-.25	-.27	-.17
FT	658463	C	4128	.55	.06	.24	.55	.15	.00	.00	.43	-.11	-.19	.43	-.29
FT	658464	B	4128	.58	.10	.58	.08	.25	.00	.00	.37	-.30	.37	-.25	-.06
FT	658465	D	4128	.49	.12	.05	.34	.49	.00	.00	.33	-.24	-.33	-.03	.33
FT	658468	C	4038	.41	.43	.09	.41	.07	.00	.00	.29	-.14	-.11	.29	-.16
FT	658469	A	4038	.79	.79	.03	.04	.14	.00	.00	.45	.45	-.19	-.30	-.27
FT	658470	B	4038	.61	.10	.61	.08	.21	.00	.00	.29	-.12	.29	-.16	-.16
FT	658472	D	4038	.60	.10	.22	.07	.60	.00	.00	.36	-.13	-.16	-.28	.36
FT	658473	B	4038	.67	.09	.67	.06	.19	.00	.00	.31	-.12	.31	-.17	-.18
FT	658474	D	4038	.47	.06	.40	.07	.47	.00	.00	.30	-.19	-.15	-.13	.30
FT	658475	C	4038	.84	.03	.07	.84	.06	.00	.00	.34	-.19	-.14	.34	-.23
FT	658476	A	4038	.51	.51	.07	.06	.36	.00	.00	.21	.21	-.18	-.20	-.02

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Grade 8 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	658477	B	4038	.75	.09	.75	.14	.02	.00	.00	.42	-.29	.42	-.23	-.17
FT	658478	C	4038	.74	.15	.06	.74	.05	.00	.00	.34	-.04	-.32	.34	-.26
FT	658479	D	4082	.84	.03	.07	.05	.84	.00	.00	.44	-.21	-.25	-.25	.44
FT	658480	B	4082	.45	.09	.45	.33	.14	.00	.00	.27	-.19	.27	-.07	-.14
FT	658481	C	4082	.87	.04	.03	.87	.06	.00	.00	.42	-.27	-.24	.42	-.20
FT	658483	C	4082	.89	.04	.03	.89	.04	.00	.00	.41	-.24	-.24	.41	-.20
FT	658484	D	4082	.65	.18	.13	.04	.65	.00	.00	.38	-.20	-.14	-.30	.38
FT	658486	A	4082	.84	.84	.02	.12	.03	.00	.00	.41	.41	-.24	-.26	-.21
FT	658487	D	4082	.53	.24	.14	.09	.53	.00	.00	.40	-.08	-.25	-.28	.40
FT	658488	D	4082	.52	.04	.28	.17	.52	.00	.00	.25	-.28	-.04	-.14	.25
FT	658489	B	4082	.87	.05	.87	.07	.02	.00	.00	.42	-.20	.42	-.29	-.21
FT	658490	C	4082	.51	.28	.20	.51	.01	.00	.00	.21	-.11	-.09	.21	-.16
FT	658491	B	4049	.94	.02	.94	.03	.02	.00	.00	.35	-.21	.35	-.21	-.17
FT	658492	B	4049	.47	.06	.47	.30	.17	.00	.00	.32	-.09	.32	-.21	-.12
FT	658493	D	4049	.72	.10	.09	.09	.72	.00	.00	.46	-.31	-.22	-.17	.46
FT	658494	A	4049	.52	.52	.14	.23	.11	.00	.00	.17	.17	-.21	.01	-.05
FT	658495	C	4049	.74	.17	.06	.74	.04	.00	.00	.31	-.11	-.28	.31	-.17
FT	658496	A	4049	.80	.80	.05	.09	.06	.00	.00	.38	.38	-.28	-.23	-.11
FT	658497	D	4049	.78	.13	.06	.03	.78	.00	.00	.39	-.22	-.20	-.22	.39
FT	658498	B	4049	.30	.27	.30	.19	.25	.00	.00	.18	-.01	.18	-.13	-.07
FT	658499	C	4049	.85	.05	.02	.85	.08	.00	.00	.28	-.28	-.22	.28	-.04
FT	658501	D	4049	.70	.01	.24	.04	.70	.00	.00	.36	-.20	-.22	-.24	.36
FT	658502	A	4695	.66	.66	.26	.06	.01	.00	.00	.48	.48	-.29	-.31	-.17
FT	658503	D	4695	.82	.03	.10	.04	.82	.00	.00	.45	-.26	-.24	-.25	.45
FT	658504	C	4695	.82	.05	.08	.82	.05	.00	.00	.47	-.23	-.28	.47	-.23
FT	658505	B	4695	.70	.06	.70	.15	.09	.00	.00	.42	-.28	.42	-.19	-.19
FT	658506	D	4695	.86	.02	.06	.06	.86	.00	.00	.40	-.19	-.27	-.18	.40
FT	658507	B	4695	.49	.15	.49	.18	.17	.00	.00	.24	-.02	.24	-.08	-.19
FT	658508	A	4695	.54	.54	.19	.21	.05	.00	.00	.40	.40	-.28	-.08	-.23
FT	658509	A	4695	.77	.77	.07	.06	.09	.00	.00	.42	.42	-.27	-.26	-.14
FT	658510	B	4695	.81	.03	.81	.03	.13	.00	.00	.38	-.27	.38	-.25	-.17
FT	658511	D	4695	.71	.02	.21	.06	.71	.00	.00	.21	-.19	-.07	-.17	.21

Grade 11

Grade 11 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	564328	A	20920	.71	.71	.08	.13	.08	.00	.00	.43	.43	-.19	-.26	-.19
OP	564331	C	20920	.70	.03	.18	.70	.09	.00	.00	.55	-.20	-.34	.55	-.29
OP	564333	B	20920	.61	.07	.61	.08	.23	.00	.00	.40	-.20	.40	-.33	-.11
OP	564335	A	20920	.78	.78	.10	.08	.05	.00	.00	.57	.57	-.37	-.29	-.20
OP	564340	A	20920	.74	.74	.07	.07	.13	.00	.00	.53	.53	-.28	-.31	-.24
OP	564341	A	20920	.84	.84	.08	.03	.05	.00	.00	.54	.54	-.34	-.27	-.25
OP	564402	A	20920	.53	.53	.21	.11	.16	.00	.00	.35	.35	-.14	-.21	-.13
OP	564403	D	20920	.70	.06	.13	.11	.70	.00	.00	.60	-.26	-.33	-.31	.60
OP	564404	C	20920	.73	.04	.09	.73	.15	.00	.00	.44	-.24	-.24	.44	-.22
OP	564420	D	20920	.80	.07	.06	.07	.80	.00	.00	.57	-.30	-.31	-.28	.57
OP	565556	A	20920	.67	.67	.06	.10	.17	.00	.00	.45	.45	-.31	-.27	-.14
OP	565572	C	20920	.36	.38	.08	.36	.17	.00	.00	.31	-.06	-.22	.31	-.14
OP	632827	C	20920	.83	.07	.07	.83	.04	.00	.00	.42	-.18	-.26	.42	-.23
OP	632830	A	20920	.75	.75	.05	.17	.02	.00	.00	.42	.42	-.30	-.21	-.21
OP	632832	C	20920	.76	.08	.12	.76	.05	.00	.00	.34	-.17	-.18	.34	-.18
OP	632837	D	20920	.80	.08	.04	.08	.80	.00	.00	.53	-.26	-.25	-.33	.53
OP	632838	B	20920	.60	.22	.60	.11	.07	.00	.00	.46	-.25	.46	-.20	-.21
OP	632840	B	20920	.55	.11	.55	.21	.13	.00	.00	.44	-.24	.44	-.20	-.18
OP	632844	C	20920	.68	.19	.08	.68	.05	.00	.00	.57	-.40	-.24	.57	-.18
OP	632845	B	20920	.52	.34	.52	.05	.08	.00	.00	.37	-.22	.37	-.24	-.10
OP	632850	A	20920	.60	.60	.18	.15	.06	.00	.00	.39	.39	-.22	-.20	-.14
OP	632852	B	20920	.83	.06	.83	.05	.06	.00	.00	.44	-.23	.44	-.26	-.24
OP	646157	D	20920	.74	.10	.11	.04	.74	.00	.00	.54	-.21	-.34	-.30	.54
OP	646158	C	20920	.69	.16	.04	.69	.11	.00	.00	.45	-.20	-.28	.45	-.24
OP	646160	D	20920	.50	.17	.17	.16	.50	.00	.00	.39	-.11	-.27	-.13	.39
OP	646162	B	20920	.72	.10	.72	.07	.12	.00	.00	.40	-.26	.40	-.27	-.10
OP	646165	B	20920	.40	.24	.40	.29	.06	.00	.00	.33	-.19	.33	-.08	-.17
OP	646170	C	20920	.75	.08	.12	.75	.05	.00	.00	.43	-.23	-.26	.43	-.16
OP	646172	A	20920	.77	.77	.15	.07	.02	.00	.00	.53	.53	-.35	-.28	-.22
OP	646173	D	20920	.81	.03	.13	.02	.81	.00	.00	.49	-.24	-.32	-.25	.49
OP	646174	A	20920	.87	.87	.05	.05	.02	.00	.00	.49	.49	-.32	-.27	-.20
OP	646175	C	20920	.77	.07	.08	.77	.08	.00	.00	.45	-.23	-.28	.45	-.19
OP	646176	C	20920	.72	.06	.11	.72	.12	.00	.00	.53	-.31	-.32	.53	-.20
OP	646179	D	20920	.73	.08	.06	.13	.73	.00	.00	.49	-.31	-.23	-.24	.49
OP	646180	B	20920	.72	.12	.72	.13	.03	.00	.00	.40	-.27	.40	-.18	-.18
OP	646182	C	20920	.76	.06	.09	.76	.09	.00	.00	.45	-.23	-.23	.45	-.24
OP	646183	B	20920	.76	.04	.76	.05	.14	.00	.00	.52	-.26	.52	-.26	-.31
OP	646197	C	20920	.60	.18	.06	.60	.16	.00	.00	.38	-.16	-.17	.38	-.23

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Grade 11 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	646198	D	20920	.86	.06	.04	.04	.86	.00	.00	.31	-.13	-.20	-.18	.31
OP	646201	B	20920	.72	.09	.72	.09	.10	.00	.00	.45	-.30	.45	-.27	-.12
OP	646211	B	20920	.71	.15	.71	.06	.08	.00	.00	.31	-.14	.31	-.11	-.24
OP	646213	B	20920	.47	.17	.47	.30	.07	.00	.00	.24	-.16	.24	-.08	-.08
OP	646214	C	20920	.60	.12	.18	.60	.10	.00	.00	.24	-.08	-.17	.24	-.07
OP	646217	A	20920	.67	.67	.04	.07	.22	.00	.00	.49	.49	-.30	-.32	-.20
OP	646218	D	20920	.36	.29	.19	.16	.36	.00	.00	.32	-.13	-.11	-.13	.32
OP	646220	D	20920	.57	.13	.10	.19	.57	.00	.00	.44	-.21	-.21	-.20	.44
OP	646221	B	20920	.76	.05	.76	.11	.08	.00	.00	.44	-.25	.44	-.25	-.19
OP	646222	B	20920	.72	.05	.72	.04	.17	.00	.00	.54	-.26	.54	-.29	-.32
OP	646228	C	20920	.46	.17	.15	.46	.21	.00	.00	.32	-.21	-.13	.32	-.07
OP	646230	C	20920	.76	.13	.06	.76	.05	.00	.00	.55	-.30	-.30	.55	-.27
FT	658512	C	4109	.89	.03	.02	.89	.05	.00	.00	.32	-.20	-.17	.32	-.16
FT	658513	C	4109	.58	.21	.04	.58	.17	.00	.00	.42	-.25	-.21	.42	-.16
FT	658515	D	4109	.81	.11	.03	.05	.81	.00	.00	.51	-.30	-.24	-.29	.51
FT	658516	B	4109	.50	.06	.50	.25	.18	.00	.00	.41	-.30	.41	-.19	-.13
FT	658517	A	4109	.60	.60	.08	.25	.06	.00	.00	.28	.28	-.21	-.06	-.20
FT	658518	A	4109	.88	.88	.05	.04	.02	.00	.00	.43	.43	-.31	-.17	-.20
FT	658519	A	4109	.61	.61	.08	.25	.06	.00	.00	.33	.33	-.22	-.14	-.16
FT	658520	B	4109	.88	.04	.88	.04	.04	.00	.00	.42	-.26	.42	-.26	-.17
FT	658522	C	4109	.59	.13	.23	.59	.05	.00	.00	.40	-.23	-.20	.40	-.14
FT	658524	D	4109	.86	.06	.05	.03	.86	.00	.00	.41	-.16	-.28	-.26	.41
FT	658525	C	3977	.93	.02	.04	.93	.01	.00	.00	.36	-.23	-.24	.36	-.11
FT	658526	A	3977	.84	.84	.10	.03	.02	.00	.00	.28	.28	-.11	-.21	-.20
FT	658527	C	3977	.78	.11	.05	.78	.07	.00	.00	.44	-.22	-.28	.44	-.21
FT	658528	B	3977	.94	.04	.94	.02	.01	.00	.00	.31	-.20	.31	-.19	-.15
FT	658529	A	3977	.50	.50	.09	.18	.22	.00	.00	.29	.29	.05	-.05	-.33
FT	658530	D	3977	.60	.33	.03	.03	.60	.00	.00	.31	-.13	-.26	-.25	.31
FT	658531	B	3977	.58	.03	.58	.30	.08	.00	.00	.21	-.17	.21	-.06	-.17
FT	658532	D	3977	.65	.25	.04	.07	.65	.00	.00	.31	-.15	-.15	-.21	.31
FT	658533	D	3977	.83	.08	.05	.05	.83	.00	.00	.43	-.14	-.30	-.28	.43
FT	658535	D	3977	.72	.18	.06	.03	.72	.00	.00	.42	-.20	-.30	-.24	.42
FT	658536	B	4090	.69	.11	.69	.04	.16	.00	.00	.31	-.22	.31	-.30	-.04
FT	658537	D	4090	.72	.04	.18	.06	.72	.00	.00	.56	-.24	-.33	-.31	.56
FT	658539	D	4090	.46	.21	.16	.16	.46	.00	.00	.38	-.06	-.24	-.20	.38
FT	658541	C	4090	.80	.06	.05	.80	.09	.00	.00	.46	-.22	-.25	.46	-.27
FT	658542	A	4090	.77	.77	.09	.12	.02	.00	.00	.49	.49	-.24	-.31	-.24
FT	658543	D	4090	.65	.06	.09	.19	.65	.00	.00	.51	-.26	-.26	-.26	.51
FT	658544	B	4090	.46	.16	.46	.18	.21	.00	.00	.35	-.14	.35	-.15	-.16
FT	658545	B	4090	.23	.06	.23	.41	.31	.00	.00	-.05	-.15	-.05	.03	.09

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Grade 11 Reading

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	658546	A	4090	.71	.71	.19	.04	.06	.00	.00	.36	.36	-.13	-.28	-.22
FT	658547	C	4090	.57	.34	.05	.57	.04	.00	.00	.23	.01	-.31	.23	-.26
FT	658548	A	4107	.19	.19	.61	.12	.08	.00	.00	.05	.05	.13	-.22	-.04
FT	658549	B	4107	.20	.60	.20	.14	.05	.00	.00	.13	.02	.13	-.13	-.08
FT	658550	A	4107	.74	.74	.13	.05	.08	.00	.00	.36	.36	-.20	-.29	-.10
FT	658551	C	4107	.23	.45	.24	.23	.07	.00	.00	.12	.09	-.08	.12	-.23
FT	658552	D	4107	.61	.08	.15	.17	.61	.00	.00	.49	-.16	-.30	-.24	.49
FT	658553	C	4107	.59	.18	.10	.59	.12	.00	.00	.40	-.16	-.33	.40	-.10
FT	658554	B	4107	.39	.50	.39	.08	.04	.00	.00	.12	.07	.12	-.22	-.18
FT	658555	D	4107	.52	.09	.10	.30	.52	.00	.00	.18	-.26	-.09	.02	.18
FT	658556	D	4107	.36	.19	.09	.36	.36	.00	.00	.35	-.09	-.17	-.18	.35
FT	658558	B	4107	.39	.23	.39	.20	.19	.00	.00	.41	-.13	.41	-.27	-.10
FT	658559	C	4632	.57	.15	.22	.57	.06	.00	.00	.38	-.23	-.15	.38	-.17
FT	658560	A	4632	.67	.67	.07	.06	.20	.00	.00	.41	.41	-.25	-.30	-.13
FT	658561	C	4632	.76	.10	.09	.76	.05	.00	.00	.38	-.13	-.28	.38	-.19
FT	658562	B	4632	.83	.04	.83	.05	.09	.00	.00	.54	-.27	.54	-.31	-.30
FT	658563	A	4632	.83	.83	.07	.04	.05	.00	.00	.53	.53	-.32	-.26	-.27
FT	658564	A	4632	.47	.47	.24	.14	.15	.00	.00	.20	.20	.05	-.28	-.06
FT	658566	D	4632	.75	.05	.06	.13	.75	.00	.00	.49	-.26	-.31	-.22	.49
FT	658567	B	4632	.70	.07	.70	.15	.08	.00	.00	.38	-.20	.38	-.17	-.21
FT	658568	D	4632	.67	.10	.13	.10	.67	.00	.00	.55	-.23	-.32	-.27	.55
FT	658570	D	4632	.76	.07	.08	.09	.76	.00	.00	.58	-.27	-.30	-.31	.58

Appendix G: Mathematics Key Verification and Foil Analysis

Grade 3

Grade 3 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	599739	D	22756	.73	.10	.05	.12	.73	.00	.00	.42	-.29	-.23	-.16	.42
OP	599741	C	22756	.55	.10	.25	.55	.10	.00	.00	.40	-.22	-.12	.40	-.26
OP	599742	B	22756	.82	.05	.82	.11	.03	.00	.00	.41	-.21	.41	-.25	-.21
OP	599744	C	22756	.70	.15	.05	.70	.09	.00	.00	.44	-.19	-.20	.44	-.30
OP	599760	A	22756	.64	.64	.07	.21	.08	.00	.00	.45	.45	-.24	-.22	-.24
OP	599770	B	22756	.75	.09	.75	.08	.07	.00	.00	.55	-.32	.55	-.30	-.25
OP	599771	D	22756	.46	.22	.26	.05	.46	.00	.00	.38	-.22	-.11	-.22	.38
OP	599773	D	22756	.83	.03	.12	.02	.83	.00	.00	.42	-.23	-.29	-.16	.42
OP	599777	D	22756	.67	.07	.23	.03	.67	.00	.00	.42	-.20	-.29	-.15	.42
OP	599786	C	22756	.69	.06	.15	.69	.10	.00	.00	.45	-.23	-.16	.45	-.32
OP	599790	A	22756	.63	.63	.08	.08	.21	.00	.00	.45	.45	-.18	-.25	-.24
OP	599811	C	22756	.56	.20	.17	.56	.06	.00	.00	.45	-.21	-.22	.45	-.23
OP	599813	D	22756	.69	.06	.16	.09	.69	.00	.00	.38	-.24	-.14	-.23	.38
OP	599816	B	22756	.78	.10	.78	.06	.06	.00	.00	.31	-.14	.31	-.17	-.19
OP	599825	A	22756	.78	.78	.07	.08	.08	.00	.00	.38	.38	-.23	-.16	-.21
OP	599846	C	22756	.70	.03	.12	.70	.15	.00	.00	.46	-.26	-.26	.46	-.23
OP	599855	B	22756	.71	.25	.71	.02	.02	.00	.00	.57	-.47	.57	-.18	-.19
OP	599856	C	22756	.80	.04	.11	.80	.05	.00	.00	.51	-.26	-.37	.51	-.17
OP	599888	B	22756	.71	.25	.71	.02	.02	.00	.00	.56	-.52	.56	-.09	-.13
OP	599894	C	22756	.84	.06	.07	.84	.04	.00	.00	.47	-.31	-.24	.47	-.21
OP	599904	B	22756	.84	.04	.84	.03	.10	.00	.00	.40	-.22	.40	-.16	-.27
OP	599912	D	22756	.57	.27	.07	.09	.57	.00	.00	.37	-.23	-.16	-.15	.37
OP	600451	A	22756	.79	.79	.04	.14	.04	.00	.00	.39	.39	-.20	-.24	-.21
OP	600460	D	22756	.69	.04	.04	.23	.69	.00	.00	.41	-.25	-.14	-.27	.41
OP	600464	B	22756	.74	.19	.74	.03	.04	.00	.00	.52	-.37	.52	-.20	-.27
OP	600468	B	22756	.71	.11	.71	.11	.08	.00	.00	.46	-.30	.46	-.24	-.16
OP	600478	B	22756	.71	.16	.71	.10	.04	.00	.00	.43	-.25	.43	-.24	-.16
OP	600818	A	22756	.84	.84	.07	.06	.03	.00	.00	.35	.35	-.25	-.16	-.14
OP	603147	B	22756	.51	.05	.51	.05	.39	.00	.00	.51	-.10	.51	-.18	-.40
OP	603149	C	22756	.54	.11	.11	.54	.24	.00	.00	.35	-.08	-.09	.35	-.29
OP	603152	C	22756	.73	.04	.08	.73	.15	.00	.00	.46	-.20	-.24	.46	-.29
OP	633891	A	22756	.64	.64	.12	.14	.10	.00	.00	.50	.50	-.21	-.29	-.23
OP	633899	A	22756	.51	.51	.14	.13	.22	.00	.00	.61	.61	-.18	-.27	-.37
OP	646508	C	22756	.77	.12	.05	.77	.06	.00	.00	.55	-.36	-.26	.55	-.24
OP	646514	B	22756	.66	.05	.66	.11	.17	.00	.00	.45	-.19	.45	-.26	-.23

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Grade 3 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	646516	B	22756	.49	.21	.49	.06	.24	.00	.00	.53	-.29	.53	-.10	-.29
OP	646519	D	22756	.66	.12	.05	.17	.66	.00	.00	.52	-.21	-.30	-.29	.52
OP	646522	D	22756	.73	.21	.03	.03	.73	.00	.00	.58	-.46	-.21	-.19	.58
OP	646531	A	22756	.69	.69	.18	.05	.09	.00	.00	.37	.37	-.19	-.12	-.26
OP	646537	A	22756	.78	.78	.09	.06	.07	.00	.00	.40	.40	-.13	-.25	-.27
OP	646538	B	22756	.54	.39	.54	.03	.04	.00	.00	.33	-.15	.33	-.23	-.26
OP	646543	C	22756	.80	.07	.04	.80	.10	.00	.00	.38	-.20	-.17	.38	-.24
OP	646545	C	22756	.57	.14	.16	.57	.12	.00	.00	.49	-.42	-.23	.49	-.02
OP	646546	D	22756	.55	.30	.08	.07	.55	.00	.00	.45	-.30	-.11	-.22	.45
OP	646549	B	22756	.79	.08	.79	.04	.09	.00	.00	.49	-.23	.49	-.30	-.26
OP	646550	A	22756	.64	.64	.08	.25	.03	.00	.00	.40	.40	-.21	-.22	-.21
OP	646553	D	22756	.69	.06	.19	.06	.69	.00	.00	.43	-.23	-.29	-.13	.43
OP	646555	C	22756	.77	.11	.05	.77	.07	.00	.00	.45	-.28	-.26	.45	-.17
OP	646558	A	22756	.80	.80	.03	.06	.11	.00	.00	.55	.55	-.15	-.23	-.44
OP	646566	C	22756	.55	.19	.13	.55	.14	.00	.00	.48	-.15	-.23	.48	-.30
FT	659838	B	5783	.78	.11	.78	.06	.05	.00	.00	.43	-.19	.43	-.22	-.30
FT	659839	B	5708	.81	.07	.81	.05	.07	.00	.00	.45	-.25	.45	-.21	-.26
FT	659841	C	4192	.78	.01	.13	.78	.08	.00	.00	.43	-.18	-.33	.43	-.17
FT	659843	C	4217	.66	.23	.05	.66	.06	.00	.00	.33	-.14	-.21	.33	-.21
FT	659844	B	5700	.74	.09	.74	.07	.09	.00	.00	.52	-.30	.52	-.24	-.27
FT	659846	D	4378	.74	.05	.06	.16	.74	.00	.00	.44	-.17	-.17	-.33	.44
FT	659848	B	4290	.20	.08	.20	.18	.53	.00	.00	.35	-.07	.35	-.24	-.06
FT	659849	B	4240	.15	.36	.15	.15	.34	.00	.00	.23	-.06	.23	.05	-.16
FT	659850	B	4224	.48	.27	.48	.16	.09	.00	.00	.34	-.15	.34	-.12	-.20
FT	659852	B	4225	.64	.19	.64	.11	.07	.00	.00	.33	-.24	.33	-.12	-.12
FT	659854	D	4265	.76	.06	.04	.14	.76	.00	.00	.43	-.25	-.27	-.20	.43
FT	659855	B	4306	.74	.18	.74	.03	.06	.00	.00	.38	-.21	.38	-.21	-.23
FT	659856	D	4357	.63	.13	.19	.05	.63	.00	.00	.48	-.37	-.22	-.10	.48
FT	659857	D	4230	.68	.17	.08	.06	.68	.00	.00	.47	-.26	-.27	-.18	.47
FT	659859	B	4142	.48	.04	.48	.40	.07	.00	.00	.39	-.09	.39	-.21	-.28
FT	659860	C	5848	.58	.16	.10	.58	.16	.00	.00	.42	-.28	-.11	.42	-.19
FT	659861	D	4176	.85	.00	.11	.04	.85	.00	.00	.39	-.09	-.32	-.18	.39
FT	659862	A	4315	.58	.58	.16	.15	.12	.00	.00	.33	.33	-.19	-.15	-.12
FT	659863	C	5763	.52	.17	.15	.52	.16	.00	.00	.39	-.20	-.20	.39	-.14
FT	659864	D	4276	.73	.02	.08	.16	.73	.00	.00	.29	-.05	-.17	-.20	.29
FT	659866	B	4179	.65	.06	.65	.19	.10	.00	.00	.34	-.09	.34	-.19	-.22
FT	659867	A	4249	.65	.65	.11	.13	.11	.00	.00	.37	.37	-.14	-.17	-.24
FT	659868	C	4215	.66	.18	.09	.66	.07	.00	.00	.34	-.23	-.07	.34	-.20
FT	659870	A	5749	.82	.82	.14	.02	.02	.00	.00	.36	.36	-.28	-.12	-.16
FT	659871	B	4239	.81	.12	.81	.02	.04	.00	.00	.40	-.31	.40	-.16	-.15

Grade 3 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	659872	B	4248	.51	.36	.51	.12	.02	.00	.00	.37	-.25	.37	-.13	-.18
FT	659873	D	4242	.36	.37	.22	.04	.36	.00	.00	.18	-.02	-.16	-.05	.18
FT	659874	A	5657	.62	.62	.29	.04	.04	.00	.00	.33	.33	-.12	-.25	-.25
FT	659875	D	4260	.35	.37	.24	.04	.35	.00	.00	.24	-.01	-.18	-.16	.24
FT	659877	C	4273	.89	.05	.03	.89	.03	.00	.00	.30	-.19	-.20	.30	-.11
FT	659878	B	5727	.79	.10	.79	.05	.06	.00	.00	.45	-.22	.45	-.23	-.29
FT	659879	A	4230	.84	.84	.06	.07	.03	.00	.00	.31	.31	-.18	-.18	-.17
FT	659880	A	4280	.60	.60	.29	.03	.07	.00	.00	.42	.42	-.39	-.12	-.02
FT	659882	D	4331	.76	.13	.06	.05	.76	.00	.00	.46	-.35	-.15	-.19	.46
FT	659883	A	4207	.78	.78	.12	.07	.02	.00	.00	.25	.25	-.02	-.29	-.14
FT	659885	A	4268	.97	.97	.01	.01	.01	.00	.00	.20	.20	-.13	-.12	-.07
FT	659886	A	4310	.86	.86	.01	.11	.02	.00	.00	.22	.22	-.12	-.14	-.14
FT	659887	D	5787	.62	.04	.29	.05	.62	.00	.00	.35	-.15	-.21	-.20	.35
FT	659888	D	4230	.39	.22	.11	.27	.39	.00	.00	.37	-.30	-.13	-.04	.37
FT	659890	B	4204	.81	.10	.81	.06	.03	.00	.00	.42	-.27	.42	-.25	-.16
FT	659891	D	4328	.40	.09	.31	.20	.40	.00	.00	.24	-.31	-.05	-.01	.24
FT	659892	D	4210	.88	.04	.01	.07	.88	.00	.00	.22	-.12	-.14	-.12	.22
FT	659894	C	4262	.92	.04	.02	.92	.02	.00	.00	.32	-.20	-.18	.32	-.16
FT	659895	A	4172	.81	.81	.05	.09	.05	.00	.00	.42	.42	-.17	-.28	-.21
FT	659897	D	4350	.35	.07	.09	.49	.35	.00	.00	.20	-.22	-.18	.03	.20
FT	659898	D	4311	.88	.03	.07	.02	.88	.00	.00	.27	-.15	-.17	-.13	.27
FT	659899	A	5723	.78	.78	.06	.06	.10	.00	.00	.40	.40	-.18	-.20	-.25
FT	659900	B	4166	.53	.16	.53	.11	.19	.00	.00	.53	-.25	.53	-.19	-.28
FT	659902	D	4268	.28	.64	.01	.07	.28	.00	.00	.35	-.28	-.09	-.04	.35
FT	659903	C	4225	.43	.28	.24	.43	.05	.00	.00	.39	-.21	-.16	.39	-.15

Grade 4

Grade 4 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	599875	A	22240	.75	.75	.06	.15	.03	.00	.00	.59	.59	-.18	-.47	-.25
OP	603920	A	22240	.72	.72	.05	.02	.20	.00	.00	.47	.47	-.23	-.24	-.31
OP	603927	D	22240	.81	.10	.06	.03	.81	.00	.00	.49	-.33	-.28	-.15	.49
OP	603929	D	22240	.54	.37	.05	.04	.54	.00	.00	.49	-.33	-.18	-.24	.49
OP	603954	C	22240	.51	.28	.20	.51	.01	.00	.00	.41	-.32	-.14	.41	-.05
OP	603958	B	22240	.58	.23	.58	.15	.05	.00	.00	.40	-.18	.40	-.22	-.22
OP	603969	A	22240	.78	.78	.16	.04	.02	.00	.00	.39	.39	-.27	-.19	-.17
OP	603974	B	22240	.48	.19	.48	.25	.08	.00	.00	.42	-.16	.42	-.20	-.22

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Grade 4 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	603975	A	22240	.83	.83	.10	.02	.04	.00	.00	.38	.38	-.19	-.21	-.24
OP	603982	B	22240	.66	.17	.66	.09	.08	.00	.00	.50	-.24	.50	-.23	-.29
OP	604017	A	22240	.57	.57	.14	.12	.16	.00	.00	.63	.63	-.34	-.23	-.32
OP	604020	A	22240	.78	.78	.04	.06	.12	.00	.00	.41	.41	-.22	-.20	-.23
OP	604045	D	22240	.52	.12	.16	.19	.52	.00	.00	.51	-.30	-.22	-.18	.51
OP	604061	B	22240	.81	.14	.81	.02	.03	.00	.00	.54	-.43	.54	-.17	-.22
OP	604077	B	22240	.57	.18	.57	.17	.08	.00	.00	.40	-.28	.40	-.12	-.16
OP	604102	D	22240	.60	.13	.07	.20	.60	.00	.00	.53	-.34	-.27	-.19	.53
OP	604108	A	22240	.84	.84	.07	.03	.06	.00	.00	.40	.40	-.24	-.17	-.23
OP	604128	D	22240	.59	.11	.04	.25	.59	.00	.00	.49	-.45	-.21	-.13	.49
OP	604148	D	22240	.75	.10	.05	.10	.75	.00	.00	.55	-.44	-.24	-.17	.55
OP	634167	C	22240	.53	.09	.30	.53	.08	.00	.00	.36	-.21	-.18	.36	-.13
OP	634169	C	22240	.57	.13	.07	.57	.22	.00	.00	.48	-.24	-.21	.48	-.25
OP	634173	B	22240	.72	.04	.72	.16	.08	.00	.00	.55	-.09	.55	-.40	-.30
OP	634177	B	22240	.68	.21	.68	.03	.07	.00	.00	.46	-.34	.46	-.10	-.23
OP	634187	D	22240	.60	.23	.07	.10	.60	.00	.00	.60	-.53	-.15	-.10	.60
OP	634194	B	22240	.50	.05	.50	.21	.24	.00	.00	.46	-.10	.46	-.20	-.30
OP	634200	D	22240	.58	.13	.09	.19	.58	.00	.00	.40	-.20	-.18	-.19	.40
OP	634211	B	22240	.80	.09	.80	.08	.03	.00	.00	.35	-.21	.35	-.19	-.17
OP	634212	A	22240	.83	.83	.04	.06	.07	.00	.00	.50	.50	-.22	-.25	-.33
OP	634217	C	22240	.49	.29	.13	.49	.09	.00	.00	.46	-.16	-.31	.46	-.17
OP	634218	B	22240	.78	.06	.78	.09	.07	.00	.00	.36	-.24	.36	-.14	-.19
OP	646567	C	22240	.76	.07	.15	.76	.02	.00	.00	.45	-.33	-.27	.45	-.10
OP	646568	A	22240	.85	.85	.06	.04	.05	.00	.00	.42	.42	-.28	-.18	-.21
OP	646571	A	22240	.88	.88	.04	.03	.05	.00	.00	.40	.40	-.23	-.20	-.23
OP	646574	C	22240	.80	.06	.09	.80	.05	.00	.00	.43	-.28	-.30	.43	-.08
OP	646576	C	22240	.44	.30	.01	.44	.24	.00	.00	.59	-.32	-.06	.59	-.32
OP	646578	C	22240	.79	.11	.03	.79	.06	.00	.00	.44	-.25	-.20	.44	-.26
OP	646580	B	22240	.86	.02	.86	.04	.08	.00	.00	.53	-.14	.53	-.26	-.41
OP	646582	D	22240	.75	.05	.03	.17	.75	.00	.00	.40	-.16	-.19	-.28	.40
OP	646584	C	22240	.54	.16	.04	.54	.26	.00	.00	.48	-.43	-.16	.48	-.11
OP	646586	A	22240	.57	.57	.08	.25	.10	.00	.00	.45	.45	-.15	-.18	-.36
OP	646588	B	22240	.82	.05	.82	.11	.02	.00	.00	.54	-.20	.54	-.41	-.23
OP	646590	C	22240	.72	.01	.05	.72	.22	.00	.00	.36	-.11	-.12	.36	-.29
OP	646592	A	22240	.74	.74	.08	.13	.05	.00	.00	.40	.40	-.21	-.17	-.28
OP	646594	D	22240	.61	.19	.15	.06	.61	.00	.00	.36	-.27	-.13	-.10	.36
OP	646598	D	22240	.76	.00	.23	.01	.76	.00	.00	.34	-.12	-.29	-.13	.34
OP	646600	B	22240	.80	.02	.80	.15	.03	.00	.00	.44	-.18	.44	-.30	-.24
OP	646601	C	22240	.51	.37	.09	.51	.04	.00	.00	.46	-.27	-.23	.46	-.18
OP	646603	C	22240	.51	.08	.12	.51	.29	.00	.00	.42	-.10	-.18	.42	-.27

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Grade 4 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	646604	A	22240	.67	.67	.10	.08	.14	.00	.00	.43	.43	-.22	-.18	-.23
OP	646606	C	22240	.58	.23	.12	.58	.06	.00	.00	.46	-.28	-.30	.46	-.04
OP	646607	B	22240	.72	.09	.72	.12	.07	.00	.00	.58	-.25	.58	-.31	-.34
OP	646610	D	22240	.77	.10	.06	.06	.77	.00	.00	.35	-.15	-.21	-.21	.35
OP	646798	B	22240	.57	.39	.57	.02	.01	.00	.00	.45	-.39	.45	-.14	-.10
OP	646803	D	22240	.83	.06	.05	.06	.83	.00	.00	.46	-.23	-.24	-.28	.46
OP	646806	C	22240	.82	.03	.09	.82	.05	.00	.00	.34	-.16	-.22	.34	-.17
FT	659905	B	4195	.47	.33	.47	.04	.17	.00	.00	.34	-.01	.34	-.17	-.35
FT	659906	C	5552	.65	.10	.14	.65	.11	.00	.00	.42	-.17	-.23	.42	-.22
FT	659911	B	4195	.86	.05	.86	.04	.05	.00	.00	.39	-.21	.39	-.22	-.22
FT	659915	B	4204	.87	.05	.87	.04	.03	.00	.00	.41	-.24	.41	-.21	-.23
FT	659916	C	5586	.83	.04	.08	.83	.05	.00	.00	.44	-.26	-.26	.44	-.20
FT	659918	A	4145	.46	.46	.21	.07	.26	.00	.00	.54	.54	-.25	.00	-.38
FT	659919	B	5506	.71	.10	.71	.04	.15	.00	.00	.47	-.24	.47	-.14	-.32
FT	659921	C	4098	.86	.09	.02	.86	.03	.00	.00	.34	-.16	-.21	.34	-.22
FT	659922	C	4065	.75	.04	.12	.75	.08	.00	.00	.46	-.22	-.32	.46	-.17
FT	659923	B	4199	.66	.26	.66	.04	.04	.00	.00	.34	-.19	.34	-.19	-.21
FT	659924	D	5598	.65	.09	.15	.11	.65	.00	.00	.47	-.16	-.29	-.24	.47
FT	659926	B	4263	.88	.05	.88	.03	.03	.00	.00	.38	-.19	.38	-.17	-.28
FT	659927	B	4211	.72	.04	.72	.02	.21	.00	.00	.52	-.09	.52	-.08	-.49
FT	659928	C	5535	.93	.02	.02	.93	.03	.00	.00	.26	-.08	-.15	.26	-.19
FT	659932	B	4192	.59	.16	.59	.21	.04	.00	.00	.42	-.26	.42	-.21	-.13
FT	659935	D	4244	.71	.11	.07	.11	.71	.00	.00	.46	-.34	-.22	-.15	.46
FT	659937	B	4174	.50	.05	.50	.21	.24	.00	.00	.46	-.09	.46	-.19	-.31
FT	659939	B	5647	.56	.19	.56	.12	.13	.00	.00	.36	-.13	.36	-.24	-.14
FT	659941	C	4111	.53	.34	.03	.53	.09	.00	.00	.37	-.25	-.18	.37	-.12
FT	659943	A	4144	.79	.79	.09	.06	.06	.00	.00	.38	.38	-.24	-.17	-.19
FT	659945	D	4165	.55	.22	.14	.10	.55	.00	.00	.42	-.23	-.24	-.10	.42
FT	659946	D	4216	.71	.04	.07	.19	.71	.00	.00	.32	-.18	-.15	-.19	.32
FT	659947	B	5584	.61	.16	.61	.14	.09	.00	.00	.41	-.16	.41	-.22	-.23
FT	659949	B	4149	.81	.04	.81	.08	.07	.00	.00	.40	-.21	.40	-.21	-.23
FT	659950	D	4181	.69	.08	.08	.14	.69	.00	.00	.41	-.15	-.20	-.26	.41
FT	659951	B	5598	.39	.19	.39	.27	.15	.00	.00	.28	-.12	.28	-.14	-.06
FT	659953	D	4143	.53	.06	.02	.39	.53	.00	.00	.35	-.21	-.17	-.20	.35
FT	659955	B	4195	.74	.17	.74	.08	.01	.00	.00	.29	-.15	.29	-.19	-.19
FT	659957	A	4341	.82	.82	.16	.01	.02	.00	.00	.24	.24	-.19	-.13	-.09
FT	659960	D	4243	.70	.09	.12	.08	.70	.00	.00	.35	-.10	-.19	-.25	.35
FT	659961	A	4134	.59	.59	.06	.32	.03	.00	.00	.43	.43	-.34	-.24	-.09
FT	659963	D	4126	.75	.03	.13	.09	.75	.00	.00	.31	-.17	-.17	-.17	.31
FT	659965	C	4244	.45	.25	.16	.45	.14	.00	.00	.29	-.03	-.10	.29	-.27

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Grade 4 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	659966	C	4142	.82	.02	.09	.82	.07	.00	.00	.38	-.16	-.29	.38	-.16
FT	659967	D	4192	.70	.05	.15	.09	.70	.00	.00	.37	-.26	-.11	-.25	.37
FT	659969	D	4202	.29	.48	.16	.07	.29	.00	.00	.21	-.03	-.12	-.15	.21
FT	659970	B	4115	.49	.22	.49	.21	.09	.00	.00	.23	-.13	.23	-.05	-.14
FT	659971	C	5541	.54	.26	.10	.54	.10	.00	.00	.57	-.39	-.20	.57	-.18
FT	659972	C	4052	.76	.13	.09	.76	.02	.00	.00	.43	-.33	-.20	.43	-.09
FT	659974	B	5603	.40	.24	.40	.20	.16	.00	.00	.37	-.17	.37	-.19	-.08
FT	659976	B	4089	.63	.12	.63	.11	.14	.00	.00	.33	-.18	.33	-.13	-.18
FT	659977	B	4164	.77	.02	.77	.14	.08	.00	.00	.38	-.19	.38	-.30	-.13
FT	659978	B	4236	.91	.05	.91	.02	.02	.00	.00	.42	-.33	.42	-.21	-.14
FT	659979	B	4149	.59	.03	.59	.25	.12	.00	.00	.34	-.22	.34	-.20	-.13
FT	659980	A	4195	.92	.92	.03	.01	.03	.00	.00	.26	.26	-.17	-.08	-.16
FT	659982	B	4102	.53	.19	.53	.07	.21	.00	.00	.10	-.07	.10	-.11	.01
FT	659983	C	4054	.58	.18	.02	.58	.22	.00	.00	.36	-.29	-.18	.36	-.10
FT	659984	C	4163	.53	.32	.10	.53	.06	.00	.00	.17	.00	-.17	.17	-.16
FT	659985	A	4103	.91	.91	.06	.02	.02	.00	.00	.37	.37	-.27	-.20	-.14
FT	659987	A	4100	.90	.90	.06	.03	.01	.00	.00	.37	.37	-.25	-.23	-.14

Grade 5

Grade 5 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	603389	D	22028	.21	.13	.07	.59	.21	.00	.00	.25	-.36	-.17	.12	.25
OP	603400	C	22028	.87	.07	.03	.87	.03	.00	.00	.45	-.36	-.20	.45	-.15
OP	603407	C	22028	.71	.15	.09	.71	.05	.00	.00	.39	-.22	-.15	.39	-.27
OP	603415	A	22028	.69	.69	.11	.04	.15	.00	.00	.39	.39	-.30	-.24	-.10
OP	603427	B	22028	.61	.04	.61	.07	.29	.00	.00	.24	-.18	.24	-.22	-.06
OP	603429	D	22028	.76	.04	.03	.16	.76	.00	.00	.49	-.20	-.18	-.36	.49
OP	603432	B	22028	.55	.32	.55	.09	.04	.00	.00	.45	-.29	.45	-.20	-.13
OP	603439	B	22028	.62	.31	.62	.04	.04	.00	.00	.35	-.19	.35	-.20	-.21
OP	603440	A	22028	.83	.83	.11	.04	.02	.00	.00	.34	.34	-.17	-.25	-.19
OP	603447	C	22028	.68	.05	.10	.68	.17	.00	.00	.38	-.18	-.28	.38	-.14
OP	603454	C	22028	.71	.24	.02	.71	.03	.00	.00	.35	-.24	-.19	.35	-.17
OP	603458	A	22028	.89	.89	.04	.06	.02	.00	.00	.33	.33	-.20	-.22	-.10
OP	603459	D	22028	.60	.24	.12	.04	.60	.00	.00	.43	-.32	-.08	-.24	.43
OP	603488	A	22028	.69	.69	.15	.11	.05	.00	.00	.56	.56	-.30	-.33	-.22
OP	603495	A	22028	.58	.58	.27	.10	.06	.00	.00	.36	.36	-.23	-.16	-.13
OP	603508	A	22028	.55	.55	.27	.11	.07	.00	.00	.58	.58	-.26	-.42	-.17

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Grade 5 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	603544	A	22028	.93	.93	.02	.04	.01	.00	.00	.34	.34	-.17	-.23	-.17
OP	603546	A	22028	.82	.82	.06	.05	.06	.00	.00	.40	.40	-.22	-.25	-.17
OP	603576	D	22028	.66	.02	.30	.02	.66	.00	.00	.52	-.16	-.44	-.16	.52
OP	603579	A	22028	.69	.69	.04	.13	.14	.00	.00	.49	.49	-.23	-.14	-.38
OP	603623	B	22028	.78	.11	.78	.08	.03	.00	.00	.49	-.25	.49	-.33	-.20
OP	603627	C	22028	.60	.23	.14	.60	.03	.00	.00	.53	-.31	-.32	.53	-.10
OP	603631	C	22028	.80	.05	.11	.80	.04	.00	.00	.51	-.24	-.35	.51	-.22
OP	603653	C	22028	.74	.04	.15	.74	.07	.00	.00	.41	-.11	-.33	.41	-.16
OP	603678	B	22028	.70	.05	.70	.21	.04	.00	.00	.46	-.23	.46	-.34	-.11
OP	603683	A	22028	.83	.83	.10	.03	.05	.00	.00	.41	.41	-.21	-.21	-.27
OP	603689	C	22028	.71	.11	.03	.71	.16	.00	.00	.46	-.40	-.21	.46	-.14
OP	603703	C	22028	.65	.07	.14	.65	.13	.00	.00	.54	-.30	-.25	.54	-.28
OP	634224	B	22028	.52	.32	.52	.07	.09	.00	.00	.47	-.26	.47	-.25	-.17
OP	634227	A	22028	.69	.69	.03	.07	.20	.00	.00	.39	.39	-.17	-.06	-.33
OP	634233	C	22028	.62	.04	.32	.62	.02	.00	.00	.60	-.12	-.53	.60	-.13
OP	634242	D	22028	.49	.17	.27	.08	.49	.00	.00	.40	-.14	-.19	-.22	.40
OP	634254	B	22028	.68	.06	.68	.25	.02	.00	.00	.35	-.19	.35	-.22	-.14
OP	634260	D	22028	.70	.06	.21	.04	.70	.00	.00	.39	-.31	-.16	-.20	.39
OP	634285	D	22028	.64	.20	.12	.04	.64	.00	.00	.53	-.29	-.31	-.18	.53
OP	646613	C	22028	.65	.08	.13	.65	.13	.00	.00	.41	-.23	-.15	.41	-.23
OP	646616	D	22028	.69	.09	.14	.07	.69	.00	.00	.56	-.31	-.32	-.22	.56
OP	646618	D	22028	.68	.03	.26	.03	.68	.00	.00	.66	-.11	-.59	-.18	.66
OP	646620	C	22028	.66	.12	.11	.66	.11	.00	.00	.49	-.24	-.28	.49	-.21
OP	646621	A	22028	.62	.62	.25	.07	.06	.00	.00	.48	.48	-.27	-.21	-.26
OP	646624	C	22028	.43	.35	.17	.43	.06	.00	.00	.31	-.14	-.13	.31	-.16
OP	646627	B	22028	.49	.38	.49	.12	.01	.00	.00	.54	-.49	.54	-.07	-.11
OP	646629	D	22028	.68	.16	.09	.07	.68	.00	.00	.54	-.24	-.28	-.31	.54
OP	646631	D	22028	.52	.05	.04	.38	.52	.00	.00	.42	-.16	-.21	-.27	.42
OP	646632	A	22028	.80	.80	.06	.03	.11	.00	.00	.45	.45	-.28	-.25	-.22
OP	646635	A	22028	.73	.73	.12	.08	.06	.00	.00	.48	.48	-.40	-.13	-.17
OP	646638	C	22028	.79	.08	.11	.79	.02	.00	.00	.35	-.25	-.20	.35	-.08
OP	646640	D	22028	.84	.14	.01	.01	.84	.00	.00	.30	-.25	-.12	-.13	.30
OP	646645	D	22028	.46	.22	.23	.08	.46	.00	.00	.49	-.45	-.12	-.03	.49
OP	646648	B	22028	.72	.12	.72	.04	.11	.00	.00	.50	-.41	.50	-.21	-.14
OP	646650	B	22028	.82	.05	.82	.08	.05	.00	.00	.48	-.24	.48	-.27	-.27
OP	646655	A	22028	.47	.47	.08	.40	.06	.00	.00	.41	.41	-.16	-.22	-.23
OP	646658	B	22028	.60	.06	.60	.07	.27	.00	.00	.41	-.19	.41	-.24	-.22
OP	646666	D	22028	.60	.18	.07	.15	.60	.00	.00	.44	-.29	-.17	-.17	.44
OP	646667	B	22028	.51	.23	.51	.09	.16	.00	.00	.58	-.31	.58	-.24	-.25
FT	659988	D	4224	.80	.07	.04	.09	.80	.00	.00	.22	-.16	-.10	-.08	.22

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Grade 5 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	659989	D	4065	.74	.06	.09	.11	.74	.00	.00	.41	-.15	-.24	-.24	.41
FT	659990	B	4071	.79	.04	.79	.10	.07	.00	.00	.43	-.19	.43	-.25	-.24
FT	659991	B	5424	.62	.16	.62	.14	.08	.00	.00	.38	-.19	.38	-.20	-.15
FT	659992	C	4020	.32	.17	.12	.32	.39	.00	.00	.40	.02	-.02	.40	-.38
FT	659993	C	4082	.75	.07	.11	.75	.06	.00	.00	.28	-.17	-.18	.28	-.09
FT	659994	C	4146	.54	.06	.09	.54	.31	.00	.00	.37	-.17	-.19	.37	-.20
FT	659995	D	4161	.59	.08	.29	.04	.59	.00	.00	.39	-.20	-.28	-.07	.39
FT	659997	A	4055	.97	.97	.02	.00	.00	.00	.00	.18	.18	-.16	-.05	-.06
FT	659998	A	4136	.73	.73	.24	.02	.01	.00	.00	.27	.27	-.22	-.14	-.08
FT	659999	B	5549	.54	.16	.54	.24	.06	.00	.00	.33	-.04	.33	-.22	-.23
FT	660000	C	4159	.82	.06	.09	.82	.04	.00	.00	.44	-.28	-.32	.44	-.08
FT	660001	D	4259	.63	.04	.19	.14	.63	.00	.00	.46	-.21	-.25	-.24	.46
FT	660002	C	4054	.72	.14	.10	.72	.04	.00	.00	.43	-.27	-.25	.43	-.14
FT	660005	D	4085	.34	.30	.07	.29	.34	.00	.00	.22	.00	-.05	-.20	.22
FT	660006	B	4154	.83	.01	.83	.12	.04	.00	.00	.26	-.08	.26	-.24	-.08
FT	660007	B	4147	.83	.00	.83	.01	.15	.00	.00	.25	-.10	.25	-.01	-.24
FT	660008	A	4187	.74	.74	.08	.15	.03	.00	.00	.36	.36	-.21	-.22	-.13
FT	660009	B	4195	.29	.12	.29	.19	.40	.00	.00	-.09	-.12	-.09	.01	.16
FT	660010	A	4176	.39	.39	.22	.04	.36	.00	.00	.26	.26	-.14	-.15	-.08
FT	660011	D	5496	.39	.20	.17	.25	.39	.00	.00	.45	-.34	-.20	-.02	.45
FT	660012	B	4142	.71	.10	.71	.10	.09	.00	.00	.40	-.23	.40	-.21	-.18
FT	660013	A	4069	.74	.74	.01	.10	.15	.00	.00	.39	.39	-.10	-.09	-.38
FT	660014	C	5501	.36	.27	.23	.36	.14	.00	.00	.46	-.20	-.23	.46	-.09
FT	660016	B	5544	.63	.06	.63	.18	.13	.00	.00	.50	-.16	.50	-.23	-.33
FT	660017	C	4078	.30	.43	.09	.30	.19	.00	.00	.35	-.36	-.02	.35	.07
FT	660018	C	4093	.55	.10	.09	.55	.25	.00	.00	.30	-.25	-.22	.30	-.02
FT	660019	C	4163	.61	.21	.13	.61	.05	.00	.00	.32	-.19	-.18	.32	-.10
FT	660020	B	4137	.85	.04	.85	.07	.05	.00	.00	.42	-.21	.42	-.22	-.26
FT	660021	A	5494	.72	.72	.13	.05	.10	.00	.00	.49	.49	-.28	-.21	-.27
FT	660022	A	4218	.64	.64	.25	.06	.05	.00	.00	.44	.44	-.25	-.23	-.22
FT	660023	C	5516	.83	.07	.08	.83	.02	.00	.00	.49	-.28	-.33	.49	-.17
FT	660024	A	4095	.86	.86	.04	.06	.04	.00	.00	.43	.43	-.24	-.19	-.27
FT	660025	B	4136	.80	.06	.80	.06	.07	.00	.00	.34	-.20	.34	-.21	-.14
FT	660026	C	4215	.75	.08	.04	.75	.12	.00	.00	.51	-.30	-.18	.51	-.32
FT	660027	A	5375	.79	.79	.09	.07	.05	.00	.00	.46	.46	-.21	-.30	-.21
FT	660028	B	4070	.55	.05	.55	.28	.12	.00	.00	.45	-.21	.45	-.19	-.29
FT	660029	B	5555	.90	.02	.90	.05	.04	.00	.00	.34	-.18	.34	-.20	-.18
FT	660030	D	4193	.79	.08	.08	.06	.79	.00	.00	.29	-.12	-.17	-.17	.29
FT	660031	C	4111	.87	.03	.04	.87	.07	.00	.00	.29	-.17	-.09	.29	-.21
FT	660032	D	4217	.80	.05	.03	.12	.80	.00	.00	.35	-.18	-.17	-.23	.35

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Grade 5 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	660033	D	5516	.24	.33	.12	.31	.24	.00	.00	.29	-.33	-.22	.22	.29
FT	660034	A	4096	.41	.41	.16	.23	.21	.00	.00	.17	.17	.03	-.35	.12
FT	660035	B	4151	.28	.31	.28	.27	.15	.00	.00	.26	-.11	.26	-.16	.01
FT	660036	B	4086	.78	.13	.78	.04	.05	.00	.00	.31	-.20	.31	-.19	-.11
FT	660037	C	4234	.87	.02	.09	.87	.03	.00	.00	.36	-.16	-.27	.36	-.15
FT	660038	A	4019	.54	.54	.42	.02	.01	.00	.00	.24	.24	-.14	-.22	-.14
FT	660039	B	4119	.86	.08	.86	.03	.03	.00	.00	.35	-.22	.35	-.17	-.19
FT	660040	B	4087	.91	.07	.91	.01	.01	.00	.00	.27	-.18	.27	-.16	-.14
FT	660041	D	4160	.81	.02	.03	.13	.81	.00	.00	.37	-.17	-.12	-.29	.37

Grade 6

Grade 6 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	603161	A	21708	.72	.72	.15	.10	.03	.00	.00	.41	.41	-.24	-.24	-.14
OP	603174	B	21708	.76	.05	.76	.11	.08	.00	.00	.50	-.17	.50	-.26	-.35
OP	603180	B	21708	.59	.09	.59	.13	.19	.00	.00	.43	-.17	.43	-.22	-.23
OP	603183	B	21708	.70	.11	.70	.14	.04	.00	.00	.40	-.18	.40	-.29	-.12
OP	603184	C	21708	.65	.15	.14	.65	.07	.00	.00	.37	-.21	-.16	.37	-.17
OP	603191	B	21708	.74	.11	.74	.06	.09	.00	.00	.41	-.19	.41	-.28	-.19
OP	603214	A	21708	.69	.69	.18	.10	.04	.00	.00	.51	.51	-.26	-.32	-.21
OP	603228	B	21708	.77	.03	.77	.17	.03	.00	.00	.59	-.13	.59	-.53	-.16
OP	603237	D	21708	.62	.25	.08	.06	.62	.00	.00	.56	-.42	-.24	-.11	.56
OP	603243	D	21708	.89	.04	.03	.04	.89	.00	.00	.39	-.35	-.11	-.17	.39
OP	603247	A	21708	.79	.79	.04	.06	.10	.00	.00	.56	.56	-.22	-.25	-.39
OP	603264	B	21708	.57	.13	.57	.11	.18	.00	.00	.51	-.15	.51	-.25	-.31
OP	603267	C	21708	.57	.07	.06	.57	.29	.00	.00	.53	-.20	-.34	.53	-.28
OP	603273	B	21708	.82	.03	.82	.04	.11	.00	.00	.47	-.20	.47	-.24	-.31
OP	603277	A	21708	.67	.67	.11	.15	.07	.00	.00	.57	.57	-.26	-.31	-.30
OP	603283	D	21708	.55	.13	.11	.21	.55	.00	.00	.54	-.39	-.21	-.17	.54
OP	603285	C	21708	.68	.17	.06	.68	.09	.00	.00	.44	-.23	-.28	.44	-.20
OP	603295	A	21708	.72	.72	.11	.06	.11	.00	.00	.52	.52	-.18	-.32	-.32
OP	603305	C	21708	.68	.13	.09	.68	.09	.00	.00	.42	-.14	-.25	.42	-.25
OP	603308	C	21708	.72	.23	.01	.72	.04	.00	.00	.42	-.32	-.16	.42	-.18
OP	603315	D	21708	.67	.16	.12	.06	.67	.00	.00	.41	-.16	-.27	-.20	.41
OP	603319	B	21708	.72	.12	.72	.10	.07	.00	.00	.39	-.28	.39	-.25	-.05
OP	603332	C	21708	.58	.28	.09	.58	.05	.00	.00	.56	-.41	-.18	.56	-.19
OP	603346	A	21708	.48	.48	.28	.17	.07	.00	.00	.52	.52	-.29	-.20	-.21

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Grade 6 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	603364	A	21708	.55	.55	.15	.11	.19	.00	.00	.56	.56	-.19	-.22	-.36
OP	603366	D	21708	.60	.04	.31	.05	.60	.00	.00	.38	-.18	-.24	-.19	.38
OP	603379	A	21708	.85	.85	.03	.03	.09	.00	.00	.46	.46	-.22	-.28	-.27
OP	603384	C	21708	.69	.06	.02	.69	.23	.00	.00	.51	-.31	-.20	.51	-.31
OP	634376	B	21708	.57	.19	.57	.22	.03	.00	.00	.47	-.30	.47	-.23	-.12
OP	634401	C	21708	.68	.11	.03	.68	.19	.00	.00	.46	-.37	-.19	.46	-.18
OP	634408	C	21708	.63	.14	.04	.63	.19	.00	.00	.39	-.30	-.24	.39	-.09
OP	634409	B	21708	.66	.12	.66	.10	.11	.00	.00	.47	-.21	.47	-.28	-.21
OP	634433	C	21708	.55	.15	.26	.55	.04	.00	.00	.51	-.34	-.22	.51	-.17
OP	646672	A	21708	.82	.82	.04	.12	.01	.00	.00	.50	.50	-.34	-.32	-.16
OP	646674	D	21708	.74	.12	.05	.09	.74	.00	.00	.55	-.42	-.24	-.16	.55
OP	646677	A	21708	.66	.66	.16	.05	.14	.00	.00	.52	.52	-.27	-.17	-.32
OP	646680	A	21708	.66	.66	.14	.12	.07	.00	.00	.53	.53	-.37	-.27	-.13
OP	646683	A	21708	.78	.78	.04	.17	.01	.00	.00	.40	.40	-.30	-.22	-.18
OP	646688	D	21708	.81	.02	.02	.14	.81	.00	.00	.36	-.09	-.15	-.30	.36
OP	646693	D	21708	.44	.50	.03	.03	.44	.00	.00	.57	-.47	-.14	-.12	.57
OP	646694	C	21708	.56	.16	.19	.56	.09	.00	.00	.40	-.31	-.10	.40	-.15
OP	646695	D	21708	.88	.05	.02	.05	.88	.00	.00	.43	-.36	-.15	-.18	.43
OP	646697	C	21708	.83	.12	.04	.83	.02	.00	.00	.52	-.43	-.23	.52	-.10
OP	646699	B	21708	.66	.14	.66	.14	.07	.00	.00	.50	-.38	.50	-.26	-.06
OP	646701	B	21708	.64	.24	.64	.07	.05	.00	.00	.47	-.20	.47	-.32	-.27
OP	646706	B	21708	.70	.21	.70	.05	.04	.00	.00	.37	-.20	.37	-.23	-.19
OP	646707	B	21708	.50	.09	.50	.39	.01	.00	.00	.37	-.27	.37	-.19	-.12
OP	646709	D	21708	.76	.19	.03	.03	.76	.00	.00	.51	-.34	-.28	-.23	.51
OP	646712	A	21708	.89	.89	.04	.04	.02	.00	.00	.44	.44	-.23	-.27	-.23
OP	646713	D	21708	.69	.22	.06	.03	.69	.00	.00	.62	-.44	-.30	-.19	.62
OP	646714	D	21708	.61	.30	.05	.05	.61	.00	.00	.63	-.51	-.18	-.16	.63
OP	646718	D	21708	.63	.04	.04	.29	.63	.00	.00	.48	-.21	-.15	-.35	.48
OP	646720	B	21708	.69	.12	.69	.08	.10	.00	.00	.48	-.37	.48	-.17	-.16
OP	646721	C	21708	.80	.10	.06	.80	.04	.00	.00	.41	-.15	-.29	.41	-.26
OP	646724	B	21708	.71	.20	.71	.04	.05	.00	.00	.46	-.34	.46	-.09	-.26
OP	646727	D	21708	.70	.12	.11	.07	.70	.00	.00	.56	-.29	-.36	-.21	.56
OP	646728	C	21708	.80	.05	.10	.80	.05	.00	.00	.35	-.27	-.09	.35	-.24
OP	646729	D	21708	.67	.05	.23	.05	.67	.00	.00	.32	-.18	-.14	-.23	.32
FT	660042	A	4053	.81	.81	.03	.05	.11	.00	.00	.46	.46	-.23	-.27	-.26
FT	660043	B	4111	.85	.02	.85	.03	.09	.00	.00	.46	-.09	.46	-.13	-.44
FT	660046	D	4163	.80	.15	.02	.03	.80	.00	.00	.56	-.45	-.19	-.21	.56
FT	660048	D	4109	.62	.20	.12	.06	.62	.00	.00	.48	-.25	-.25	-.22	.48
FT	660049	B	4130	.74	.05	.74	.16	.05	.00	.00	.44	-.19	.44	-.29	-.21
FT	660050	C	4041	.58	.08	.09	.58	.25	.00	.00	.50	-.25	-.27	.50	-.23

Nebraska State Accountability 2013 Technical Report

Grade 6 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	660051	C	4058	.73	.07	.14	.73	.06	.00	.00	.39	-.14	-.26	.39	-.20
FT	660052	D	4163	.59	.21	.08	.11	.59	.00	.00	.38	-.12	-.23	-.23	.38
FT	660053	C	4062	.62	.05	.17	.62	.16	.00	.00	.40	-.14	-.34	.40	-.10
FT	660054	D	4025	.72	.06	.15	.08	.72	.00	.00	.50	-.19	-.33	-.25	.50
FT	660055	D	4044	.81	.05	.06	.09	.81	.00	.00	.43	-.18	-.24	-.27	.43
FT	660057	C	4121	.66	.09	.15	.66	.10	.00	.00	.37	-.21	-.18	.37	-.17
FT	660058	B	5330	.78	.11	.78	.08	.03	.00	.00	.44	-.17	.44	-.33	-.22
FT	660061	A	4090	.80	.80	.03	.04	.13	.00	.00	.51	.51	-.26	-.27	-.32
FT	660063	B	4246	.41	.20	.41	.27	.12	.00	.00	.32	-.12	.32	-.10	-.21
FT	660064	A	4084	.57	.57	.30	.06	.06	.00	.00	.14	.14	-.05	-.15	-.02
FT	660065	D	4097	.27	.65	.05	.03	.27	.00	.00	.26	-.11	-.15	-.16	.26
FT	660069	C	4092	.81	.14	.03	.81	.02	.00	.00	.32	-.25	-.06	.32	-.20
FT	660071	B	4070	.64	.13	.64	.13	.11	.00	.00	.31	-.15	.31	-.18	-.12
FT	660073	C	4126	.83	.00	.01	.83	.16	.00	.00	.27	-.07	-.14	.27	-.23
FT	660076	D	4076	.64	.09	.18	.08	.64	.00	.00	.56	-.23	-.41	-.17	.56
FT	660077	C	5363	.85	.01	.07	.85	.06	.00	.00	.37	-.15	-.30	.37	-.14
FT	660080	D	4081	.56	.34	.06	.04	.56	.00	.00	.58	-.47	-.17	-.14	.58
FT	660081	C	5210	.63	.08	.07	.63	.22	.00	.00	.46	-.25	-.21	.46	-.23
FT	660082	A	5219	.42	.42	.14	.11	.33	.00	.00	.30	.30	-.10	-.22	-.08
FT	660083	C	4061	.51	.20	.16	.51	.12	.00	.00	.36	-.23	-.13	.36	-.11
FT	660086	A	4027	.60	.60	.09	.14	.17	.00	.00	.47	.47	-.12	-.25	-.28
FT	660090	D	4159	.83	.02	.04	.12	.83	.00	.00	.30	-.18	-.08	-.24	.30
FT	660091	A	4098	.61	.61	.10	.24	.05	.00	.00	.18	.18	-.19	.02	-.20
FT	660092	B	4106	.47	.11	.47	.10	.31	.00	.00	.37	-.29	.37	-.20	-.06
FT	660093	D	4121	.81	.03	.09	.07	.81	.00	.00	.48	-.17	-.36	-.21	.48
FT	660094	A	4119	.71	.71	.08	.13	.07	.00	.00	.40	.40	-.27	-.15	-.23
FT	660095	B	5382	.66	.05	.66	.08	.20	.00	.00	.33	-.19	.33	-.18	-.15
FT	660096	C	4180	.56	.22	.16	.56	.06	.00	.00	.55	-.36	-.15	.55	-.30
FT	660097	B	5271	.76	.08	.76	.08	.08	.00	.00	.42	-.24	.42	-.24	-.18
FT	660098	D	5273	.57	.24	.09	.10	.57	.00	.00	.46	-.17	-.32	-.19	.46
FT	660099	D	4056	.37	.22	.25	.16	.37	.00	.00	.30	-.16	-.08	-.11	.30
FT	660102	C	4157	.83	.04	.05	.83	.09	.00	.00	.50	-.22	-.30	.50	-.29
FT	660105	D	4110	.67	.18	.07	.08	.67	.00	.00	.43	-.26	-.18	-.21	.43
FT	660107	B	4125	.87	.07	.87	.05	.01	.00	.00	.40	-.27	.40	-.21	-.17
FT	660108	D	4037	.69	.03	.03	.25	.69	.00	.00	.49	-.18	-.14	-.40	.49
FT	660109	B	4081	.58	.14	.58	.18	.10	.00	.00	.34	-.17	.34	-.12	-.21
FT	660110	C	4083	.57	.05	.27	.57	.11	.00	.00	.28	-.13	-.22	.28	-.04
FT	660113	A	4143	.36	.36	.11	.20	.33	.00	.00	.28	.28	-.10	-.22	-.04
FT	660114	A	4045	.61	.61	.09	.24	.06	.00	.00	.42	.42	-.12	-.28	-.21
FT	660116	D	5342	.61	.16	.10	.12	.61	.00	.00	.42	-.15	-.26	-.21	.42

Grade 6 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	660118	D	5333	.74	.14	.07	.04	.74	.00	.00	.56	-.36	-.32	-.17	.56
FT	660120	D	5350	.46	.10	.22	.22	.46	.00	.00	.38	-.21	-.10	-.20	.38
FT	660122	C	4095	.42	.44	.10	.42	.04	.00	.00	.51	-.37	-.13	.51	-.15
FT	660123	B	4137	.72	.14	.72	.10	.03	.00	.00	.29	-.19	.29	-.13	-.14

Grade 7

Grade 7 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	599955	B	21470	.64	.23	.64	.08	.05	.00	.00	.42	-.25	.42	-.28	-.09
OP	599964	B	21470	.86	.03	.86	.06	.05	.00	.00	.51	-.21	.51	-.33	-.29
OP	599969	C	21470	.52	.23	.12	.52	.14	.00	.00	.57	-.47	-.06	.57	-.20
OP	599999	C	21470	.73	.10	.11	.73	.05	.00	.00	.52	-.27	-.32	.52	-.20
OP	600012	D	21470	.66	.04	.08	.21	.66	.00	.00	.48	-.24	-.20	-.30	.48
OP	600014	B	21470	.73	.12	.73	.08	.07	.00	.00	.45	-.33	.45	-.22	-.13
OP	600019	A	21470	.59	.59	.14	.12	.15	.00	.00	.53	.53	-.19	-.23	-.33
OP	600020	B	21470	.58	.18	.58	.18	.06	.00	.00	.42	-.27	.42	-.20	-.11
OP	600029	A	21470	.85	.85	.09	.04	.02	.00	.00	.48	.48	-.33	-.26	-.16
OP	600032	A	21470	.68	.68	.07	.22	.04	.00	.00	.42	.42	-.27	-.22	-.21
OP	600035	C	21470	.89	.03	.05	.89	.03	.00	.00	.47	-.25	-.28	.47	-.24
OP	600036	D	21470	.79	.05	.11	.05	.79	.00	.00	.56	-.25	-.35	-.28	.56
OP	600048	A	21470	.59	.59	.24	.13	.04	.00	.00	.41	.41	-.26	-.17	-.15
OP	600075	B	21470	.63	.23	.63	.05	.08	.00	.00	.39	-.24	.39	-.20	-.16
OP	600077	D	21470	.61	.28	.05	.05	.61	.00	.00	.49	-.30	-.21	-.25	.49
OP	600081	A	21470	.87	.87	.05	.03	.05	.00	.00	.43	.43	-.30	-.24	-.18
OP	600087	A	21470	.79	.79	.12	.05	.05	.00	.00	.42	.42	-.19	-.28	-.23
OP	600879	D	21470	.89	.03	.05	.02	.89	.00	.00	.38	-.20	-.28	-.13	.38
OP	634515	B	21470	.70	.09	.70	.16	.05	.00	.00	.59	-.19	.59	-.49	-.16
OP	634519	B	21470	.67	.13	.67	.10	.11	.00	.00	.60	-.33	.60	-.34	-.23
OP	634524	B	21470	.65	.05	.65	.08	.22	.00	.00	.52	-.20	.52	-.23	-.34
OP	634528	A	21470	.80	.80	.02	.03	.15	.00	.00	.43	.43	-.17	-.22	-.31
OP	634529	C	21470	.71	.02	.20	.71	.06	.00	.00	.44	-.22	-.33	.44	-.13
OP	634531	C	21470	.81	.12	.03	.81	.04	.00	.00	.53	-.40	-.23	.53	-.20
OP	634534	B	21470	.49	.14	.49	.07	.30	.00	.00	.44	-.05	.44	-.10	-.38
OP	634535	D	21470	.77	.05	.14	.04	.77	.00	.00	.45	-.19	-.35	-.13	.45
OP	634538	C	21470	.68	.02	.04	.68	.26	.00	.00	.35	-.17	-.12	.35	-.26
OP	634546	D	21470	.56	.06	.18	.19	.56	.00	.00	.49	-.27	-.30	-.15	.49
OP	634552	D	21470	.66	.05	.06	.23	.66	.00	.00	.51	-.26	-.23	-.30	.51

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Grade 7 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	634557	D	21470	.53	.08	.10	.29	.53	.00	.00	.50	-.24	-.34	-.18	.50
OP	634566	A	21470	.90	.90	.04	.04	.02	.00	.00	.48	.48	-.29	-.30	-.21
OP	634576	C	21470	.78	.13	.04	.78	.06	.00	.00	.45	-.38	-.11	.45	-.17
OP	634584	A	21470	.42	.42	.31	.24	.02	.00	.00	.49	.49	-.34	-.13	-.18
OP	634586	D	21470	.64	.06	.05	.25	.64	.00	.00	.39	-.22	-.14	-.24	.39
OP	646868	D	21470	.68	.17	.09	.06	.68	.00	.00	.59	-.27	-.32	-.34	.59
OP	646870	D	21470	.76	.08	.07	.08	.76	.00	.00	.61	-.24	-.32	-.39	.61
OP	646871	D	21470	.67	.13	.07	.13	.67	.00	.00	.51	-.32	-.17	-.26	.51
OP	646873	C	21470	.56	.14	.19	.56	.11	.00	.00	.50	-.08	-.37	.50	-.23
OP	646875	B	21470	.58	.16	.58	.22	.04	.00	.00	.51	-.24	.51	-.30	-.17
OP	646881	A	21470	.53	.53	.27	.10	.11	.00	.00	.40	.40	-.14	-.14	-.31
OP	646883	A	21470	.79	.79	.11	.07	.03	.00	.00	.50	.50	-.36	-.26	-.15
OP	646889	C	21470	.87	.02	.10	.87	.01	.00	.00	.38	-.14	-.32	.38	-.13
OP	646890	D	21470	.67	.03	.20	.10	.67	.00	.00	.51	-.25	-.30	-.26	.51
OP	646891	D	21470	.83	.03	.02	.12	.83	.00	.00	.40	-.26	-.19	-.24	.40
OP	646894	D	21470	.55	.20	.15	.10	.55	.00	.00	.42	-.22	-.19	-.18	.42
OP	646897	C	21470	.40	.15	.39	.40	.06	.00	.00	.40	-.23	-.19	.40	-.08
OP	646899	C	21470	.55	.36	.06	.55	.03	.00	.00	.40	-.24	-.26	.40	-.13
OP	646900	C	21470	.47	.11	.05	.47	.37	.00	.00	.48	-.28	-.24	.48	-.21
OP	646902	B	21470	.59	.10	.59	.07	.24	.00	.00	.39	-.29	.39	-.26	-.09
OP	646907	A	21470	.59	.59	.07	.31	.02	.00	.00	.52	.52	-.22	-.36	-.18
OP	646909	A	21470	.85	.85	.06	.07	.02	.00	.00	.53	.53	-.33	-.33	-.19
OP	646910	C	21470	.81	.04	.08	.81	.08	.00	.00	.51	-.20	-.34	.51	-.26
OP	646911	A	21470	.67	.67	.20	.09	.04	.00	.00	.41	.41	-.16	-.31	-.20
OP	646912	A	21470	.43	.43	.12	.37	.08	.00	.00	.38	.38	-.15	-.21	-.14
OP	646915	B	21470	.66	.09	.66	.15	.10	.00	.00	.42	-.23	.42	-.22	-.18
OP	646918	B	21470	.56	.07	.56	.21	.17	.00	.00	.36	-.16	.36	-.20	-.15
OP	646919	D	21470	.63	.13	.10	.15	.63	.00	.00	.49	-.17	-.23	-.31	.49
OP	646924	B	21470	.50	.22	.50	.17	.11	.00	.00	.36	-.08	.36	-.27	-.14
FT	660125	D	4902	.68	.05	.10	.17	.68	.00	.00	.58	-.14	-.21	-.46	.58
FT	660127	B	4131	.53	.23	.53	.18	.06	.00	.00	.38	-.08	.38	-.28	-.20
FT	660128	A	4169	.67	.67	.14	.10	.10	.00	.00	.59	.59	-.39	-.23	-.26
FT	660130	A	4195	.80	.80	.08	.07	.05	.00	.00	.44	.44	-.29	-.22	-.19
FT	660132	C	4209	.77	.08	.10	.77	.05	.00	.00	.49	-.23	-.33	.49	-.21
FT	660133	C	4107	.67	.17	.08	.67	.08	.00	.00	.53	-.28	-.32	.53	-.21
FT	660134	D	4099	.82	.05	.02	.11	.82	.00	.00	.38	-.27	-.21	-.18	.38
FT	660135	C	4907	.56	.31	.09	.56	.04	.00	.00	.55	-.39	-.20	.55	-.15
FT	660136	A	4099	.66	.66	.06	.07	.20	.00	.00	.48	.48	-.19	-.28	-.26
FT	660138	D	4118	.60	.13	.16	.11	.60	.00	.00	.44	-.15	-.27	-.21	.44
FT	660143	A	4080	.53	.53	.25	.06	.16	.00	.00	.41	.41	-.26	-.28	-.07

Nebraska State Accountability 2013 Technical Report

Grade 7 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	660144	B	4146	.79	.03	.79	.16	.02	.00	.00	.49	-.14	.49	-.41	-.18
FT	660145	A	4076	.67	.67	.09	.09	.16	.00	.00	.47	.47	-.16	-.20	-.33
FT	660146	C	4049	.76	.03	.10	.76	.11	.00	.00	.30	-.13	-.20	.30	-.14
FT	660147	C	4096	.86	.06	.04	.86	.04	.00	.00	.44	-.22	-.25	.44	-.25
FT	660149	B	4035	.56	.09	.56	.18	.17	.00	.00	.26	-.17	.26	-.08	-.13
FT	660150	D	5023	.53	.12	.21	.14	.53	.00	.00	.32	-.09	-.13	-.23	.32
FT	660151	C	4112	.45	.46	.06	.45	.03	.00	.00	.54	-.48	-.07	.54	-.09
FT	660152	B	4064	.73	.16	.73	.06	.05	.00	.00	.48	-.31	.48	-.25	-.17
FT	660154	D	4142	.44	.15	.23	.19	.44	.00	.00	.42	-.31	-.13	-.12	.42
FT	660156	D	4159	.87	.02	.08	.04	.87	.00	.00	.39	-.21	-.22	-.25	.39
FT	660157	A	4196	.87	.87	.03	.02	.08	.00	.00	.36	.36	-.28	-.20	-.18
FT	660158	C	4059	.78	.09	.04	.78	.09	.00	.00	.32	-.11	-.22	.32	-.20
FT	660161	C	4168	.85	.07	.02	.85	.05	.00	.00	.37	-.25	-.21	.37	-.16
FT	660162	A	4054	.69	.69	.27	.03	.02	.00	.00	.34	.34	-.22	-.21	-.19
FT	660163	A	4907	.81	.81	.05	.07	.07	.00	.00	.42	.42	-.28	-.16	-.23
FT	660165	D	4185	.63	.09	.11	.16	.63	.00	.00	.49	-.29	-.30	-.15	.49
FT	660167	C	4146	.81	.09	.08	.81	.01	.00	.00	.42	-.30	-.23	.42	-.14
FT	660168	D	4116	.55	.28	.10	.07	.55	.00	.00	.35	-.09	-.30	-.18	.35
FT	660169	C	4055	.25	.50	.20	.25	.05	.00	.00	.33	-.22	-.07	.33	-.02
FT	660170	D	5087	.41	.31	.10	.18	.41	.00	.00	.47	-.29	-.24	-.05	.47
FT	660172	C	4167	.53	.30	.10	.53	.07	.00	.00	.42	-.13	-.34	.42	-.20
FT	660173	D	4091	.43	.18	.24	.15	.43	.00	.00	.43	-.24	-.10	-.22	.43
FT	660174	B	4092	.53	.25	.53	.13	.09	.00	.00	.35	-.14	.35	-.20	-.16
FT	660175	B	4141	.78	.15	.78	.05	.02	.00	.00	.44	-.26	.44	-.26	-.22
FT	660176	A	4984	.69	.69	.11	.04	.16	.00	.00	.46	.46	-.30	-.25	-.18
FT	660177	C	4998	.74	.07	.14	.74	.05	.00	.00	.57	-.27	-.40	.57	-.18
FT	660178	C	4166	.87	.04	.03	.87	.05	.00	.00	.42	-.20	-.15	.42	-.32
FT	660179	D	4013	.93	.02	.02	.03	.93	.00	.00	.32	-.22	-.19	-.15	.32
FT	660180	D	4171	.91	.02	.01	.06	.91	.00	.00	.38	-.21	-.19	-.26	.38
FT	660182	C	4949	.64	.01	.03	.64	.32	.00	.00	.53	-.16	-.17	.53	-.44
FT	660183	A	4105	.21	.21	.27	.42	.10	.00	.00	.40	.40	-.04	-.22	-.12
FT	660184	B	4200	.43	.23	.43	.22	.12	.00	.00	.30	-.11	.30	-.11	-.17
FT	660185	B	4245	.28	.37	.28	.29	.05	.00	.00	.39	-.17	.39	-.15	-.12
FT	660186	A	4983	.52	.52	.20	.21	.07	.00	.00	.34	.34	-.28	-.08	-.09
FT	660187	C	5061	.49	.18	.16	.49	.17	.00	.00	.44	-.11	-.18	.44	-.27
FT	660188	A	3999	.65	.65	.09	.09	.16	.00	.00	.38	.38	-.15	-.24	-.19
FT	660189	C	4092	.42	.03	.06	.42	.49	.00	.00	.36	-.19	-.10	.36	-.24
FT	660191	D	4097	.79	.07	.04	.10	.79	.00	.00	.27	-.08	-.14	-.20	.27
FT	660192	A	4185	.44	.44	.16	.27	.13	.00	.00	.48	.48	-.17	-.27	-.16

Grade 8

Grade 8 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	600140	B	21020	.69	.10	.69	.06	.15	.00	.00	.44	-.21	.44	-.23	-.23
OP	600152	D	21020	.78	.04	.06	.11	.78	.00	.00	.54	-.22	-.31	-.33	.54
OP	600153	A	21020	.84	.84	.08	.03	.05	.00	.00	.47	.47	-.32	-.22	-.22
OP	600166	C	21020	.71	.08	.18	.71	.04	.00	.00	.48	-.30	-.27	.48	-.17
OP	600225	A	21020	.72	.72	.06	.19	.02	.00	.00	.44	.44	-.21	-.31	-.17
OP	600227	C	21020	.89	.03	.04	.89	.03	.00	.00	.44	-.20	-.30	.44	-.21
OP	600233	A	21020	.91	.91	.06	.03	.01	.00	.00	.47	.47	-.36	-.25	-.13
OP	600235	B	21020	.81	.08	.81	.07	.04	.00	.00	.50	-.24	.50	-.37	-.18
OP	600253	B	21020	.63	.09	.63	.15	.13	.00	.00	.44	-.23	.44	-.24	-.16
OP	600260	D	21020	.74	.02	.19	.04	.74	.00	.00	.55	-.16	-.40	-.30	.55
OP	600306	C	21020	.66	.04	.29	.66	.01	.00	.00	.47	-.18	-.37	.47	-.15
OP	600316	A	21020	.49	.49	.25	.08	.18	.00	.00	.37	.37	-.13	-.28	-.13
OP	600332	B	21020	.68	.08	.68	.22	.02	.00	.00	.49	-.17	.49	-.41	-.10
OP	600337	D	21020	.78	.07	.03	.12	.78	.00	.00	.45	-.21	-.23	-.28	.45
OP	600360	B	21020	.71	.17	.71	.06	.06	.00	.00	.42	-.22	.42	-.28	-.19
OP	600517	C	21020	.74	.07	.13	.74	.06	.00	.00	.41	-.19	-.22	.41	-.23
OP	600522	B	21020	.71	.07	.71	.13	.09	.00	.00	.39	-.20	.39	-.15	-.26
OP	634597	D	21020	.63	.15	.11	.11	.63	.00	.00	.40	-.28	-.09	-.20	.40
OP	634599	A	21020	.58	.58	.29	.08	.06	.00	.00	.43	.43	-.25	-.23	-.16
OP	634608	B	21020	.45	.25	.45	.21	.09	.00	.00	.36	-.08	.36	-.21	-.21
OP	634612	D	21020	.86	.04	.02	.08	.86	.00	.00	.34	-.04	-.19	-.31	.34
OP	634616	B	21020	.76	.06	.76	.11	.07	.00	.00	.55	-.28	.55	-.32	-.27
OP	634620	A	21020	.67	.67	.16	.08	.08	.00	.00	.38	.38	-.22	-.16	-.19
OP	634625	C	21020	.76	.07	.12	.76	.05	.00	.00	.42	-.19	-.21	.42	-.27
OP	634630	C	21020	.64	.11	.18	.64	.07	.00	.00	.55	-.31	-.31	.55	-.19
OP	634633	B	21020	.76	.06	.76	.11	.07	.00	.00	.47	-.18	.47	-.34	-.20
OP	634636	B	21020	.71	.08	.71	.10	.11	.00	.00	.43	-.19	.43	-.18	-.28
OP	634648	B	21020	.64	.10	.64	.23	.04	.00	.00	.41	-.23	.41	-.23	-.16
OP	634650	D	21020	.73	.04	.18	.04	.73	.00	.00	.38	-.33	-.15	-.22	.38
OP	634656	D	21020	.85	.05	.05	.06	.85	.00	.00	.50	-.28	-.23	-.30	.50
OP	634661	A	21020	.51	.51	.23	.14	.12	.00	.00	.47	.47	-.19	-.22	-.24
OP	634663	C	21020	.55	.18	.13	.55	.14	.00	.00	.44	-.24	-.27	.44	-.10
OP	646812	C	21020	.61	.05	.10	.61	.24	.00	.00	.53	-.15	-.24	.53	-.36
OP	646813	C	21020	.74	.04	.17	.74	.05	.00	.00	.45	-.23	-.30	.45	-.18
OP	646818	D	21020	.67	.06	.08	.19	.67	.00	.00	.48	-.29	-.16	-.29	.48
OP	646820	B	21020	.63	.12	.63	.16	.09	.00	.00	.40	-.18	.40	-.16	-.26
OP	646821	A	21020	.55	.55	.04	.39	.02	.00	.00	.29	.29	-.25	-.13	-.21
OP	646822	A	21020	.74	.74	.16	.06	.04	.00	.00	.45	.45	-.31	-.27	-.10

Nebraska State Accountability 2013 Technical Report

Grade 8 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	646823	D	21020	.53	.10	.28	.09	.53	.00	.00	.50	-.26	-.28	-.16	.50
OP	646824	B	21020	.79	.12	.79	.04	.05	.00	.00	.37	-.22	.37	-.29	-.09
OP	646827	B	21020	.86	.07	.86	.04	.03	.00	.00	.43	-.24	.43	-.26	-.21
OP	646829	D	21020	.62	.08	.16	.14	.62	.00	.00	.43	-.27	-.21	-.16	.43
OP	646832	C	21020	.64	.11	.13	.64	.12	.00	.00	.55	-.33	-.37	.55	-.11
OP	646834	B	21020	.74	.11	.74	.07	.07	.00	.00	.47	-.30	.47	-.25	-.17
OP	646837	B	21020	.49	.09	.49	.35	.07	.00	.00	.54	-.20	.54	-.38	-.13
OP	646839	C	21020	.67	.05	.10	.67	.18	.00	.00	.45	-.18	-.27	.45	-.24
OP	646842	A	21020	.80	.80	.07	.08	.06	.00	.00	.53	.53	-.27	-.30	-.28
OP	646843	D	21020	.73	.09	.07	.11	.73	.00	.00	.58	-.26	-.32	-.32	.58
OP	646845	D	21020	.59	.28	.09	.04	.59	.00	.00	.56	-.27	-.37	-.25	.56
OP	646846	D	21020	.82	.09	.05	.04	.82	.00	.00	.51	-.32	-.26	-.23	.51
OP	646849	A	21020	.64	.64	.13	.16	.07	.00	.00	.58	.58	-.34	-.30	-.20
OP	646851	A	21020	.59	.59	.26	.10	.04	.00	.00	.40	.40	-.22	-.22	-.16
OP	646852	C	21020	.54	.21	.15	.54	.10	.00	.00	.43	-.12	-.34	.43	-.15
OP	646854	A	21020	.46	.46	.16	.18	.20	.00	.00	.36	.36	-.14	-.20	-.12
OP	646856	A	21020	.69	.69	.15	.12	.04	.00	.00	.44	.44	-.24	-.24	-.19
OP	646862	D	21020	.44	.17	.22	.16	.44	.00	.00	.45	-.29	-.18	-.10	.45
OP	646863	C	21020	.60	.35	.03	.60	.01	.00	.00	.46	-.35	-.24	.46	-.17
OP	646864	A	21020	.45	.45	.48	.03	.04	.00	.00	.49	.49	-.36	-.22	-.13
OP	646866	C	21020	.62	.02	.11	.62	.25	.00	.00	.47	-.16	-.27	.47	-.27
OP	646867	A	21020	.42	.42	.16	.27	.15	.00	.00	.46	.46	-.14	-.32	-.10
FT	660193	B	4003	.75	.09	.75	.10	.05	.00	.00	.50	-.31	.50	-.27	-.20
FT	660195	A	4088	.28	.28	.11	.45	.16	.00	.00	.34	.34	-.16	.05	-.35
FT	660197	B	4072	.86	.08	.86	.05	.01	.00	.00	.38	-.27	.38	-.22	-.11
FT	660198	A	4004	.86	.86	.08	.05	.02	.00	.00	.36	.36	-.19	-.22	-.20
FT	660201	C	4072	.68	.23	.07	.68	.02	.00	.00	.14	-.08	-.04	.14	-.17
FT	660202	A	3978	.67	.67	.19	.03	.11	.00	.00	.31	.31	-.31	-.10	-.03
FT	660203	C	4879	.64	.10	.15	.64	.11	.00	.00	.48	-.23	-.26	.48	-.21
FT	660204	A	4121	.85	.85	.06	.04	.05	.00	.00	.43	.43	-.27	-.25	-.19
FT	660207	B	4011	.77	.11	.77	.06	.06	.00	.00	.32	-.26	.32	-.13	-.09
FT	660208	C	4778	.66	.09	.18	.66	.07	.00	.00	.39	-.16	-.21	.39	-.22
FT	660209	B	3990	.79	.06	.79	.13	.03	.00	.00	.45	-.21	.45	-.31	-.18
FT	660210	B	4910	.54	.15	.54	.23	.08	.00	.00	.40	-.19	.40	-.23	-.14
FT	660211	C	3982	.74	.14	.06	.74	.06	.00	.00	.43	-.19	-.31	.43	-.21
FT	660213	C	4076	.59	.10	.22	.59	.09	.00	.00	.33	-.09	-.13	.33	-.28
FT	660214	C	4096	.70	.05	.20	.70	.04	.00	.00	.42	-.21	-.31	.42	-.08
FT	660215	A	4097	.61	.61	.20	.16	.02	.00	.00	.40	.40	-.16	-.30	-.14
FT	660216	B	4139	.23	.48	.23	.15	.14	.00	.00	.14	.01	.14	-.05	-.13
FT	660217	C	4089	.87	.03	.09	.87	.02	.00	.00	.37	-.19	-.23	.37	-.23

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Grade 8 Mathematics															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	660219	A	4768	.31	.31	.24	.29	.15	.00	.00	.15	.15	-.10	.05	-.12
FT	660220	C	4045	.49	.17	.21	.49	.13	.00	.00	.37	-.07	-.22	.37	-.21
FT	660221	D	4036	.39	.13	.35	.13	.39	.00	.00	.22	-.08	-.07	-.13	.22
FT	660222	C	4049	.57	.20	.17	.57	.06	.00	.00	.52	-.28	-.25	.52	-.23
FT	660223	A	3996	.83	.83	.08	.03	.07	.00	.00	.50	.50	-.26	-.23	-.33
FT	660224	C	4796	.50	.21	.24	.50	.06	.00	.00	.47	-.19	-.24	.47	-.24
FT	660225	C	4148	.66	.07	.11	.66	.16	.00	.00	.47	-.24	-.18	.47	-.29
FT	660227	B	4050	.70	.06	.70	.09	.15	.00	.00	.34	-.13	.34	-.16	-.22
FT	660228	B	4812	.63	.04	.63	.23	.11	.00	.00	.46	-.13	.46	-.29	-.25
FT	660229	A	4073	.54	.54	.24	.05	.16	.00	.00	.51	.51	-.39	-.19	-.12
FT	660230	C	3934	.79	.05	.13	.79	.02	.00	.00	.50	-.22	-.42	.50	-.08
FT	660231	B	4116	.70	.09	.70	.11	.10	.00	.00	.44	-.29	.44	-.26	-.13
FT	660232	C	4773	.71	.06	.15	.71	.07	.00	.00	.44	-.21	-.21	.44	-.26
FT	660233	B	4004	.85	.07	.85	.03	.05	.00	.00	.40	-.16	.40	-.25	-.27
FT	660234	C	4090	.83	.09	.04	.83	.04	.00	.00	.37	-.19	-.27	.37	-.16
FT	660235	D	4090	.54	.34	.07	.05	.54	.00	.00	.41	-.14	-.35	-.24	.41
FT	660236	A	3987	.80	.80	.07	.02	.11	.00	.00	.37	.37	-.37	-.22	-.07
FT	660237	C	4051	.70	.06	.14	.70	.09	.00	.00	.46	-.24	-.24	.46	-.23
FT	660238	B	4051	.68	.17	.68	.08	.07	.00	.00	.46	-.24	.46	-.30	-.17
FT	660239	D	4833	.38	.16	.24	.22	.38	.00	.00	.45	-.18	-.17	-.18	.45
FT	660240	B	4007	.48	.39	.48	.10	.03	.00	.00	.32	-.04	.32	-.36	-.17
FT	660241	D	4143	.56	.07	.29	.08	.56	.00	.00	.46	-.14	-.32	-.18	.46
FT	660242	D	4145	.84	.06	.03	.07	.84	.00	.00	.41	-.26	-.21	-.21	.41
FT	660243	B	4012	.67	.15	.67	.09	.10	.00	.00	.48	-.28	.48	-.21	-.23
FT	660244	B	3954	.42	.28	.42	.15	.16	.00	.00	.19	-.01	.19	-.21	-.05
FT	660245	C	4864	.56	.11	.17	.56	.16	.00	.00	.35	-.14	-.22	.35	-.12
FT	660246	C	4025	.46	.11	.15	.46	.27	.00	.00	.34	-.17	-.20	.34	-.11
FT	660247	B	4046	.82	.03	.82	.05	.10	.00	.00	.45	-.18	.45	-.25	-.29
FT	660248	A	4799	.59	.59	.15	.17	.09	.00	.00	.44	.44	-.20	-.26	-.17
FT	660250	A	4005	.27	.27	.42	.18	.13	.00	.00	.45	.45	-.03	-.34	-.16
FT	660251	A	4058	.35	.35	.19	.38	.08	.00	.00	.24	.24	-.08	-.08	-.16
FT	660252	C	4005	.50	.30	.10	.50	.10	.00	.00	.43	-.15	-.27	.43	-.21

Grade 11

Grade 11 Mathematics

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	600406	B	20915	.65	.05	.65	.20	.10	.00	.00	.54	-.18	.54	-.33	-.28
OP	600410	B	20915	.70	.08	.70	.15	.07	.00	.00	.42	-.16	.42	-.31	-.14
OP	600419	C	20915	.55	.15	.14	.55	.16	.00	.00	.48	-.17	-.25	.48	-.25
OP	600552	C	20915	.66	.03	.27	.66	.03	.00	.00	.44	-.13	-.36	.44	-.12
OP	600561	B	20915	.66	.13	.66	.06	.14	.00	.00	.47	-.23	.47	-.29	-.20
OP	600562	C	20915	.85	.02	.07	.85	.06	.00	.00	.40	-.18	-.28	.40	-.18
OP	600583	C	20915	.68	.15	.13	.68	.05	.00	.00	.47	-.18	-.33	.47	-.20
OP	600629	D	20915	.68	.09	.13	.10	.68	.00	.00	.50	-.19	-.30	-.26	.50
OP	600638	D	20915	.67	.15	.04	.13	.67	.00	.00	.53	-.30	-.25	-.26	.53
OP	600653	C	20915	.61	.17	.13	.61	.09	.00	.00	.48	-.23	-.24	.48	-.21
OP	600656	C	20915	.65	.16	.12	.65	.07	.00	.00	.41	-.30	-.14	.41	-.15
OP	600660	D	20915	.67	.13	.16	.04	.67	.00	.00	.59	-.39	-.29	-.22	.59
OP	600677	A	20915	.69	.69	.17	.08	.05	.00	.00	.47	.47	-.15	-.34	-.29
OP	600689	A	20915	.86	.86	.06	.06	.02	.00	.00	.45	.45	-.28	-.27	-.17
OP	600702	D	20915	.63	.18	.09	.11	.63	.00	.00	.61	-.25	-.34	-.32	.61
OP	600704	B	20915	.65	.09	.65	.13	.12	.00	.00	.55	-.22	.55	-.38	-.21
OP	600724	C	20915	.66	.09	.15	.66	.09	.00	.00	.50	-.20	-.32	.50	-.20
OP	600735	C	20915	.75	.05	.12	.75	.08	.00	.00	.47	-.25	-.34	.47	-.14
OP	600744	B	20915	.61	.18	.61	.12	.08	.00	.00	.37	-.21	.37	-.23	-.07
OP	600746	D	20915	.62	.08	.15	.15	.62	.00	.00	.58	-.27	-.32	-.26	.58
OP	600751	A	20915	.78	.78	.13	.06	.04	.00	.00	.46	.46	-.33	-.18	-.20
OP	600771	D	20915	.64	.11	.13	.13	.64	.00	.00	.46	-.16	-.27	-.25	.46
OP	600773	A	20915	.37	.37	.29	.30	.05	.00	.00	.32	.32	-.22	-.07	-.11
OP	600777	D	20915	.62	.18	.10	.10	.62	.00	.00	.40	-.11	-.26	-.25	.40
OP	600795	B	20915	.64	.07	.64	.23	.06	.00	.00	.49	-.14	.49	-.40	-.12
OP	600810	B	20915	.60	.23	.60	.12	.05	.00	.00	.35	-.05	.35	-.31	-.21
OP	600819	D	20915	.58	.07	.15	.20	.58	.00	.00	.53	-.22	-.24	-.29	.53
OP	634442	C	20915	.69	.08	.09	.69	.13	.00	.00	.47	-.16	-.28	.47	-.27
OP	634446	A	20915	.67	.67	.11	.12	.10	.00	.00	.56	.56	-.29	-.36	-.18
OP	634450	C	20915	.84	.06	.07	.84	.02	.00	.00	.45	-.24	-.30	.45	-.18
OP	634451	C	20915	.59	.17	.14	.59	.10	.00	.00	.50	-.23	-.30	.50	-.17
OP	634469	C	20915	.83	.05	.06	.83	.06	.00	.00	.42	-.23	-.29	.42	-.15
OP	646731	B	20915	.70	.18	.70	.07	.06	.00	.00	.58	-.37	.58	-.25	-.26
OP	646732	C	20915	.59	.08	.15	.59	.18	.00	.00	.48	-.23	-.26	.48	-.21
OP	646736	B	20915	.46	.28	.46	.09	.17	.00	.00	.51	-.16	.51	-.38	-.19
OP	646737	D	20915	.64	.03	.25	.07	.64	.00	.00	.48	-.19	-.28	-.27	.48
OP	646740	B	20915	.73	.11	.73	.07	.08	.00	.00	.53	-.27	.53	-.29	-.27
OP	646741	B	20915	.40	.18	.40	.24	.18	.00	.00	.36	-.08	.36	-.32	-.02

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GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	646744	D	20915	.63	.08	.12	.18	.63	.00	.00	.48	-.21	-.21	-.28	.48
OP	646745	B	20915	.57	.27	.57	.13	.04	.00	.00	.45	-.30	.45	-.21	-.10
OP	646747	B	20915	.55	.21	.55	.14	.09	.00	.00	.43	-.10	.43	-.34	-.18
OP	646753	C	20915	.72	.11	.11	.72	.05	.00	.00	.44	-.20	-.27	.44	-.19
OP	646755	A	20915	.80	.80	.09	.07	.05	.00	.00	.53	.53	-.28	-.32	-.23
OP	646756	A	20915	.46	.46	.16	.13	.25	.00	.00	.58	.58	-.18	-.16	-.40
OP	646758	B	20915	.51	.07	.51	.31	.11	.00	.00	.55	-.12	.55	-.34	-.27
OP	646759	A	20915	.45	.45	.09	.38	.08	.00	.00	.43	.43	-.19	-.27	-.10
OP	646760	A	20915	.60	.60	.10	.15	.16	.00	.00	.48	.48	-.20	-.23	-.25
OP	646762	B	20915	.41	.09	.41	.30	.19	.00	.00	.48	-.14	.48	-.25	-.19
OP	646765	B	20915	.70	.10	.70	.07	.14	.00	.00	.49	-.30	.49	-.30	-.17
OP	646769	D	20915	.52	.04	.25	.19	.52	.00	.00	.52	-.23	-.25	-.27	.52
OP	646771	B	20915	.56	.13	.56	.19	.11	.00	.00	.58	-.11	.58	-.43	-.26
OP	646772	D	20915	.60	.05	.26	.08	.60	.00	.00	.54	-.27	-.26	-.32	.54
OP	646773	D	20915	.55	.15	.23	.07	.55	.00	.00	.68	-.35	-.35	-.25	.68
OP	646775	A	20915	.75	.75	.12	.07	.07	.00	.00	.55	.55	-.38	-.29	-.17
OP	646776	D	20915	.46	.26	.17	.10	.46	.00	.00	.62	-.21	-.35	-.26	.62
OP	646780	A	20915	.45	.45	.26	.15	.14	.00	.00	.45	.45	-.22	-.21	-.15
OP	646784	A	20915	.48	.48	.27	.07	.18	.00	.00	.59	.59	-.36	-.22	-.20
OP	646785	C	20915	.75	.08	.06	.75	.11	.00	.00	.48	-.34	-.28	.48	-.15
OP	646786	A	20915	.60	.60	.17	.11	.12	.00	.00	.54	.54	-.34	-.30	-.13
OP	646788	C	20915	.74	.07	.10	.74	.09	.00	.00	.49	-.23	-.27	.49	-.26
FT	660258	D	4553	.70	.07	.09	.13	.70	.00	.00	.56	-.16	-.31	-.35	.56
FT	660262	D	4057	.43	.27	.16	.14	.43	.00	.00	.53	-.09	-.36	-.26	.53
FT	660266	A	4172	.48	.48	.09	.06	.37	.00	.00	.55	.55	-.16	-.27	-.34
FT	660271	B	4632	.28	.41	.28	.28	.03	.00	.00	.18	.24	.18	-.40	-.12
FT	660273	B	3992	.42	.04	.42	.35	.19	.00	.00	.40	-.23	.40	-.08	-.29
FT	660275	A	4178	.40	.40	.48	.10	.03	.00	.00	.21	.21	.02	-.32	-.10
FT	660276	B	4177	.60	.12	.60	.22	.06	.00	.00	.35	-.23	.35	-.15	-.14
FT	660278	B	4136	.53	.13	.53	.30	.04	.00	.00	.37	-.17	.37	-.22	-.14
FT	660281	A	4520	.56	.56	.19	.13	.12	.00	.00	.51	.51	-.30	-.15	-.25
FT	660283	A	4029	.30	.30	.23	.35	.12	.00	.00	.39	.39	-.16	-.18	-.07
FT	660285	B	4115	.55	.10	.55	.08	.28	.00	.00	.31	-.11	.31	-.26	-.12
FT	660286	D	3920	.27	.20	.23	.30	.27	.00	.00	.25	-.05	-.04	-.17	.25
FT	660288	D	4080	.33	.17	.19	.31	.33	.00	.00	.56	-.12	-.20	-.30	.56
FT	660290	C	4077	.51	.08	.29	.51	.12	.00	.00	.50	-.22	-.31	.50	-.15
FT	660291	C	4544	.48	.21	.26	.48	.05	.00	.00	.47	-.24	-.24	.47	-.13
FT	660292	B	4105	.59	.08	.59	.13	.21	.00	.00	.38	-.22	.38	-.31	-.05
FT	660293	C	4138	.56	.22	.09	.56	.13	.00	.00	.23	.04	-.27	.23	-.16
FT	660297	B	4072	.47	.24	.47	.14	.14	.00	.00	.31	-.06	.31	-.27	-.10

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GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	660299	C	4060	.38	.50	.09	.38	.03	.00	.00	.43	-.32	-.12	.43	-.08
FT	660302	A	4028	.59	.59	.18	.12	.11	.00	.00	.54	.54	-.29	-.28	-.20
FT	660304	B	4082	.47	.18	.47	.16	.20	.00	.00	.35	-.24	.35	-.21	-.02
FT	660306	C	4094	.57	.12	.28	.57	.04	.00	.00	.46	-.16	-.34	.46	-.13
FT	660307	C	4105	.67	.08	.12	.67	.12	.00	.00	.43	-.24	-.32	.43	-.10
FT	660310	B	4598	.54	.08	.54	.15	.23	.00	.00	.44	-.19	.44	-.12	-.29
FT	660313	C	4087	.71	.13	.10	.71	.06	.00	.00	.46	-.25	-.24	.46	-.21
FT	660316	A	4147	.63	.63	.24	.07	.05	.00	.00	.47	.47	-.28	-.29	-.15
FT	660318	C	4032	.44	.32	.18	.44	.05	.00	.00	.45	-.16	-.29	.45	-.15
FT	660322	B	4642	.48	.13	.48	.29	.11	.00	.00	.41	-.09	.41	-.27	-.17
FT	660323	C	4097	.44	.09	.35	.44	.12	.00	.00	.08	-.11	.01	.08	-.03
FT	660327	C	4159	.70	.11	.02	.70	.17	.00	.00	.33	-.24	-.21	.33	-.13
FT	660329	C	4030	.41	.05	.11	.41	.42	.00	.00	.29	-.09	-.31	.29	-.05
FT	660330	B	4009	.82	.08	.82	.06	.03	.00	.00	.49	-.30	.49	-.28	-.22
FT	660334	B	4484	.48	.12	.48	.12	.28	.00	.00	.32	-.12	.32	-.21	-.11
FT	660336	C	4117	.67	.08	.04	.67	.20	.00	.00	.41	-.26	-.27	.41	-.16
FT	660339	A	4549	.57	.57	.24	.14	.06	.00	.00	.53	.53	-.33	-.25	-.15
FT	660340	B	4110	.69	.06	.69	.15	.09	.00	.00	.55	-.26	.55	-.38	-.17
FT	660344	C	4072	.58	.06	.15	.58	.20	.00	.00	.49	-.28	-.39	.49	-.07
FT	660347	D	4110	.58	.16	.18	.07	.58	.00	.00	.66	-.34	-.33	-.27	.66
FT	660348	B	4088	.50	.15	.50	.22	.13	.00	.00	.39	-.03	.39	-.33	-.14
FT	660354	D	4117	.71	.03	.12	.14	.71	.00	.00	.60	-.21	-.36	-.34	.60
FT	660355	A	4088	.67	.67	.18	.08	.07	.00	.00	.49	.49	-.31	-.22	-.21
FT	660356	C	4663	.37	.32	.28	.37	.04	.00	.00	.27	-.13	-.09	.27	-.15
FT	660358	C	4068	.56	.21	.16	.56	.07	.00	.00	.41	-.19	-.23	.41	-.15
FT	660361	A	4010	.47	.47	.43	.06	.03	.00	.00	.34	.34	-.15	-.27	-.18
FT	660364	B	4110	.57	.14	.57	.13	.16	.00	.00	.38	-.22	.38	-.34	.01
FT	660366	C	4050	.72	.11	.13	.72	.04	.00	.00	.48	-.28	-.27	.48	-.18
FT	660369	B	4006	.65	.09	.65	.05	.21	.00	.00	.36	-.10	.36	-.15	-.26
FT	660371	C	4493	.57	.25	.07	.57	.11	.00	.00	.44	-.29	-.21	.44	-.11
FT	660377	D	4132	.52	.25	.10	.12	.52	.00	.00	.19	.04	-.15	-.20	.19
FT	660378	A	4106	.23	.23	.40	.32	.04	.00	.00	.32	.32	.08	-.28	-.20

Appendix H: Science Key Verification and Foil Analysis

Grade 5

Grade 5 Science

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	634836	A	22043	.79	.79	.06	.10	.05	.00	.00	.43	.43	-.25	-.25	-.20
OP	634839	A	22043	.64	.64	.10	.10	.16	.00	.00	.44	.44	-.20	-.24	-.21
OP	634845	C	22043	.85	.07	.03	.85	.05	.00	.00	.44	-.28	-.20	.44	-.23
OP	634847	D	22043	.66	.03	.23	.08	.66	.00	.00	.44	-.22	-.25	-.24	.44
OP	634854	B	22043	.54	.14	.54	.11	.20	.00	.00	.42	-.26	.42	-.20	-.14
OP	634861	B	22043	.85	.05	.85	.07	.03	.00	.00	.48	-.21	.48	-.33	-.24
OP	634863	D	22043	.63	.05	.13	.19	.63	.00	.00	.49	-.21	-.25	-.27	.49
OP	634869	B	22043	.74	.05	.74	.05	.16	.00	.00	.47	-.17	.47	-.29	-.29
OP	634871	B	22043	.64	.11	.64	.10	.14	.00	.00	.49	-.18	.49	-.29	-.26
OP	634873	D	22043	.79	.10	.05	.06	.79	.00	.00	.40	-.24	-.20	-.21	.40
OP	634875	A	22043	.89	.89	.02	.03	.06	.00	.00	.42	.42	-.19	-.24	-.27
OP	634877	A	22043	.65	.65	.05	.27	.03	.00	.00	.36	.36	-.19	-.23	-.18
OP	634878	D	22043	.76	.09	.07	.07	.76	.00	.00	.42	-.24	-.23	-.19	.42
OP	634880	B	22043	.76	.10	.76	.10	.04	.00	.00	.48	-.26	.48	-.26	-.24
OP	634884	A	22043	.83	.83	.06	.02	.09	.00	.00	.30	.30	-.14	-.19	-.18
OP	634894	D	22043	.80	.08	.06	.06	.80	.00	.00	.40	-.20	-.23	-.21	.40
OP	634895	A	22043	.77	.77	.03	.17	.03	.00	.00	.42	.42	-.18	-.34	-.10
OP	634906	C	22043	.61	.08	.19	.61	.11	.00	.00	.51	-.27	-.28	.51	-.21
OP	634909	C	22043	.66	.04	.05	.66	.25	.00	.00	.31	-.18	-.22	.31	-.15
OP	634916	D	22043	.75	.11	.02	.12	.75	.00	.00	.37	-.26	-.17	-.17	.37
OP	634925	D	22043	.58	.15	.17	.10	.58	.00	.00	.43	-.21	-.17	-.24	.43
OP	634926	C	22043	.69	.15	.06	.69	.09	.00	.00	.48	-.28	-.21	.48	-.24
OP	634932	D	22043	.83	.06	.04	.07	.83	.00	.00	.38	-.13	-.22	-.25	.38
OP	634933	C	22043	.58	.14	.14	.58	.15	.00	.00	.47	-.20	-.27	.47	-.19
OP	634934	A	22043	.69	.69	.08	.07	.16	.00	.00	.51	.51	-.30	-.18	-.30
OP	634943	B	22043	.54	.26	.54	.14	.06	.00	.00	.35	-.09	.35	-.25	-.20
OP	634944	A	22043	.60	.60	.19	.09	.12	.00	.00	.37	.37	-.14	-.16	-.25
OP	634947	A	22043	.80	.80	.03	.13	.04	.00	.00	.42	.42	-.18	-.28	-.22
OP	634952	D	22043	.69	.06	.21	.04	.69	.00	.00	.39	-.24	-.20	-.22	.39
OP	634957	C	22043	.80	.02	.09	.80	.10	.00	.00	.33	-.09	-.10	.33	-.30
OP	634961	C	22043	.51	.20	.10	.51	.19	.00	.00	.40	-.21	-.20	.40	-.13
OP	634962	B	22043	.65	.08	.65	.09	.18	.00	.00	.25	-.27	.25	-.05	-.08
OP	634963	B	22043	.63	.13	.63	.10	.15	.00	.00	.50	-.24	.50	-.26	-.23
OP	634965	C	22043	.64	.07	.20	.64	.09	.00	.00	.45	-.28	-.25	.45	-.16
OP	647389	D	22043	.77	.03	.13	.07	.77	.00	.00	.50	-.22	-.34	-.22	.50
OP	647390	D	22043	.75	.14	.04	.07	.75	.00	.00	.37	-.14	-.25	-.25	.37

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Grade 5 Science

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	647393	B	22043	.55	.09	.55	.23	.13	.00	.00	.48	-.21	.48	-.24	-.22
OP	647394	B	22043	.76	.07	.76	.05	.13	.00	.00	.36	-.19	.36	-.19	-.20
OP	647396	C	22043	.47	.17	.26	.47	.10	.00	.00	.38	-.19	-.13	.38	-.21
OP	647401	B	22043	.77	.02	.77	.09	.11	.00	.00	.44	-.18	.44	-.32	-.20
OP	647402	D	22043	.44	.28	.08	.19	.44	.00	.00	.36	-.19	-.23	-.07	.36
OP	647413	A	22043	.55	.55	.09	.22	.14	.00	.00	.53	.53	-.14	-.32	-.26
OP	647415	A	22043	.76	.76	.04	.15	.06	.00	.00	.31	.31	-.16	-.16	-.20
OP	647419	B	22043	.71	.05	.71	.12	.12	.00	.00	.48	-.25	.48	-.28	-.22
OP	647420	B	22043	.57	.18	.57	.15	.10	.00	.00	.45	-.21	.45	-.25	-.18
OP	647423	D	22043	.40	.08	.22	.30	.40	.00	.00	.49	-.18	-.25	-.19	.49
OP	647427	A	22043	.51	.51	.28	.10	.11	.00	.00	.41	.41	-.20	-.20	-.17
OP	647430	B	22043	.67	.17	.67	.05	.11	.00	.00	.43	-.16	.43	-.26	-.26
OP	647432	B	22043	.88	.07	.88	.03	.02	.00	.00	.39	-.23	.39	-.23	-.19
OP	647434	C	22043	.59	.03	.24	.59	.15	.00	.00	.38	-.18	-.15	.38	-.28
FT	661220	B	4081	.70	.06	.70	.23	.02	.00	.00	.37	-.20	.37	-.24	-.16
FT	661221	D	5437	.74	.11	.07	.08	.74	.00	.00	.29	-.10	-.12	-.24	.29
FT	661222	C	4214	.23	.39	.02	.23	.37	.00	.00	.37	-.04	-.16	.37	-.23
FT	661223	A	4211	.41	.41	.17	.14	.28	.00	.00	.23	.23	-.07	-.23	-.02
FT	661224	A	4123	.81	.81	.09	.06	.04	.00	.00	.35	.35	-.21	-.21	-.13
FT	661225	D	4125	.44	.35	.13	.09	.44	.00	.00	.46	-.19	-.18	-.28	.46
FT	661226	A	5330	.54	.54	.27	.07	.12	.00	.00	.24	.24	.00	-.25	-.17
FT	661229	A	4099	.88	.88	.05	.04	.03	.00	.00	.34	.34	-.21	-.22	-.13
FT	661230	A	4136	.75	.75	.08	.13	.04	.00	.00	.38	.38	-.16	-.25	-.19
FT	661231	D	4156	.65	.09	.18	.08	.65	.00	.00	.47	-.22	-.23	-.27	.47
FT	661232	B	5456	.75	.07	.75	.11	.07	.00	.00	.46	-.18	.46	-.29	-.25
FT	661233	C	4105	.71	.06	.06	.71	.16	.00	.00	.41	-.23	-.21	.41	-.22
FT	661234	A	4259	.61	.61	.05	.15	.18	.00	.00	.20	.20	-.16	-.07	-.10
FT	661235	A	4192	.54	.54	.16	.20	.09	.00	.00	.38	.38	-.15	-.23	-.15
FT	661236	C	4119	.97	.01	.02	.97	.01	.00	.00	.19	-.14	-.11	.19	-.08
FT	661239	C	5358	.45	.12	.27	.45	.16	.00	.00	.30	-.08	-.10	.30	-.21
FT	661240	A	4072	.99	.99	.00	.00	.00	.00	.00	.18	.18	-.07	-.09	-.14
FT	661241	B	4176	.68	.15	.68	.08	.10	.00	.00	.28	-.08	.28	-.16	-.19
FT	661242	C	5464	.57	.13	.14	.57	.16	.00	.00	.42	-.24	-.13	.42	-.22
FT	661243	A	4121	.90	.90	.02	.03	.05	.00	.00	.34	.34	-.12	-.23	-.20
FT	661244	D	4093	.42	.15	.14	.29	.42	.00	.00	.32	-.17	-.15	-.09	.32
FT	661245	A	4075	.54	.54	.16	.08	.22	.00	.00	.34	.34	-.23	.06	-.24
FT	661246	C	4284	.87	.01	.02	.87	.10	.00	.00	.23	-.09	-.17	.23	-.15
FT	661247	A	5388	.82	.82	.09	.01	.08	.00	.00	.41	.41	-.25	-.14	-.25
FT	661248	D	4167	.30	.07	.23	.41	.30	.00	.00	.28	-.18	-.17	-.02	.28
FT	661249	B	4217	.28	.31	.28	.31	.09	.00	.00	.14	.02	.14	-.08	-.13

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Grade 5 Science

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	661250	C	4160	.83	.02	.01	.83	.14	.00	.00	.22	-.15	-.10	.22	-.15
FT	661254	C	4177	.56	.15	.16	.56	.13	.00	.00	.33	-.12	-.10	.33	-.25
FT	661255	C	4287	.76	.09	.03	.76	.12	.00	.00	.36	-.26	-.12	.36	-.18
FT	661256	B	4205	.87	.04	.87	.04	.05	.00	.00	.31	-.20	.31	-.19	-.13
FT	661258	A	5497	.79	.79	.09	.01	.10	.00	.00	.41	.41	-.25	-.12	-.26
FT	661259	C	4232	.87	.04	.02	.87	.06	.00	.00	.40	-.20	-.14	.40	-.30
FT	661260	B	4188	.76	.06	.76	.08	.09	.00	.00	.45	-.20	.45	-.26	-.25
FT	661261	C	4124	.95	.03	.02	.95	.00	.00	.00	.23	-.16	-.15	.23	-.08
FT	661262	A	4089	.90	.90	.06	.02	.02	.00	.00	.29	.29	-.24	-.07	-.15
FT	661263	A	5473	.62	.62	.18	.06	.14	.00	.00	.47	.47	-.29	-.19	-.21
FT	661264	D	4193	.72	.08	.07	.13	.72	.00	.00	.46	-.22	-.17	-.32	.46
FT	661265	D	4297	.73	.14	.02	.11	.73	.00	.00	.25	-.09	-.13	-.20	.25
FT	661266	C	4125	.37	.30	.09	.37	.24	.00	.00	.07	.01	-.13	.07	-.01
FT	661267	D	5447	.78	.09	.05	.07	.78	.00	.00	.30	-.24	-.13	-.10	.30
FT	661268	A	4133	.39	.39	.14	.36	.10	.00	.00	.16	.16	-.16	.06	-.17
FT	661269	D	4052	.57	.11	.28	.05	.57	.00	.00	.28	-.13	-.15	-.17	.28
FT	661270	A	5425	.37	.37	.35	.09	.19	.00	.00	.22	.22	.05	-.33	-.08
FT	661272	A	4107	.79	.79	.08	.07	.07	.00	.00	.45	.45	-.25	-.25	-.22
FT	661273	D	4222	.77	.01	.15	.06	.77	.00	.00	.25	-.12	-.14	-.17	.25
FT	661274	D	4155	.66	.05	.05	.24	.66	.00	.00	.41	-.21	-.23	-.23	.41
FT	661275	A	4108	.64	.64	.08	.10	.19	.00	.00	.37	.37	-.19	-.21	-.16
FT	661276	D	4205	.91	.02	.02	.05	.91	.00	.00	.39	-.20	-.23	-.22	.39
FT	661277	D	4014	.87	.02	.02	.09	.87	.00	.00	.39	-.15	-.19	-.28	.39
FT	663133	A	4022	.73	.73	.08	.14	.05	.00	.00	.24	.24	-.10	-.18	-.10

Grade 8

Grade 8 Science															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	635004	D	21041	.76	.07	.13	.05	.76	.00	.00	.41	-.27	-.14	-.28	.41
OP	635005	A	21041	.49	.49	.13	.18	.19	.00	.00	.43	.43	-.17	-.31	-.09
OP	635007	B	21041	.57	.12	.57	.12	.19	.00	.00	.39	-.28	.39	-.04	-.23
OP	635011	C	21041	.63	.19	.12	.63	.06	.00	.00	.36	-.15	-.21	.36	-.19
OP	635019	B	21041	.57	.11	.57	.18	.15	.00	.00	.46	-.20	.46	-.28	-.17
OP	635020	D	21041	.49	.16	.19	.16	.49	.00	.00	.45	-.17	-.20	-.22	.45
OP	635026	C	21041	.54	.30	.05	.54	.11	.00	.00	.42	-.21	-.20	.42	-.22
OP	635031	A	21041	.65	.65	.14	.05	.16	.00	.00	.30	.30	-.12	-.20	-.16
OP	635037	B	21041	.64	.09	.64	.21	.05	.00	.00	.33	-.08	.33	-.21	-.22

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Grade 8 Science															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	635043	D	21041	.71	.06	.10	.13	.71	.00	.00	.46	-.14	-.23	-.32	.46
OP	635053	C	21041	.64	.16	.11	.64	.09	.00	.00	.39	-.25	-.13	.39	-.19
OP	635059	B	21041	.63	.20	.63	.14	.03	.00	.00	.45	-.32	.45	-.18	-.14
OP	635067	B	21041	.78	.04	.78	.10	.09	.00	.00	.41	-.19	.41	-.23	-.23
OP	635069	D	21041	.65	.21	.05	.09	.65	.00	.00	.38	-.22	-.28	-.09	.38
OP	635074	C	21041	.76	.20	.03	.76	.01	.00	.00	.29	-.22	-.14	.29	-.10
OP	635075	A	21041	.63	.63	.18	.15	.04	.00	.00	.38	.38	-.09	-.33	-.15
OP	635076	C	21041	.73	.03	.04	.73	.20	.00	.00	.38	-.16	-.17	.38	-.26
OP	635078	D	21041	.55	.08	.10	.26	.55	.00	.00	.37	-.25	-.12	-.18	.37
OP	635083	D	21041	.84	.07	.04	.05	.84	.00	.00	.47	-.21	-.27	-.30	.47
OP	635085	A	21041	.73	.73	.06	.04	.17	.00	.00	.47	.47	-.29	-.24	-.24
OP	635086	C	21041	.69	.08	.16	.69	.08	.00	.00	.51	-.22	-.33	.51	-.22
OP	635100	C	21041	.79	.04	.05	.79	.12	.00	.00	.20	-.12	-.04	.20	-.14
OP	635102	D	21041	.76	.06	.11	.07	.76	.00	.00	.48	-.26	-.24	-.27	.48
OP	635110	B	21041	.60	.05	.60	.14	.20	.00	.00	.47	-.16	.47	-.16	-.33
OP	635114	A	21041	.85	.85	.04	.06	.05	.00	.00	.44	.44	-.25	-.24	-.23
OP	635117	C	21041	.74	.08	.10	.74	.08	.00	.00	.46	-.21	-.31	.46	-.18
OP	635120	B	21041	.80	.10	.80	.06	.04	.00	.00	.38	-.19	.38	-.23	-.22
OP	635123	A	21041	.64	.64	.10	.09	.16	.00	.00	.44	.44	-.36	-.09	-.20
OP	635134	C	21041	.63	.10	.11	.63	.15	.00	.00	.42	-.13	-.26	.42	-.23
OP	635144	A	21041	.53	.53	.25	.08	.14	.00	.00	.30	.30	-.14	-.25	-.05
OP	635160	B	21041	.86	.09	.86	.01	.03	.00	.00	.34	-.20	.34	-.17	-.21
OP	635161	A	21041	.47	.47	.34	.12	.06	.00	.00	.30	.30	-.10	-.26	-.07
OP	635240	D	21041	.51	.04	.09	.36	.51	.00	.00	.29	-.19	-.18	-.11	.29
OP	647100	D	21041	.61	.04	.18	.17	.61	.00	.00	.37	-.16	-.11	-.27	.37
OP	647102	C	21041	.77	.06	.04	.77	.13	.00	.00	.50	-.25	-.18	.50	-.35
OP	647106	A	21041	.53	.53	.13	.25	.10	.00	.00	.52	.52	-.28	-.24	-.20
OP	647109	B	21041	.42	.25	.42	.09	.23	.00	.00	.34	-.19	.34	-.14	-.11
OP	647111	B	21041	.61	.08	.61	.15	.16	.00	.00	.37	-.16	.37	-.21	-.17
OP	647112	C	21041	.78	.04	.13	.78	.05	.00	.00	.34	-.16	-.19	.34	-.21
OP	647115	C	21041	.76	.03	.15	.76	.06	.00	.00	.39	-.19	-.29	.39	-.12
OP	647119	C	21041	.43	.15	.09	.43	.33	.00	.00	.39	-.20	-.19	.39	-.14
OP	647120	D	21041	.49	.26	.10	.14	.49	.00	.00	.38	-.08	-.16	-.30	.38
OP	647122	B	21041	.45	.36	.45	.04	.15	.00	.00	.35	-.15	.35	-.24	-.15
OP	647123	C	21041	.59	.21	.15	.59	.05	.00	.00	.37	-.24	-.12	.37	-.18
OP	647128	A	21041	.60	.60	.19	.10	.10	.00	.00	.37	.37	-.19	-.14	-.20
OP	647132	B	21041	.70	.01	.70	.25	.03	.00	.00	.42	-.17	.42	-.33	-.16
OP	647133	C	21041	.86	.04	.08	.86	.02	.00	.00	.37	-.27	-.22	.37	-.13
OP	647134	A	21041	.76	.76	.11	.05	.08	.00	.00	.47	.47	-.29	-.28	-.18
OP	647136	A	21041	.74	.74	.09	.07	.10	.00	.00	.46	.46	-.27	-.29	-.17

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Grade 8 Science															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	647138	B	21041	.73	.04	.73	.15	.08	.00	.00	.44	-.22	.44	-.26	-.21
OP	647146	B	21041	.78	.08	.78	.05	.09	.00	.00	.29	-.10	.29	-.23	-.14
OP	647147	B	21041	.81	.09	.81	.06	.04	.00	.00	.42	-.22	.42	-.28	-.18
OP	647149	D	21041	.82	.03	.05	.10	.82	.00	.00	.32	-.15	-.21	-.17	.32
OP	647150	D	21041	.47	.22	.12	.19	.47	.00	.00	.38	-.25	-.13	-.10	.38
OP	647151	B	21041	.86	.05	.86	.04	.05	.00	.00	.36	-.24	.36	-.18	-.16
OP	647152	C	21041	.73	.21	.05	.73	.02	.00	.00	.37	-.21	-.23	.37	-.21
OP	647154	A	21041	.64	.64	.10	.18	.08	.00	.00	.39	.39	-.19	-.17	-.23
OP	647156	C	21041	.58	.04	.30	.58	.08	.00	.00	.38	-.19	-.24	.38	-.15
OP	647159	C	21041	.81	.08	.08	.81	.03	.00	.00	.43	-.23	-.25	.43	-.21
OP	647220	C	21041	.83	.05	.09	.83	.02	.00	.00	.43	-.28	-.22	.43	-.20
FT	661278	B	4075	.65	.03	.65	.05	.27	.00	.00	.33	-.19	.33	-.19	-.19
FT	661279	B	4721	.50	.26	.50	.08	.16	.00	.00	.39	-.20	.39	-.17	-.16
FT	661280	B	4131	.25	.59	.25	.06	.10	.00	.00	.31	-.16	.31	-.09	-.12
FT	661281	B	4106	.28	.03	.28	.40	.29	.00	.00	-.03	-.13	-.03	.12	-.04
FT	661282	B	4008	.60	.05	.60	.11	.23	.00	.00	.17	-.16	.17	-.21	.04
FT	661283	B	4085	.57	.05	.57	.08	.30	.00	.00	.26	-.16	.26	-.22	-.08
FT	661284	D	4147	.33	.10	.08	.49	.33	.00	.00	.33	-.21	-.12	-.12	.33
FT	661285	A	4039	.75	.75	.05	.13	.07	.00	.00	.34	.34	-.17	-.27	-.09
FT	661286	D	4833	.51	.05	.16	.27	.51	.00	.00	.40	-.20	-.13	-.23	.40
FT	661287	C	3998	.65	.12	.07	.65	.17	.00	.00	.24	-.19	-.24	.24	.01
FT	661288	A	4041	.70	.70	.02	.12	.16	.00	.00	.04	.04	-.14	-.17	.16
FT	661289	C	4116	.27	.47	.17	.27	.09	.00	.00	.17	.05	-.17	.17	-.13
FT	661290	C	4808	.41	.05	.34	.41	.19	.00	.00	.17	-.11	-.10	.17	-.01
FT	661291	B	4084	.58	.24	.58	.08	.10	.00	.00	.34	-.17	.34	-.11	-.21
FT	661292	B	4130	.33	.15	.33	.32	.19	.00	.00	.05	-.23	.05	.07	.06
FT	661293	C	4745	.85	.03	.08	.85	.04	.00	.00	.43	-.22	-.25	.43	-.23
FT	661294	D	4043	.64	.05	.09	.22	.64	.00	.00	.47	-.19	-.24	-.28	.47
FT	661295	A	4118	.56	.56	.15	.16	.13	.00	.00	.32	.32	-.14	-.19	-.12
FT	661296	B	4125	.76	.09	.76	.14	.01	.00	.00	.48	-.34	.48	-.29	-.07
FT	661297	A	4813	.87	.87	.03	.07	.03	.00	.00	.39	.39	-.20	-.24	-.18
FT	661298	D	4050	.45	.38	.07	.11	.45	.00	.00	.45	-.36	-.11	-.06	.45
FT	661299	C	4027	.50	.22	.05	.50	.23	.00	.00	.25	.04	-.22	.25	-.22
FT	661300	D	4063	.70	.09	.06	.14	.70	.00	.00	.40	-.16	-.18	-.27	.40
FT	661301	A	4092	.39	.39	.09	.36	.16	.00	.00	.28	.28	-.25	-.07	-.09
FT	661302	C	4805	.62	.11	.13	.62	.15	.00	.00	.46	-.37	-.16	.46	-.16
FT	661303	B	3995	.75	.15	.75	.06	.03	.00	.00	.43	-.28	.43	-.22	-.16
FT	661304	C	4024	.88	.04	.03	.88	.05	.00	.00	.45	-.23	-.23	.45	-.28
FT	661305	C	4041	.66	.04	.06	.66	.24	.00	.00	.46	-.18	-.18	.46	-.32
FT	661306	C	4712	.59	.16	.20	.59	.04	.00	.00	.38	-.18	-.18	.38	-.21

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Grade 8 Science															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	661307	B	4090	.91	.04	.91	.01	.04	.00	.00	.32	-.21	.32	-.13	-.20
FT	661308	C	4123	.60	.01	.22	.60	.17	.00	.00	.25	-.14	-.15	.25	-.13
FT	661309	B	4070	.37	.05	.37	.47	.12	.00	.00	.19	-.18	.19	-.06	-.07
FT	661310	B	4057	.31	.14	.31	.18	.37	.00	.00	.23	.08	.23	-.09	-.21
FT	661312	D	3941	.52	.12	.29	.07	.52	.00	.00	.36	-.22	-.09	-.26	.36
FT	661314	D	4122	.52	.21	.12	.16	.52	.00	.00	.29	-.14	-.11	-.16	.29
FT	661315	C	4080	.48	.12	.24	.48	.16	.00	.00	.34	-.13	-.24	.34	-.07
FT	661316	B	4049	.72	.17	.72	.09	.02	.00	.00	.40	-.24	.40	-.22	-.20
FT	661317	D	4772	.41	.06	.38	.14	.41	.00	.00	.32	-.14	-.24	-.02	.32
FT	661318	A	4001	.86	.86	.08	.04	.02	.00	.00	.33	.33	-.16	-.24	-.15
FT	661319	C	4034	.57	.15	.19	.57	.09	.00	.00	.24	-.01	-.16	.24	-.18
FT	661320	A	4803	.55	.55	.08	.03	.35	.00	.00	.13	.13	-.14	-.23	.03
FT	661321	A	4055	.68	.68	.10	.08	.14	.00	.00	.37	.37	-.24	-.21	-.13
FT	661322	A	4090	.68	.68	.16	.10	.06	.00	.00	.21	.21	-.12	-.07	-.13
FT	661323	C	4720	.73	.09	.07	.73	.11	.00	.00	.45	-.20	-.23	.45	-.25
FT	661324	D	4007	.81	.10	.05	.04	.81	.00	.00	.35	-.19	-.22	-.17	.35
FT	661325	C	4127	.77	.07	.06	.77	.10	.00	.00	.28	-.16	-.14	.28	-.15
FT	663231	B	4046	.53	.14	.53	.27	.06	.00	.00	.34	-.23	.34	-.10	-.19
FT	663232	C	4072	.17	.05	.06	.17	.72	.00	.00	.01	-.24	-.21	.01	.23
FT	663233	D	4071	.53	.24	.21	.02	.53	.00	.00	.23	-.15	-.05	-.21	.23
FT	663234	C	4065	.41	.11	.03	.41	.45	.00	.00	.30	-.16	-.16	.30	-.15

Grade 11

Grade 11 Science															
GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	635174	A	20907	.67	.67	.23	.05	.05	.00	.00	.35	.35	-.14	-.31	-.16
OP	635180	D	20907	.63	.18	.09	.10	.63	.00	.00	.45	-.21	-.24	-.23	.45
OP	635192	D	20907	.58	.25	.04	.12	.58	.00	.00	.49	-.25	-.19	-.29	.49
OP	635197	B	20907	.67	.14	.67	.10	.10	.00	.00	.45	-.12	.45	-.34	-.21
OP	635204	D	20907	.56	.33	.05	.05	.56	.00	.00	.43	-.27	-.17	-.21	.43
OP	635211	A	20907	.71	.71	.07	.13	.09	.00	.00	.30	.30	-.10	-.20	-.13
OP	635212	C	20907	.61	.13	.14	.61	.12	.00	.00	.36	.03	-.28	.36	-.27
OP	635216	C	20907	.70	.06	.17	.70	.06	.00	.00	.24	-.19	-.10	.24	-.11
OP	635239	B	20907	.53	.21	.53	.10	.15	.00	.00	.30	-.05	.30	-.27	-.13
OP	635241	A	20907	.76	.76	.02	.20	.02	.00	.00	.47	.47	-.23	-.36	-.13
OP	635243	D	20907	.62	.08	.19	.11	.62	.00	.00	.47	-.22	-.20	-.29	.47
OP	635247	A	20907	.63	.63	.30	.03	.04	.00	.00	.36	.36	-.29	-.14	-.08

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Grade 11 Science

GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	635259	A	20907	.52	.52	.27	.09	.12	.00	.00	.42	.42	-.26	-.13	-.16
OP	635265	A	20907	.68	.68	.12	.12	.07	.00	.00	.42	.42	-.16	-.22	-.27
OP	635266	A	20907	.74	.74	.09	.07	.10	.00	.00	.46	.46	-.26	-.30	-.16
OP	635271	A	20907	.67	.67	.12	.16	.04	.00	.00	.40	.40	-.14	-.29	-.16
OP	635278	C	20907	.78	.10	.06	.78	.06	.00	.00	.42	-.24	-.27	.42	-.17
OP	635281	B	20907	.88	.02	.88	.03	.08	.00	.00	.42	-.19	.42	-.25	-.26
OP	635289	B	20907	.80	.09	.80	.06	.06	.00	.00	.52	-.27	.52	-.31	-.24
OP	635290	D	20907	.74	.10	.08	.07	.74	.00	.00	.54	-.29	-.30	-.24	.54
OP	635291	D	20907	.47	.06	.13	.34	.47	.00	.00	.51	.00	-.29	-.33	.51
OP	635489	C	20907	.66	.19	.07	.66	.07	.00	.00	.47	-.16	-.35	.47	-.26
OP	635492	C	20907	.54	.18	.14	.54	.14	.00	.00	.33	-.03	-.29	.33	-.14
OP	635495	D	20907	.61	.10	.13	.17	.61	.00	.00	.50	-.20	-.25	-.26	.50
OP	635501	D	20907	.76	.06	.06	.12	.76	.00	.00	.49	-.29	-.31	-.21	.49
OP	635503	C	20907	.73	.07	.10	.73	.10	.00	.00	.49	-.26	-.31	.49	-.20
OP	635506	B	20907	.64	.07	.64	.23	.06	.00	.00	.37	-.23	.37	-.18	-.18
OP	635517	A	20907	.37	.37	.19	.18	.26	.00	.00	.32	.32	-.14	-.16	-.08
OP	635520	B	20907	.58	.04	.58	.12	.26	.00	.00	.38	-.14	.38	-.30	-.14
OP	635527	C	20907	.49	.14	.12	.49	.25	.00	.00	.21	-.09	-.24	.21	.01
OP	635532	C	20907	.84	.04	.08	.84	.05	.00	.00	.42	-.20	-.32	.42	-.14
OP	635534	D	20907	.98	.01	.01	.01	.98	.00	.00	.28	-.14	-.16	-.17	.28
OP	635535	B	20907	.76	.18	.76	.02	.03	.00	.00	.38	-.22	.38	-.25	-.20
OP	635553	C	20907	.89	.02	.07	.89	.01	.00	.00	.35	-.18	-.24	.35	-.14
OP	635558	C	20907	.62	.05	.18	.62	.15	.00	.00	.48	-.19	-.28	.48	-.23
OP	635562	A	20907	.63	.63	.12	.14	.10	.00	.00	.39	.39	-.22	-.20	-.14
OP	635565	A	20907	.61	.61	.20	.06	.13	.00	.00	.51	.51	-.31	-.22	-.20
OP	636026	A	20907	.72	.72	.08	.16	.04	.00	.00	.57	.57	-.28	-.38	-.20
OP	636032	C	20907	.60	.10	.19	.60	.10	.00	.00	.51	-.19	-.39	.51	-.11
OP	636033	B	20907	.88	.05	.88	.03	.04	.00	.00	.45	-.24	.45	-.26	-.24
OP	636042	B	20907	.45	.29	.45	.08	.18	.00	.00	.32	-.14	.32	-.34	.00
OP	636044	D	20907	.77	.02	.18	.03	.77	.00	.00	.44	-.17	-.31	-.24	.44
OP	636045	D	20907	.83	.06	.08	.03	.83	.00	.00	.44	-.24	-.23	-.26	.44
OP	636047	B	20907	.66	.13	.66	.09	.11	.00	.00	.42	-.27	.42	-.25	-.11
OP	647161	B	20907	.49	.26	.49	.15	.10	.00	.00	.35	-.01	.35	-.32	-.17
OP	647164	A	20907	.82	.82	.07	.05	.06	.00	.00	.42	.42	-.25	-.23	-.20
OP	647169	B	20907	.65	.13	.65	.15	.07	.00	.00	.43	-.20	.43	-.27	-.14
OP	647170	D	20907	.46	.21	.13	.19	.46	.00	.00	.45	-.09	-.28	-.22	.45
OP	647172	D	20907	.59	.05	.14	.22	.59	.00	.00	.55	-.25	-.31	-.26	.55
OP	647177	D	20907	.50	.13	.14	.23	.50	.00	.00	.46	-.17	-.28	-.17	.46
OP	647179	D	20907	.45	.12	.20	.22	.45	.00	.00	.41	-.13	-.10	-.28	.41
OP	647180	A	20907	.51	.51	.16	.11	.22	.00	.00	.44	.44	-.19	-.27	-.15

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GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
OP	647182	A	20907	.75	.75	.06	.09	.09	.00	.00	.44	.44	-.26	-.30	-.13
OP	647184	D	20907	.43	.07	.07	.43	.43	.00	.00	.41	-.17	-.24	-.20	.41
OP	647194	D	20907	.89	.04	.03	.04	.89	.00	.00	.47	-.23	-.26	-.28	.47
OP	647197	C	20907	.77	.05	.07	.77	.11	.00	.00	.46	-.17	-.31	.46	-.24
OP	647212	C	20907	.83	.04	.10	.83	.03	.00	.00	.38	-.23	-.22	.38	-.17
OP	647214	D	20907	.58	.13	.10	.19	.58	.00	.00	.34	-.18	-.16	-.14	.34
OP	647216	A	20907	.41	.41	.15	.29	.15	.00	.00	.41	.41	-.18	-.09	-.25
OP	647221	B	20907	.85	.03	.85	.07	.04	.00	.00	.46	-.23	.46	-.32	-.19
FT	647168	D	4556	.12	.17	.53	.17	.12	.00	.00	.12	.06	-.05	-.10	.12
FT	647174	C	4067	.70	.19	.07	.70	.04	.00	.00	.37	-.18	-.27	.37	-.14
FT	647183	C	4092	.68	.08	.08	.68	.16	.00	.00	.46	-.21	-.24	.46	-.25
FT	647186	D	4088	.17	.38	.24	.21	.17	.00	.00	.19	.04	-.03	-.19	.19
FT	647188	C	4511	.20	.49	.23	.20	.07	.00	.00	.04	-.19	.24	.04	-.07
FT	647196	A	4090	.59	.59	.18	.04	.19	.00	.00	.25	.25	-.13	-.16	-.09
FT	647201	C	4090	.62	.02	.31	.62	.05	.00	.00	.30	-.06	-.25	.30	-.09
FT	647202	B	4045	.44	.05	.44	.26	.25	.00	.00	.20	-.19	.20	-.06	-.07
FT	647207	A	4019	.86	.86	.04	.06	.04	.00	.00	.37	.37	-.21	-.26	-.13
FT	647218	A	4116	.19	.19	.50	.08	.23	.00	.00	.16	.16	.15	-.23	-.17
FT	661326	B	4527	.52	.05	.52	.34	.09	.00	.00	.49	-.21	.49	-.32	-.16
FT	661327	B	4091	.10	.28	.10	.52	.10	.00	.00	-.20	.14	-.20	.02	-.04
FT	661328	A	4047	.25	.25	.07	.03	.65	.00	.00	.14	.14	-.15	-.23	.05
FT	661329	C	4529	.77	.07	.14	.77	.02	.00	.00	.42	-.11	-.35	.42	-.19
FT	661331	D	4140	.90	.03	.03	.04	.90	.00	.00	.42	-.19	-.28	-.24	.42
FT	661332	B	4010	.90	.01	.90	.08	.01	.00	.00	.15	-.12	.15	-.09	-.11
FT	661333	D	4058	.50	.08	.09	.33	.50	.00	.00	.36	-.08	-.16	-.23	.36
FT	661334	C	4131	.75	.03	.14	.75	.09	.00	.00	.34	-.20	-.10	.34	-.28
FT	661335	A	4084	.22	.22	.07	.22	.48	.00	.00	.16	.16	-.20	-.34	.26
FT	661336	B	4162	.44	.19	.44	.09	.29	.00	.00	.13	.00	.13	-.21	-.01
FT	661337	A	4087	.39	.39	.19	.17	.25	.00	.00	.34	.34	-.19	-.10	-.13
FT	661339	B	4092	.59	.11	.59	.10	.20	.00	.00	.37	-.12	.37	-.32	-.13
FT	661340	D	4110	.32	.34	.19	.15	.32	.00	.00	.27	-.03	-.16	-.12	.27
FT	661341	B	4112	.43	.29	.43	.11	.18	.00	.00	.25	-.08	.25	-.24	-.03
FT	661345	C	4605	.76	.03	.06	.76	.15	.00	.00	.21	-.12	-.18	.21	-.07
FT	661346	C	4150	.68	.03	.17	.68	.12	.00	.00	.37	-.18	-.24	.37	-.16
FT	661348	B	4134	.91	.02	.91	.04	.03	.00	.00	.41	-.21	.41	-.26	-.21
FT	661349	B	4111	.56	.07	.56	.10	.26	.00	.00	.31	-.13	.31	-.25	-.10
FT	661350	C	4586	.36	.13	.49	.36	.02	.00	.00	.20	-.20	.00	.20	-.18
FT	661351	D	3944	.79	.05	.07	.10	.79	.00	.00	.53	-.24	-.28	-.32	.53
FT	661352	C	4085	.53	.16	.12	.53	.19	.00	.00	.39	-.15	-.25	.39	-.15
FT	661354	C	4595	.64	.14	.13	.64	.10	.00	.00	.36	-.10	-.24	.36	-.20

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GENERAL			COUNTS	PROPORTIONS							CORRELATIONS				
Type	Item ID	Key	N	P-Value	A	B	C	D	-	*	Total	A	B	C	D
FT	661355	D	4089	.40	.14	.39	.07	.40	.00	.00	.38	-.11	-.24	-.12	.38
FT	661357	D	4054	.56	.16	.20	.07	.56	.00	.00	.39	-.10	-.21	-.28	.39
FT	661358	D	4543	.48	.10	.10	.32	.48	.00	.00	.03	-.06	-.19	.13	.03
FT	661359	B	4075	.86	.04	.86	.01	.09	.00	.00	.32	-.13	.32	-.22	-.21
FT	661361	C	4119	.87	.08	.02	.87	.03	.00	.00	.34	-.25	-.19	.34	-.12
FT	661362	A	4565	.73	.73	.03	.21	.04	.00	.00	.41	.41	-.21	-.28	-.18
FT	661363	C	4121	.55	.17	.10	.55	.17	.00	.00	.30	-.17	-.23	.30	-.05
FT	661364	A	4122	.63	.63	.25	.08	.04	.00	.00	.23	.23	-.12	-.15	-.10
FT	661365	B	4166	.41	.33	.41	.20	.06	.00	.00	.26	.04	.26	-.24	-.21
FT	661366	B	4066	.35	.16	.35	.37	.12	.00	.00	.09	-.22	.09	.24	-.24
FT	661367	C	4503	.82	.04	.07	.82	.07	.00	.00	.47	-.23	-.28	.47	-.25
FT	661368	C	4037	.45	.02	.44	.45	.09	.00	.00	.38	-.18	-.24	.38	-.15
FT	661369	B	4005	.31	.20	.31	.11	.37	.00	.00	.18	-.05	.18	-.20	.01
FT	661370	B	4060	.43	.41	.43	.14	.02	.00	.00	.28	-.09	.28	-.19	-.19
FT	661372	D	4181	.09	.30	.11	.50	.09	.00	.00	.02	.00	-.12	.07	.02
FT	661373	B	4027	.37	.12	.37	.24	.27	.00	.00	.16	-.10	.16	-.10	.00
FT	661374	B	4033	.37	.46	.37	.03	.14	.00	.00	.22	.02	.22	-.23	-.21
FT	661375	B	4120	.61	.06	.61	.21	.13	.00	.00	.26	-.19	.26	-.18	-.03

APPENDIX I: OVERVIEW OF RASCH MEASUREMENT

Most psychometricians agree that, when possible, the Rasch model is the preferred approach to manage the assessment and reporting processes (Rasch, 1960; Wright & Stone, 1979; Smith & Smith, 2004; Mead, 2008). For non-statisticians, the most compelling reasons may be that the Rasch model:

- is simple to apply, and
- preserves the number-correct ordering.

Simplicity makes the methods (relatively) easy to explain and the results to interpret. The results are straightforward and readily defended in front of administrators, parents, educators, and courts. And nontrivially, the simplicity helps meet the increasingly demanding time lines for reporting.

With number-correct scoring, students with more correct responses are always considered more proficient than students with fewer correct. This is intuitively obvious, based on more than a century of experience using and interpreting such scores.

For statisticians, the attractions of the Rasch model are more esoteric, including:

- an interval scale of measurement,
- meaningful estimates of the standard errors at each raw score, and,
- simple sufficient statistics for person and item parameters.

The interval scale makes it possible to construct a ruler and place the students and the items on the same ruler, along with any performance expectations or normative information. A difference of, say, 10 scale score units will have the same meaning at any point along the scale and will have the same implications when comparing a student to earlier assessments, to an item, to normative information, to expectations, to a growth target, or to another student.

The sufficient statistics are essential to the simplicity. They make it possible to derive estimation equations for person parameters that do not involve the item parameters and for the item parameters that do not involve person parameters. It does not matter which items are used for the assessment or which students are used for the calibration, given the items are appropriate for the students.

Still more compelling, once the sufficient statistics have been extracted, there is nothing remaining in the data that is directly relevant to the measurement. Any residual information can be used to control and monitor the model. The residuals contain diagnostic information about the student's performance on specific items or clusters of items.

The model does, however, place special demands on the item development and test construction processes. In essence, the model requires that all items, while imperfect, be equally valid and reliable instances of the construct. When sufficient care is taken in item and test development, most achievement test data can adequately satisfy the demands of the model and help realize its advantages of valid measurement, quality control, and effective, timely reporting.

The Rasch Philosophy of Measurement

George Rasch (1960), to derive data that he considered worthy of the name measurement, reasoned that the interaction between the person and the item must be governed by a single person parameter (ability) and a single item parameter (difficulty). If person *A* has more ability than person *B*, then *A* is more likely than *B* to answer any item correctly. If item *i* is more difficult than item *j*, then any person is less likely to answer item *i* correctly. These two common sense assertions are axiomatic to Rasch Measurement and must hold regardless of any other characteristics of the people or the items.

This reasoning led Rasch to the simple logistic model, which had several very useful and closely related properties touched on above (Rasch, 1960, 1977):

- *Simplicity*, which allows straightforward calculations, ready communication, and interpretation of the measures (Wright & Stone, 1979),
- *Separability* of the model parameters (Rasch, 1960),
- *Sufficiency* that does not involve the parameters (Andersen, 1977),
- *Specific objectivity*, sometimes called *person-free[d]* calibration and *item-free[d]* measurement (Wright, 1968), and

Specific objectivity means that the estimation equations for ability do not involve the difficulty parameters, and the equations for difficulty do not involve the ability parameters. Specific objectivity is possible when *sufficient statistics* for the parameters exist. The sufficient statistics exist because the parameters are *separable* in the model.

In practical terms, the students can be ordered on the measurement continuum by their number correct scores and the items can be ordered on the same continuum by the number of correct responses. No other information is necessary for the measurement and anything remaining in the data can be used to control and monitor fit to the model. Specific objectivity is the cornerstone of the Rasch family of measurement models (Wright & Mok, 1980).

THE MODEL FOR MEASUREMENT

Dichotomous Items

Multiple-choice items (MC) are calibrated using the most familiar form of the model (Rasch, 1960; Wright & Panchapakesan, 1969; Wright & Stone 1979; Andrich, 1988; Fischer & Molenaar, 1995; Smith & Smith, 2004). The Rasch model applicable to dichotomously scored items, given person ability and item difficulty, can be seen in the basic statement of the model.

The probability of success for a person with ability β_v on an item with difficulty δ_i is a function of the difference between the ability of the person and the difficulty of the item; mathematically:

$$1. \quad P(\text{right} \mid \beta_v, \delta_i) = \frac{e^{\beta_v - \delta_i}}{1 + e^{\beta_v - \delta_i}} = \frac{B_v}{B_v + \Delta_i}, \text{ where } B_v = e^{\beta_v} \text{ and } \Delta_i = e^{\delta_i}.$$

This is the probability of scoring one rather than zero on an item for which those are the only possibilities. This expression results in the familiar S-shaped curve relating the ability-difficulty

metric to number correct score. Its simplicity makes it especially suited for educational assessment by drawing a clear distinction between the information (captured in the parameter estimates by the sufficient statistics) relevant to estimating the ability property that all examinees share and the information relevant to describing unique characteristics of individuals.

The model returns the identical estimated ability for every student with the same number correct score on a form. In the estimation phase, there is no distinction between the student who passes the easy item and misses the difficult items and the student who misses the easy items and passes the difficult ones. At the control and diagnostic stage, there is a great deal of difference between the two situations. In the first, there is a very clear statement of the person's true location on the construct; in the second, there are two very different statements when the two halves of the test are viewed separately.

This is the stage at which Rasch focuses his concern for the control of the model. The model itself provides a probability statement about any outcome. Typically, one examines the residuals, which can be expressed as the odds against the observed response. When these are collected and dissected, the conclusion for the first student would be nothing surprising occurred; for the second student, most of the responses were surprising. This diagnostic information can be put to good use when reporting and interpreting the test scores.

The strong measurement model is the instrument for understanding the scores, whether it concludes the student was accurately and validly measured or not. It will help lead the teacher and students to the most appropriate next steps.

CALIBRATION: ESTIMATING ITEM DIFFICULTIES

DRC uses the Rasch measurement model to estimate the student proficiencies and to control the assessment process. The model provides straightforward algorithms to compute ability estimates on a unidimensional, equal-interval scale of measurement from the number correct scores.

WINSTEPS (2012) implements the joint maximum likelihood estimation procedure (Linacre, 2012) for estimating item difficulties. This calibration software is commercially available and widely used in the testing industry. In addition to performing item calibration and ability estimation, the capabilities of the WINSTEPS program will be utilized to assess unidimensionality, item interdependence, and other deviations from the model. The program also has several options for exploring the person-item residual matrix (Mead, 1976, 2008; Ludlow 1986; Smith, 2000).

In the simplest formulation, estimating either the item difficulty or the person ability involves solving the fundamental equation that states the observed score must equal the expected score. For example, the ability estimate for a person who scores r on a set of L items is derived from:

$$2. \quad r_v = \sum_{i=1}^L \sum_{k=0}^{m_i} k \hat{P}_{vik}, \text{ where } \hat{P}_{vik} \text{ is defined by (1) with estimates replacing the parameters.}$$

Rasch calibration and scaling have become relatively routine operations. Members of the DRC psychometric staff have been instrumental in the development of the Rasch model and its application over several decades and are intimately familiar with the software for its application.

Appendix J: Reading, Mathematics, and Science Operational Form Calibration Summaries

Winsteps Table 3.1 Interpretation Guide

Tables in this Appendix are taken directly from the Winsteps output file and summarize calibration run of each form for each grade.

Grade 3

Number of students

Number of Items

Items are dichotomous

```

TABLE 3.1 NESA Grade 3 Reading FT 2009 ZOU508WB.TXT Jun 12 12:53 2009
INPUT: 12420 STUDENTS 210 Readings MEASURED: 2134 STUDENTS 42 Readings 2 CATS
    
```

SUMMARY OF 2130 MEASURED (NON-EXTREME) STUDENTS

	RAW SCORE	COUNT	MEASURE	MODEL ERROR	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	27.6	42.0	.93	.41	.99	.1	.99	.1
S.D.	7.9	.0	1.18	.10	.17	.9	.45	1.1
MAX.	41.0	42.0	4.33	1.04	1.65	4.0	9.13	5.0
MIN.	4.0	42.0	-2.65	.34	.58	-2.6	.10	-1.9
<hr/>								
REAL RMSE	.43	ADJ.SD	1.09	SEPARATION	2.53	STUDEN RELIABILITY		.86
MODEL RMSE	.42	ADJ.SD	1.10	SEPARATION	2.61	STUDEN RELIABILITY		.87
S.E. OF STUDENT MEAN = .03								

Student mean logit relative to the form

Fit "Z" should have mean = 0 and SD = 1

Form Reliability*

*Form Reliability run in Winsteps is run on an anchored file

Reading Grade 3

TABLE 3.1 State NE READING Spring 2013 Grad RE03_preEqOUT.txt Jun 9 12:05 2013
 INPUT: 22767 Student 45 READ REPORTED: 22717 Student 45 READ 2 CATS WINSTEPS 3.75.1

SUMMARY OF 22509 MEASURED (NON-EXTREME) Student

	TOTAL		MEASURE	MODEL ERROR	INFIT		OUTFIT	
	SCORE	COUNT			MNSQ	ZSTD	MNSQ	ZSTD
MEAN	30.5	45.0	.3835	.3956	1.00	.1	.99	.1
S.D.	8.6	.2	1.1502	.1251	.10	.7	.22	.8
MAX.	44.0	45.0	3.3997	1.0214	1.47	3.7	4.08	4.0
MIN.	2.0	19.0	-3.9106	.3150	.64	-3.7	.30	-3.6
REAL RMSE	.4218	TRUE SD	1.0701	SEPARATION	2.54	Student	RELIABILITY	.87
MODEL RMSE	.4149	TRUE SD	1.0728	SEPARATION	2.59	Student	RELIABILITY	.87
S.E. OF Student MEAN = .0077								

Grade 4

TABLE 3.1 State NE READING Spring 2013 Grad RE04_preEqOUT.txt Jun 9 12:07 2013
 INPUT: 22263 Student 45 READ REPORTED: 22210 Student 45 READ 2 CATS WINSTEPS 3.75.1

SUMMARY OF 22120 MEASURED (NON-EXTREME) Student

	TOTAL		MEASURE	MODEL ERROR	INFIT		OUTFIT	
	SCORE	COUNT			MNSQ	ZSTD	MNSQ	ZSTD
MEAN	31.0	45.0	.3146	.3923	1.00	.1	.97	.0
S.D.	7.9	.3	1.0671	.1113	.10	.7	.24	.8
MAX.	44.0	45.0	3.3175	1.0257	1.55	3.8	9.90	3.7
MIN.	1.0	18.0	-4.8568	.3196	.66	-3.5	.37	-3.2
REAL RMSE	.4147	TRUE SD	.9832	SEPARATION	2.37	Student	RELIABILITY	.85
MODEL RMSE	.4078	TRUE SD	.9861	SEPARATION	2.42	Student	RELIABILITY	.85
S.E. OF Student MEAN = .0072								

Grade 5

TABLE 3.1 State NE READING Spring 2013 Grad RE05_preEqOUT.txt Jun 9 12:07 2013
 INPUT: 22047 Student 48 READ REPORTED: 21988 Student 48 READ 2 CATS WINSTEPS 3.75.1

SUMMARY OF 21880 MEASURED (NON-EXTREME) Student

	TOTAL		MEASURE	MODEL ERROR	INFIT		OUTFIT	
	SCORE	COUNT			MNSQ	ZSTD	MNSQ	ZSTD
MEAN	33.1	48.0	.4535	.3830	.99	.0	.96	-.1
S.D.	9.1	.4	1.1161	.1206	.08	.7	.18	.8
MAX.	47.0	48.0	3.4343	1.0180	1.35	3.4	3.59	3.5
MIN.	1.0	20.0	-4.6140	.3004	.74	-3.5	.36	-3.3
REAL RMSE	.4061	TRUE SD	1.0396	SEPARATION	2.56	Student	RELIABILITY	.87
MODEL RMSE	.4015	TRUE SD	1.0414	SEPARATION	2.59	Student	RELIABILITY	.87
S.E. OF Student MEAN = .0075								

Grade 6

TABLE 3.1 State NE READING Spring 2013 Grad RE06_preEqOUT.txt Jun 9 12:08 2013
 INPUT: 21701 Student 48 READ REPORTED: 21655 Student 48 READ 2 CATS WINSTEPS 3.75.1

SUMMARY OF 21532 MEASURED (NON-EXTREME) Student

	TOTAL	COUNT	MEASURE	MODEL	INFIT		OUTFIT	
	SCORE			ERROR	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	32.9	48.0	.3807	.3890	1.00	.1	.99	.1
S.D.	8.7	.5	1.1433	.1117	.13	.8	.30	.9
MAX.	47.0	48.0	3.5331	1.0212	1.63	4.4	7.90	4.4
MIN.	1.0	19.0	-4.9041	.3157	.58	-3.8	.27	-3.6
REAL RMSE	.4134	TRUE SD	1.0659	SEPARATION	2.58	Student	RELIABILITY	.87
MODEL RMSE	.4047	TRUE SD	1.0693	SEPARATION	2.64	Student	RELIABILITY	.87
S.E. OF Student MEAN = .0078								

Grade 7

TABLE 3.1 State NE READING Spring 2013 Grad RE07_preEqOUT.txt Jun 9 12:08 2013
 INPUT: 21496 Student 48 READ REPORTED: 21439 Student 48 READ 2 CATS WINSTEPS 3.75.1

SUMMARY OF 21303 MEASURED (NON-EXTREME) Student

	TOTAL	COUNT	MEASURE	MODEL	INFIT		OUTFIT	
	SCORE			ERROR	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	33.1	48.0	.4866	.3910	1.00	.1	.98	.0
S.D.	9.2	.5	1.1713	.1294	.09	.7	.22	.8
MAX.	47.0	48.0	3.4990	1.0209	1.57	4.0	4.00	4.3
MIN.	1.0	20.0	-4.6791	.3045	.72	-3.2	.26	-3.0
REAL RMSE	.4185	TRUE SD	1.0939	SEPARATION	2.61	Student	RELIABILITY	.87
MODEL RMSE	.4119	TRUE SD	1.0965	SEPARATION	2.66	Student	RELIABILITY	.88
S.E. OF Student MEAN = .0080								

Grade 8

TABLE 3.1 State NE READING Spring 2013 Grad RE08_preEqOUT.txt Jun 9 12:08 2013
 INPUT: 21028 Student 50 READ REPORTED: 20996 Student 50 READ 2 CATS WINSTEPS 3.75.1

SUMMARY OF 20908 MEASURED (NON-EXTREME) Student

	TOTAL	COUNT	MEASURE	MODEL	INFIT		OUTFIT	
	SCORE			ERROR	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	35.4	50.0	.3594	.3830	1.00	.1	.99	.1
S.D.	9.2	.6	1.1016	.1174	.08	.6	.21	.8
MAX.	49.0	50.0	3.3008	1.0207	1.38	3.9	4.44	3.9
MIN.	1.0	20.0	-4.9225	.2958	.74	-2.8	.22	-2.5
REAL RMSE	.4065	TRUE SD	1.0238	SEPARATION	2.52	Student	RELIABILITY	.86
MODEL RMSE	.4006	TRUE SD	1.0262	SEPARATION	2.56	Student	RELIABILITY	.87
S.E. OF Student MEAN = .0076								

Grade 11

TABLE 3.1 State NE READING Spring 2013 Grad RE11_preEqOUT.txt Jun 9 12:09 2013
 INPUT: 20942 Student 50 READ REPORTED: 20920 Student 50 READ 2 CATS WINSTEPS 3.75.1

SUMMARY OF 20848 MEASURED (NON-EXTREME) Student

	TOTAL		MEASURE	MODEL ERROR	INFIT		OUTFIT	
	SCORE	COUNT			MNSQ	ZSTD	MNSQ	ZSTD
MEAN	34.0	50.0	.1306	.3767	1.00	.1	.99	.1
S.D.	9.8	1.1	1.1539	.1138	.10	.8	.24	.9
MAX.	49.0	50.0	3.2632	1.0341	1.44	4.5	4.09	4.4
MIN.	1.0	20.0	-4.2782	.2981	.68	-3.2	.27	-3.0
REAL RMSE	.3997	TRUE SD	1.0825	SEPARATION	2.71	Student	RELIABILITY	.88
MODEL RMSE	.3936	TRUE SD	1.0847	SEPARATION	2.76	Student	RELIABILITY	.88
S.E. OF Student MEAN = .0080								

Mathematics

Grade 3

TABLE 3.1 State NE MATH Spring 2013 Grade 3 MA03_preEqOUT.txt Jun 9 11:50 2013
 INPUT: 22770 Student 50 MATH REPORTED: 22756 Student 50 MATH 2 CATS WINSTEPS 3.75.1

SUMMARY OF 22514 MEASURED (NON-EXTREME) Student

	TOTAL		MEASURE	MODEL ERROR	INFIT		OUTFIT	
	SCORE	COUNT			MNSQ	ZSTD	MNSQ	ZSTD
MEAN	34.1	50.0	.2395	.3832	1.00	.1	1.01	.1
S.D.	10.1	.4	1.2021	.1341	.07	.6	.20	.7
MAX.	49.0	50.0	3.2664	1.0172	1.33	3.2	3.52	3.2
MIN.	3.0	25.0	-3.6955	.2942	.74	-3.3	.32	-3.3
REAL RMSE	.4111	TRUE SD	1.1297	SEPARATION	2.75	Student	RELIABILITY	.88
MODEL RMSE	.4060	TRUE SD	1.1315	SEPARATION	2.79	Student	RELIABILITY	.89
S.E. OF Student MEAN = .0080								

Grade 4

TABLE 3.1 State NE MATH Spring 2013 Grade 4 MA04_preEqOUT.txt Jun 9 12:00 2013
 INPUT: 22260 Student 55 MATH REPORTED: 22240 Student 55 MATH 2 CATS WINSTEPS 3.75.1

SUMMARY OF 22033 MEASURED (NON-EXTREME) Student

	TOTAL		MEASURE	MODEL ERROR	INFIT		OUTFIT	
	SCORE	COUNT			MNSQ	ZSTD	MNSQ	ZSTD
MEAN	37.3	55.0	.2397	.3715	1.01	.1	1.01	.1
S.D.	11.1	.3	1.2581	.1325	.09	.7	.26	.8
MAX.	54.0	55.0	3.4548	1.0207	1.56	4.0	4.81	4.0
MIN.	1.0	28.0	-5.0936	.2887	.67	-3.5	.32	-3.3
REAL RMSE	.4008	TRUE SD	1.1925	SEPARATION	2.98	Student	RELIABILITY	.90
MODEL RMSE	.3944	TRUE SD	1.1947	SEPARATION	3.03	Student	RELIABILITY	.90
S.E. OF Student MEAN = .0085								

Grade 5

TABLE 3.1 State NE MATH Spring 2013 Grade 5 MA05_preEqOUT.txt Jun 9 12:01 2013
 INPUT: 22050 Student 55 MATH REPORTED: 22028 Student 55 MATH 2 CATS WINSTEPS 3.75.1

SUMMARY OF 21888 MEASURED (NON-EXTREME) Student

	TOTAL	COUNT	MEASURE	MODEL	INFIT		OUTFIT	
	SCORE			ERROR	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	36.5	55.0	.2592	.3593	1.00	.0	1.00	.1
S.D.	11.0	.6	1.2040	.1202	.09	.7	.24	.8
MAX.	54.0	55.0	3.5700	1.0206	1.39	4.1	7.13	3.9
MIN.	3.0	27.0	-3.4683	.2858	.73	-3.0	.25	-2.9
REAL RMSE	.3844	TRUE SD	1.1410	SEPARATION	2.97	Student	RELIABILITY	.90
MODEL RMSE	.3789	TRUE SD	1.1428	SEPARATION	3.02	Student	RELIABILITY	.90
S.E. OF Student MEAN = .0081								

Grade 6

TABLE 3.1 State NE MATH Sprin MA06_preEqOUT_Remove_603183.txt Jun 12 16:07 2013
 INPUT: 21720 Student 58 MATH REPORTED: 21708 Student 58 MATH 2 CATS WINSTEPS 3.75.1

SUMMARY OF 21396 MEASURED (NON-EXTREME) Student

	TOTAL	COUNT	MEASURE	MODEL	INFIT		OUTFIT	
	SCORE			ERROR	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	39.5	58.0	.2112	.3698	1.01	.1	1.02	.1
S.D.	12.3	.4	1.3144	.1454	.07	.6	.22	.8
MAX.	57.0	58.0	3.3790	1.0131	1.38	4.3	5.27	4.5
MIN.	1.0	29.0	-5.1200	.2756	.73	-3.3	.30	-3.2
REAL RMSE	.4032	TRUE SD	1.2510	SEPARATION	3.10	Student	RELIABILITY	.91
MODEL RMSE	.3974	TRUE SD	1.2529	SEPARATION	3.15	Student	RELIABILITY	.91
S.E. OF Student MEAN = .0090								

Grade 7

TABLE 3.1 State NE MATH Spring 2013 Grade 7 MA07_preEqOUT.txt Jun 9 12:03 2013
 INPUT: 21485 Student 58 MATH REPORTED: 21470 Student 58 MATH 2 CATS WINSTEPS 3.75.1

SUMMARY OF 21252 MEASURED (NON-EXTREME) Student

	TOTAL	COUNT	MEASURE	MODEL	INFIT		OUTFIT	
	SCORE			ERROR	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	38.7	58.0	.2553	.3604	1.00	.1	.99	.0
S.D.	12.0	.7	1.2854	.1297	.10	.8	.26	.9
MAX.	57.0	58.0	3.5946	1.0213	1.57	4.0	6.38	4.3
MIN.	2.0	29.0	-4.3959	.2816	.71	-3.4	.31	-3.2
REAL RMSE	.3894	TRUE SD	1.2250	SEPARATION	3.15	Student	RELIABILITY	.91
MODEL RMSE	.3831	TRUE SD	1.2270	SEPARATION	3.20	Student	RELIABILITY	.91
S.E. OF Student MEAN = .0088								

Grade 8

TABLE 3.1 State NE MATH Spring 2013 Grade 8 MA08_preEqOUT.txt Jun 9 12:03 2013
 INPUT: 21038 Student 60 MATH REPORTED: 21020 Student 60 MATH 2 CATS WINSTEPS 3.75.1

SUMMARY OF 20806 MEASURED (NON-EXTREME) Student

	TOTAL SCORE	COUNT	MEASURE	MODEL ERROR	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	40.1	60.0	.1788	.3508	1.00	.1	.99	.1
S.D.	12.3	.7	1.2510	.1281	.09	.8	.23	.9
MAX.	59.0	60.0	3.5187	1.0185	1.45	4.5	4.94	4.1
MIN.	2.0	30.0	-4.4210	.2735	.70	-3.8	.38	-3.5
REAL RMSE	.3790	TRUE SD	1.1922	SEPARATION	3.15	Student	RELIABILITY	.91
MODEL RMSE	.3735	TRUE SD	1.1939	SEPARATION	3.20	Student	RELIABILITY	.91
S.E. OF Student MEAN = .0087								

Grade 11

TABLE 3.1 State NE MATH Spring 2013 Grade 1 MA11_preEqOUT.txt Jun 9 12:04 2013
 INPUT: 20935 Student 60 MATH REPORTED: 20915 Student 60 MATH 2 CATS WINSTEPS 3.75.1

SUMMARY OF 20689 MEASURED (NON-EXTREME) Student

	TOTAL SCORE	COUNT	MEASURE	MODEL ERROR	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	37.5	60.0	.1425	.3499	.99	.0	.99	.0
S.D.	13.7	1.0	1.3651	.1390	.08	.7	.19	.8
MAX.	59.0	60.0	3.6537	1.0169	1.43	4.7	3.91	4.8
MIN.	1.0	30.0	-4.9008	.2695	.76	-3.4	.24	-3.1
REAL RMSE	.3813	TRUE SD	1.3108	SEPARATION	3.44	Student	RELIABILITY	.92
MODEL RMSE	.3765	TRUE SD	1.3122	SEPARATION	3.48	Student	RELIABILITY	.92
S.E. OF Student MEAN = .0095								

**Science
Grade 5**

TABLE 3.1 State NE SCIENCE Spring 2013 Grad SC05_preEqOUT.txt Jun 9 12:09 2013
 INPUT: 22073 Student 50 SCIE REPORTED: 22043 Student 50 SCIE 2 CATS WINSTEPS 3.75.1

SUMMARY OF 21908 MEASURED (NON-EXTREME) Student

	TOTAL SCORE	COUNT	MEASURE	MODEL ERROR	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	33.9	50.0	.0970	.3738	1.00	.1	.99	.0
S.D.	9.4	.4	1.1276	.1203	.09	.7	.20	.8
MAX.	49.0	50.0	3.2075	1.0195	1.44	4.2	4.16	4.3
MIN.	3.0	25.0	-3.8646	.2978	.72	-3.4	.29	-3.2
REAL RMSE	.3986	TRUE SD	1.0548	SEPARATION	2.65	Student	RELIABILITY	.88
MODEL RMSE	.3927	TRUE SD	1.0570	SEPARATION	2.69	Student	RELIABILITY	.88
S.E. OF Student MEAN = .0076								

Grade 8

TABLE 3.1 State NE SCIENCE Spring 2013 Grad SC08_preEqOUT.txt Jun 9 12:10 2013
 INPUT: 21053 Student 60 SCIE REPORTED: 21041 Student 60 SCIE 2 CATS WINSTEPS 3.75.1

SUMMARY OF 21000 MEASURED (NON-EXTREME) Student

	TOTAL	COUNT	MEASURE	MODEL	INFIT		OUTFIT	
	SCORE			ERROR	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	40.0	60.0	.0895	.3274	.99	.0	.98	.0
S.D.	10.7	.6	1.0275	.0950	.08	.7	.17	.8
MAX.	59.0	60.0	3.4667	1.0165	1.36	3.8	3.30	3.9
MIN.	1.0	30.0	-5.0845	.2703	.74	-3.2	.33	-3.1
REAL RMSE	.3449	TRUE SD	.9679	SEPARATION	2.81	Student	RELIABILITY	.89
MODEL RMSE	.3409	TRUE SD	.9693	SEPARATION	2.84	Student	RELIABILITY	.89
S.E. OF Student MEAN = .0071								

Grade 11

TABLE 3.1 State NE SCI SC11_preEqOUT_remove_635534_647216.txt Jun 12 9:05 2013
 INPUT: 20931 Student 60 SCIE REPORTED: 20907 Student 60 SCIE 2 CATS WINSTEPS 3.75.1

SUMMARY OF 20857 MEASURED (NON-EXTREME) Student

	TOTAL	COUNT	MEASURE	MODEL	INFIT		OUTFIT	
	SCORE			ERROR	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	39.5	60.0	.1430	.3325	.99	.0	.96	-.1
S.D.	11.3	1.0	1.1003	.0938	.09	.8	.21	.8
MAX.	59.0	60.0	3.5829	1.0904	1.54	3.6	9.29	5.5
MIN.	1.0	30.0	-4.6362	.2757	.73	-3.1	.32	-2.4
REAL RMSE	.3502	TRUE SD	1.0431	SEPARATION	2.98	Student	RELIABILITY	.90
MODEL RMSE	.3454	TRUE SD	1.0447	SEPARATION	3.02	Student	RELIABILITY	.90
S.E. OF Student MEAN = .0076								

Appendix K: Reading Item Bank Difficulties

Grade 3 Reading

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-EX CORR.	EXP.	OBS%	EXACT EXP%	MATCH DISPLACE	ITEM
1	18418	22715	-1.5135A	.0188	.96	-3.3	.85	-6.9	.44	.33	82.6	82.9	.1139	562909
2	14188	22715	-.4129A	.0155	1.08	9.9	1.13	9.9	.36	.40	69.6	72.1	.1565	562917
3	16084	22715	-.5500A	.0157	1.02	3.2	1.00	.0	.33	.39	71.5	73.1	-.1762	562918
4	10336	22715	.3381A	.0149	.99	-1.9	1.00	-.3	.41	.41	70.0	69.3	.2719	562920
5	19018	22715	-1.8076A	.0203	1.06	5.0	.98	-.6	.38	.31	84.2	86.0	.1980	562927
6	17829	22715	-1.1637A	.0174	.96	-4.6	.94	-3.1	.38	.36	80.1	79.2	-.0508	562930
7	15540	22715	-.7668A	.0162	.98	-2.3	.97	-2.2	.47	.38	75.2	75.1	.1856	562931
8	18384	22716	-1.7078A	.0198	1.15	9.9	1.17	6.6	.38	.32	81.8	85.0	.3233	562971
9	16391	22716	-1.4006A	.0183	1.29	9.9	1.34	9.9	.43	.34	74.2	81.7	.6040	562978
10	16608	22716	-.5429A	.0157	.83	-9.9	.74	-9.9	.48	.39	78.9	73.1	-.3268	562987
11	13592	22716	-.3321A	.0154	1.09	9.9	1.18	9.9	.36	.40	68.8	71.5	.2137	562989
12	18886	22716	-1.2809A	.0178	.85	-9.9	.82	-9.6	.36	.35	84.3	80.4	-.2957	562990
13	12741	22716	-.3652A	.0154	1.16	9.9	1.29	9.9	.36	.40	66.6	71.7	.4405	562992
14	19438	22716	-1.7261A	.0199	.84	-9.9	.67	-9.9	.45	.31	86.5	85.2	-.0535	632719
15	14788	22716	-.5097A	.0157	.98	-3.2	1.02	1.4	.44	.40	74.1	72.8	.1109	632720
16	15785	22716	-.6799A	.0160	.95	-7.7	.87	-9.9	.45	.39	75.1	74.3	.0346	632721
17	12280	22716	.0036A	.0150	1.01	1.5	1.02	2.4	.42	.41	70.0	69.8	.1731	632722
18	12918	22716	-.0714A	.0151	1.07	9.9	1.09	8.8	.36	.41	66.9	70.1	.1049	632723
19	16698	22716	-1.0765A	.0171	1.19	9.9	1.35	9.9	.26	.36	74.1	78.2	.1944	632724
20	20330	22716	-2.0827A	.0221	.82	-9.9	.59	-9.9	.41	.28	89.8	88.6	-.1071	632725
21	14408	22716	-.3759A	.0154	.97	-5.2	.92	-7.0	.45	.40	72.7	71.8	.0668	632727
22	12377	22716	.1043A	.0150	1.11	9.9	1.13	9.9	.32	.41	65.1	69.5	.0503	632954
23	15988	22716	-.3395A	.0154	.85	-9.9	.78	-9.9	.48	.40	76.9	71.6	-.3658	632955
24	17807	22716	-1.3810A	.0182	.99	-.8	.83	-8.9	.46	.34	80.2	81.5	.1787	632959
25	14856	22716	.1141A	.0150	.96	-7.6	.93	-8.2	.43	.41	71.1	69.5	-.5366	632962
26	18517	22716	-1.5010A	.0188	.93	-6.7	.82	-8.8	.45	.33	83.0	82.8	.0666	632963
27	15314	22715	-.5480A	.0157	1.07	9.8	1.08	5.8	.33	.39	70.4	73.1	.0203	645590
28	15128	22715	-.4044A	.0155	.98	-3.4	.96	-3.6	.40	.40	72.8	72.0	-.0793	645591
29	14830	22715	.0214A	.0150	1.06	9.6	1.09	9.2	.32	.41	67.5	69.8	-.4370	645592
30	18405	22715	-1.1181A	.0172	.85	-9.9	.85	-9.0	.39	.36	82.9	78.7	-.2901	645594
31	19316	22715	-1.0704A	.0171	.69	-9.9	.56	-9.9	.44	.36	86.5	78.1	-.6900	645596
32	12441	22715	.1105A	.0150	1.06	9.5	1.08	7.9	.36	.41	67.1	69.5	.0297	645598
33	9500	22715	.7929A	.0151	1.03	4.2	1.08	7.9	.36	.40	70.1	70.5	.0075	645602
34	13475	22715	-.1149A	.0151	1.06	9.9	1.09	9.0	.35	.41	68.0	70.3	.0215	645605
35	12703	22715	-.0332A	.0151	1.04	6.5	1.03	3.1	.38	.41	68.2	69.9	.1152	645608
36	18159	22715	-1.3783A	.0182	.94	-5.6	.87	-6.4	.43	.34	82.0	81.5	.0625	645609
37	14313	22715	-.2800A	.0153	1.11	9.9	1.20	9.9	.30	.40	67.3	71.2	-.0075	645611
38	13870	22715	-.2017A	.0152	.99	-2.0	.98	-2.1	.42	.41	71.4	70.7	.0176	645613
39	15837	22716	-.6618A	.0160	.92	-9.9	.83	-9.9	.47	.39	76.2	74.1	.0027	645640
40	9307	22716	.8670A	.0152	1.02	3.8	1.08	8.0	.36	.40	71.1	70.9	-.0218	645641
41	16151	22716	-.5873A	.0158	1.05	7.1	1.10	7.5	.30	.39	71.7	73.5	-.1561	645642
42	11241	22716	.4003A	.0149	.97	-4.6	.97	-3.0	.43	.41	71.0	69.3	.0075	645645
43	18106	22716	-1.2819A	.0178	.93	-7.0	.97	-1.7	.40	.35	82.0	80.4	-.0189	645646
44	19017	22716	-1.2859A	.0178	.83	-9.9	.74	-9.9	.37	.35	84.6	80.5	-.3413	645652
45	13513	22716	-.0489A	.0151	1.07	9.9	1.08	7.9	.34	.41	67.3	70.0	-.0537	645655
46	2194	5853	.8037	.0302	1.17	9.9	1.28	9.9	.22	.39	66.2	71.4	-.0006	658122
47	3448	5853	-.2809	.0295	.97	-2.6	.95	-2.4	.42	.39	70.5	69.5	-.0008	658123
48	4000	5853	-.7802	.0309	1.17	9.9	1.32	9.9	.20	.38	67.0	72.8	-.0008	658124
49	4318	5853	-1.0972	.0324	1.07	4.6	1.23	7.1	.27	.36	75.8	76.0	-.0009	658125
50	3677	5853	-.4826	.0299	1.26	9.9	1.41	9.9	.13	.39	60.7	70.6	-.0008	658126
51	3549	5853	-.3691	.0297	.99	-.6	.97	-1.4	.40	.39	70.0	69.9	-.0009	658128
52	1922	5853	1.0577	.0310	1.15	9.9	1.28	9.9	.23	.38	69.6	73.5	-.0006	658130

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	DISPLACE EXP%	ITEM
53	5000	5853	-1.9467	.0393	.92	-3.4	.84	-3.4	.38	.29	86.1	85.6	658131
54	3403	5853	-.2418	.0294	1.04	3.3	1.04	2.0	.36	.39	67.6	69.4	658132
55	4175	5853	-.9509	.0316	.99	-.5	1.05	1.8	.37	.37	75.2	74.4	658134
56	1077	4247	1.8146	.0395	1.14	6.5	1.58	9.9	.20	.37	76.8	78.4	658136
57	1788	4247	.8497	.0351	1.03	2.2	1.13	5.6	.36	.41	71.2	70.7	658137
58	2919	4247	-.5464	.0368	.91	-5.8	.82	-5.9	.49	.40	76.6	73.8	658138
59	2610	4247	-.1470	.0353	.97	-1.9	.95	-2.2	.43	.41	72.1	71.0	658139
60	2000	4247	.5917	.0347	.94	-4.4	.94	-2.8	.45	.42	72.8	69.8	658140
61	2148	4247	.4139	.0346	1.13	9.3	1.17	7.7	.30	.42	64.5	69.6	658141
62	2466	4247	.0305	.0349	1.01	.5	1.02	1.1	.41	.42	70.7	70.2	658142
63	1571	4247	1.1226	.0359	1.06	3.9	1.18	7.0	.32	.40	72.1	72.3	658143
64	3095	4247	-.7922	.0381	.88	-6.8	.77	-6.8	.50	.38	78.6	76.1	658144
65	3444	4247	-1.3515	.0425	.93	-3.0	.74	-5.6	.43	.35	82.2	81.9	658147
66	3260	4224	-1.0458	.0402	.94	-3.0	.88	-2.9	.43	.37	81.2	78.9	658150
67	2823	4224	-.4134	.0364	.91	-5.7	.85	-5.5	.49	.40	75.6	73.0	658151
68	3468	4224	-1.4074	.0435	.90	-4.3	.74	-5.6	.46	.34	83.8	82.7	658152
69	1978	4224	.6308	.0348	1.09	6.3	1.14	6.6	.32	.41	66.3	69.7	658156
70	2767	4224	-.3398	.0361	.87	-8.7	.78	-8.6	.52	.41	75.7	72.4	658158
71	3063	4224	-.7452	.0381	.96	-2.0	.97	-.8	.42	.39	77.4	75.9	658159
72	3030	4224	-.6977	.0378	1.00	.1	.97	-1.0	.39	.39	75.1	75.5	658160
73	3384	4224	-1.2544	.0419	1.08	3.3	1.24	4.8	.27	.36	80.7	81.1	658161
74	1967	4224	.6441	.0348	1.13	8.9	1.18	8.3	.30	.41	64.7	69.7	658162
75	3356	4224	-1.2056	.0415	.91	-4.0	.81	-4.4	.45	.36	82.2	80.6	658163
76	2918	4167	-.6145	.0374	1.02	1.2	1.05	1.7	.37	.39	74.1	74.3	658165
77	2336	4167	.1390	.0351	1.02	1.3	1.01	.6	.39	.41	69.3	69.7	658166
78	2717	4167	-.3425	.0362	.93	-4.7	.88	-4.5	.47	.40	74.1	72.1	658167
79	1295	4167	1.4597	.0376	1.25	9.9	1.50	9.9	.17	.38	68.0	74.9	658168
80	2427	4167	.0266	.0352	1.06	4.2	1.09	3.7	.36	.41	67.7	70.1	658169
81	3432	4167	-1.4422	.0439	1.00	-.2	1.04	.8	.34	.34	83.3	82.8	658170
82	2969	4167	-.6866	.0378	1.04	2.2	1.07	1.9	.35	.39	73.7	74.9	658171
83	3147	4167	-.9519	.0395	.92	-4.3	.83	-4.7	.46	.37	79.0	77.6	658172
84	3278	4167	-1.1647	.0412	.92	-3.8	.77	-5.5	.45	.36	81.1	79.9	658173
85	2813	4167	-.4702	.0367	1.04	2.4	1.03	1.0	.36	.40	71.7	73.0	658175
86	3374	4224	-1.2193	.0416	.90	-4.6	.76	-5.7	.46	.35	81.9	80.8	658177
87	2814	4224	-.3918	.0362	1.03	1.9	1.08	3.0	.37	.39	71.6	72.4	658179
88	2848	4224	-.4365	.0364	.93	-4.8	.87	-4.9	.46	.39	75.0	72.8	658180
89	2564	4224	-.0747	.0352	1.00	-.3	.98	-1.0	.40	.40	69.5	70.3	658181
90	2739	4224	-.2947	.0358	.98	-1.2	.97	-1.2	.41	.40	72.3	71.7	658182
91	2397	4224	.1292	.0348	1.08	5.9	1.10	4.4	.33	.41	66.1	69.4	658184
92	2687	4224	-.2284	.0356	1.05	3.3	1.07	2.7	.35	.40	69.3	71.2	658185
93	2165	4224	.4073	.0346	1.13	9.4	1.17	8.1	.27	.41	63.7	68.9	658186
94	3182	4224	-.9082	.0391	1.03	1.5	1.11	2.9	.34	.37	77.1	77.4	658187
95	2591	4224	-.1081	.0352	1.15	9.9	1.19	7.4	.26	.40	64.2	70.5	658189
MEAN	8815.0	13151	-.4543	.0269	1.01	.8	1.01	.6			74.0	74.5	
S.D.	6590.0	9086.2	.7676	.0103	.10	6.6	.19	6.7			6.4	4.9	

Grade 4 Reading

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	DISPLACE EXP%	ITEM
1	17491	22207	-1.5811A	.0191	1.04	3.2	.89	-5.3	.49	.32	80.7	83.4	563227
2	15361	22207	-.8616A	.0164	1.08	9.9	1.14	9.6	.35	.36	73.2	75.5	563229
3	17960	22207	-1.4132A	.0183	.91	-9.3	.79	-9.9	.43	.33	82.6	81.5	563231
4	18412	22207	-1.5304A	.0189	.92	-7.1	.83	-8.5	.38	.32	84.1	82.8	563236
5	13491	22207	-.5359A	.0157	1.16	9.9	1.27	9.9	.31	.38	66.9	72.3	563237
6	21035	22207	-2.8091A	.0284	.77	-9.9	.53	-9.9	.31	.22	94.7	93.6	563244
7	12100	22209	-.2146A	.0152	1.08	9.9	1.12	9.9	.35	.38	65.7	69.9	563382

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
8	17605	22209	-1.4485A	.0185	.97	-2.8	.87	-6.9	.45	.33	81.8	81.9	.1425	563383
9	17726	22209	-1.4202A	.0184	.92	-7.9	.76	-9.9	.47	.33	82.0	81.6	.0738	563384
10	16810	22209	-1.0862A	.0171	1.04	5.0	1.02	1.2	.32	.35	76.4	77.9	.0196	563392
11	17692	22209	-1.3706A	.0182	.94	-5.7	.87	-6.9	.42	.33	81.7	81.1	.0344	565129
12	19001	22209	-1.7877A	.0202	.91	-7.6	.78	-9.6	.39	.30	86.5	85.5	-.0264	565176
13	12688	22209	-.0558A	.0151	1.06	9.9	1.08	8.8	.33	.39	66.9	69.1	.0166	633075
14	15988	22209	-.6413A	.0159	.92	-9.9	.88	-9.9	.39	.37	75.7	73.3	-.2008	633077
15	15118	22209	-.6138A	.0158	1.07	9.9	1.09	7.5	.30	.37	70.1	73.0	.0004	633081
16	13483	22209	-.2851A	.0153	1.13	9.9	1.17	9.9	.27	.38	65.2	70.3	.0645	633087
17	13058	22209	-.2485A	.0152	1.05	8.2	1.05	5.3	.35	.38	67.9	70.1	.1258	633088
18	13002	22209	.0914A	.0150	1.07	9.9	1.10	9.9	.31	.39	65.4	68.6	-.2022	633093
19	17930	22207	-1.6883A	.0197	1.20	9.9	1.21	8.6	.30	.31	81.1	84.5	.2777	633098
20	12754	22207	.0289A	.0150	1.09	9.9	1.12	9.9	.29	.39	65.2	68.8	-.0834	633099
21	19243	22207	-1.9879A	.0214	1.01	.5	1.04	1.5	.33	.29	87.0	87.5	.0729	633102
22	16190	22207	-1.0025A	.0168	1.03	3.7	1.07	4.7	.37	.36	75.9	77.0	.1113	633106
23	18237	22207	-1.4811A	.0186	1.02	1.9	1.07	3.3	.28	.33	82.6	82.3	-.0420	633107
24	13616	22207	.1432A	.0149	1.06	9.6	1.06	7.4	.32	.39	66.0	68.5	-.3960	633111
25	11347	22207	.3415A	.0149	1.12	9.9	1.16	9.9	.27	.38	63.7	68.4	-.0799	633114
26	11448	22209	.0713A	.0150	1.13	9.9	1.19	9.9	.27	.39	62.9	68.6	.1673	645682
27	12636	22209	-.0434A	.0150	.98	-4.1	.97	-3.8	.41	.39	70.0	69.0	.0160	645684
28	13067	22209	.1797A	.0149	.90	-9.9	.88	-9.9	.48	.39	73.8	68.4	-.3053	645686
29	18638	22209	-1.3305A	.0180	.76	-9.9	.62	-9.9	.44	.34	85.6	80.6	-.3504	645688
30	12301	22209	-.0006A	.0150	1.06	9.7	1.07	7.5	.34	.39	66.1	68.9	.0487	645690
31	18714	22209	-1.5474A	.0189	.92	-7.1	.87	-6.5	.32	.32	84.5	83.0	-.1557	645692
32	16697	22207	-.9450A	.0167	.96	-5.5	.92	-5.6	.37	.36	77.5	76.4	-.0914	645696
33	20045	22207	-2.0544A	.0219	.74	-9.9	.53	-9.9	.41	.28	90.6	88.1	-.2696	645698
34	14797	22207	-.6012A	.0158	1.12	9.9	1.17	9.9	.28	.37	68.7	72.9	.0682	645699
35	10923	22207	.0600A	.0150	1.19	9.9	1.26	9.9	.24	.39	60.5	68.7	.2953	645701
36	13462	22207	-.4865A	.0156	1.08	9.9	1.09	7.4	.37	.38	68.3	71.9	.2721	645703
37	19224	22207	-1.6812A	.0196	.88	-9.9	.83	-8.1	.31	.31	86.9	84.4	-.2351	645706
38	18295	22207	-1.3130A	.0179	.84	-9.9	.75	-9.9	.40	.34	83.9	80.4	-.2368	645711
39	13657	22207	-.2472A	.0152	1.06	9.9	1.05	4.7	.32	.38	67.0	70.1	-.0144	645726
40	10109	22207	.5113A	.0150	1.01	1.0	1.02	2.2	.37	.38	68.3	68.6	.0261	645729
41	14397	22207	-.4042A	.0155	.95	-7.3	.93	-6.8	.42	.38	72.6	71.2	-.0327	645732
42	10521	22207	.5543A	.0150	.93	-9.9	.92	-9.3	.45	.38	72.8	68.8	-.1080	645735
43	15343	22207	-.5363A	.0157	.85	-9.9	.78	-9.9	.49	.38	77.2	72.3	-.1361	645736
44	16581	22207	-.9823A	.0168	.98	-2.0	.91	-6.2	.37	.36	76.4	76.8	-.0197	645737
45	11066	22207	-.4139A	.0149	1.08	9.9	1.10	9.9	.31	.38	64.8	68.4	-.0895	645738
46	3389	5500	-.4820	.0310	1.09	7.0	1.21	9.3	.32	.41	68.4	71.0	-.0011	658191
47	4690	5500	-2.0215	.0407	.86	-5.7	.64	-8.1	.46	.31	86.3	85.5	-.0013	658192
48	3084	5500	-.1950	.0305	.97	-2.5	.95	-2.7	.43	.41	70.6	69.7	-.0010	658193
49	4156	5500	-1.2854	.0344	.86	-8.7	.74	-8.3	.51	.37	80.5	77.7	-.0012	658195
50	4878	5500	-2.3653	.0451	.89	-3.8	.64	-6.7	.41	.28	88.8	88.7	-.0013	658197
51	3095	5500	-.2052	.0305	1.01	1.2	1.02	.9	.39	.41	69.7	69.8	-.0011	658198
52	3074	5500	-.1857	.0304	1.03	2.5	1.04	2.3	.38	.41	68.4	69.7	-.0010	658200
53	4101	5500	-1.2211	.0340	.89	-6.8	.77	-7.5	.49	.37	78.8	77.1	-.0012	658201
54	3947	5500	-1.0483	.0330	.91	-6.3	.80	-7.4	.48	.38	77.2	75.4	-.0012	658202
55	4627	5500	-1.9199	.0396	.93	-2.9	.84	-3.3	.39	.32	85.1	84.4	-.0012	658203
56	2512	4164	-.1083	.0348	1.15	9.9	1.18	8.5	.21	.37	62.3	69.1	.0015	658204
57	2688	4164	-.3252	.0355	1.18	9.9	1.28	9.9	.17	.36	64.6	70.8	.0014	658205
58	3862	4164	-2.5451	.0620	.91	-1.9	.70	-4.1	.34	.22	92.8	92.7	.0018	658206
59	3811	4164	-2.3620	.0580	.90	-2.4	.62	-5.7	.38	.24	91.6	91.5	.0018	658207
60	3260	4164	-1.1319	.0405	.90	-4.6	.75	-7.0	.45	.33	80.1	79.5	.0016	658208
61	2945	4164	-.6622	.0371	.97	-1.8	.93	-2.6	.39	.35	74.6	74.1	.0015	658209
62	2898	4164	-.5982	.0367	1.12	6.8	1.26	8.8	.23	.35	71.0	73.4	.0014	658210
63	1979	4164	.5194	.0342	1.10	7.8	1.14	7.7	.26	.36	62.8	67.7	.0014	658211
64	3179	4164	-1.0028	.0394	.99	-.7	.96	-1.0	.35	.33	77.7	78.0	.0015	658214
65	2150	4164	.3199	.0342	.99	-.7	.99	-.4	.37	.37	66.9	67.6	.0014	658215
66	3243	4110	-1.2130	.0414	1.03	1.2	1.01	.1	.32	.34	79.5	80.1	-.0002	658216
67	2471	4110	-.1168	.0354	.92	-6.1	.88	-5.6	.46	.39	73.3	69.8	-.0003	658217

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	EXP%	DISPLACE	ITEM
68	3092	4110	-.9668	.0394	1.01	.4	.98	-.4	.35	.36	77.1	77.4	-.0003	658220
69	3767	4110	-2.4323	.0589	.91	-2.0	.67	-4.4	.36	.25	91.7	91.6	-.0002	658221
70	3520	4110	-1.7525	.0474	.90	-3.6	.72	-5.3	.43	.31	86.2	85.8	-.0003	658222
71	3415	4110	-1.5303	.0447	.84	-6.4	.64	-7.8	.51	.32	84.6	83.6	-.0003	658223
72	2788	4110	-.5279	.0368	.90	-6.3	.84	-6.0	.48	.38	75.9	72.9	-.0003	658224
73	3606	4110	-1.9578	.0504	.88	-3.8	.64	-6.2	.44	.29	88.1	87.8	-.0002	658226
74	3163	4110	-1.0795	.0403	.96	-1.8	.87	-3.3	.39	.35	79.1	78.6	-.0003	658227
75	2780	4110	-.5170	.0368	1.02	1.5	.98	-.8	.35	.38	70.4	72.8	-.0003	658228
76	3211	4211	-1.0398	.0392	1.07	3.7	1.21	5.3	.25	.34	76.9	77.8	.0015	658229
77	1783	4211	.7490	.0346	1.05	3.5	1.10	5.1	.31	.37	68.6	69.3	.0015	658230
78	3729	4211	-2.0401	.0509	.87	-4.0	.60	-7.1	.44	.27	88.7	88.6	.0015	658232
79	2895	4211	-.5916	.0364	.98	-1.4	.99	-.2	.39	.36	73.0	73.0	.0014	658233
80	2177	4211	.2848	.0342	.96	-3.3	.95	-2.7	.41	.38	70.5	68.2	.0015	658234
81	2771	4211	-.4308	.0357	1.03	2.2	1.04	1.4	.34	.37	71.1	71.5	.0015	658235
82	2019	4211	.4697	.0342	1.02	1.7	1.05	2.5	.35	.38	67.4	68.3	.0015	658236
83	3322	4211	-1.2165	.0407	.91	-4.2	.82	-4.7	.43	.33	80.9	79.8	.0014	658237
84	3240	4211	-1.0847	.0396	.97	-1.3	.91	-2.4	.37	.34	78.0	78.3	.0014	658239
85	2597	4211	-.2141	.0350	.94	-4.2	.90	-4.5	.43	.38	72.0	69.9	.0014	658240
86	2790	4224	-.4431	.0355	1.02	1.2	.98	-1.0	.34	.36	69.5	71.4	-.0006	658242
87	2335	4224	.1028	.0340	1.09	7.3	1.13	6.5	.27	.37	63.7	68.0	-.0005	658243
88	3124	4224	-.8912	.0380	1.00	.2	.98	-.5	.34	.34	75.9	76.3	-.0007	658244
89	3795	4224	-2.1824	.0534	.86	-3.9	.57	-7.4	.44	.25	90.2	89.9	-.0006	658245
90	3458	4224	-1.4283	.0427	.99	-.4	1.08	1.7	.31	.31	83.4	82.5	-.0007	658246
91	1913	4224	.5892	.0341	1.06	4.9	1.08	4.2	.29	.36	63.9	68.0	-.0004	658247
92	371	4224	3.1113	.0573	1.17	3.9	3.28	9.9	-.09	.21	91.3	91.4	-.0004	658248
93	3309	4224	-1.1731	.0402	.93	-3.5	.91	-2.2	.41	.33	80.8	79.6	-.0006	658249
94	3538	4224	-1.5800	.0444	.94	-2.4	.80	-4.2	.38	.30	84.7	84.2	-.0005	658250
95	3426	4224	-1.3708	.0421	.92	-3.2	.84	-3.8	.40	.31	82.5	81.8	-.0007	658251
MEAN	8897.2	12857	-.7910	.0291	.99	.1	.97	-.6			76.0	76.6		
S.D.	6437.5	8879.0	.9195	.0128	.10	6.7	.30	6.9			8.6	7.3		

Grade 5 Reading

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	EXP%	DISPLACE	ITEM
1	12653	21984	-.3602A	.0158	1.15	9.9	1.17	9.9	.37	.39	66.2	72.2	.4312	563579
2	11974	21984	.5754A	.0151	1.05	7.9	1.06	7.2	.37	.40	67.0	69.1	-.3482	563581
3	11591	21984	-.2984A	.0157	1.28	9.9	1.39	9.9	.29	.40	61.6	71.7	.6128	565321
4	13766	21984	-.6761A	.0164	1.26	9.9	1.51	9.9	.31	.38	67.8	75.0	.4863	565324
5	18258	21984	-1.1414A	.0179	.76	-9.9	.65	-9.9	.45	.35	85.5	79.8	-.3523	565325
6	14816	21984	-.5507A	.0161	1.00	.1	.95	-3.8	.42	.39	72.8	73.8	.0997	602474
7	16995	21984	-1.1130A	.0178	.96	-4.6	.89	-6.3	.43	.36	80.0	79.5	.0592	602475
8	11445	21984	.1870A	.0152	1.03	5.5	1.04	3.9	.37	.40	68.1	69.3	.1590	602477
9	14861	21984	-.7458A	.0166	1.01	1.0	.92	-5.5	.48	.38	74.1	75.7	.2856	602478
10	14943	21984	-.6124A	.0163	1.10	9.9	1.14	9.7	.33	.38	71.2	74.4	.1296	602479
11	17510	21984	-1.1855A	.0180	.84	-9.9	.71	-9.9	.50	.35	83.2	80.3	-.0345	602481
12	16871	21984	-1.1237A	.0178	.93	-8.0	.78	-9.9	.49	.36	80.1	79.6	.1089	602483
13	10580	21986	.2508A	.0151	1.07	9.9	1.09	9.9	.36	.40	66.1	69.1	.2923	602484
14	12313	21986	-.0802A	.0154	1.12	9.9	1.11	9.9	.31	.40	64.1	70.3	.2286	602485
15	16340	21986	-1.1067A	.0177	1.06	6.7	1.08	4.5	.42	.36	77.9	79.5	.2508	602488
16	15756	21986	-.5242A	.0161	.93	-9.7	.89	-8.9	.41	.39	75.6	73.6	-.1772	602489
17	19633	21986	-1.6629A	.0203	.65	-9.9	.48	-9.9	.45	.31	90.4	85.4	-.4405	602490
18	17361	21986	-1.0566A	.0175	.96	-4.4	.97	-2.0	.35	.36	80.3	78.9	-.1165	602491
19	18252	21986	-.7900A	.0167	.78	-9.9	.71	-9.9	.38	.38	83.1	76.1	-.7165	602492
20	14397	21986	-.3227A	.0157	.97	-4.6	.93	-6.0	.42	.40	72.8	71.9	-.0247	602493
21	11781	21984	-.1654A	.0155	1.12	9.9	1.18	9.9	.37	.40	66.1	70.8	.4360	633281

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	OUTFIT ZSTD	PTBISERL-EX CORR.	EXACT MATCH OBS%	DISPLACE	ITEM				
22	18088	21984	-1.4057A	.0190	.86	-9.9	.67	-9.9	.49	.33	84.2	82.7	-.0133	633283
23	13532	21984	-.4757A	.0160	1.19	9.9	1.24	9.9	.32	.39	66.6	73.1	.3408	633284
24	18862	21984	-1.8243A	.0212	1.02	1.3	1.02	.6	.35	.30	86.3	87.0	.1060	633291
25	15297	21984	-.7327A	.0166	.98	-1.9	.93	-4.7	.45	.38	75.4	75.5	.1590	633293
26	15014	21984	-.3431A	.0157	.89	-9.9	.83	-9.9	.47	.39	75.9	72.0	-.1623	645744
27	17377	21984	-1.0841A	.0176	.88	-9.9	.80	-9.9	.44	.36	82.0	79.2	-.0941	645746
28	14225	21984	-.4465A	.0159	1.15	9.9	1.33	9.9	.28	.39	69.0	72.9	.1429	645747
29	16039	21984	-.9774A	.0173	.95	-5.5	.82	-9.9	.51	.36	77.4	78.1	.2049	645750
30	18695	21984	-1.5573A	.0197	.90	-9.2	.76	-9.9	.38	.32	85.7	84.3	-.0975	645751
31	10363	21986	.5732A	.0151	1.11	9.9	1.17	9.9	.29	.40	64.8	69.1	.0198	645755
32	19203	21986	-1.3574A	.0187	.80	-9.9	.78	-9.9	.29	.34	87.2	82.2	-.5379	645756
33	14502	21986	-.1620A	.0155	1.00	.5	1.00	-.4	.36	.40	70.6	70.8	-.2137	645757
34	14079	21986	-.2008A	.0155	.95	-8.4	.95	-5.0	.44	.40	74.1	71.0	-.0690	645763
35	15466	21986	-.4316A	.0159	.93	-9.9	.89	-9.6	.41	.39	74.9	72.8	-.1921	645764
36	16078	21986	-.6676A	.0164	.93	-9.1	.93	-4.8	.41	.38	77.5	74.9	-.1215	645769
37	18027	21986	-.9638A	.0172	.78	-9.9	.74	-9.9	.42	.37	84.3	77.9	-.4480	645772
38	19948	21986	-1.7083A	.0205	.67	-9.9	.51	-9.9	.36	.31	90.9	85.8	-.5802	645773
39	9825	21986	.6519A	.0152	1.09	9.9	1.16	9.9	.32	.40	66.2	69.2	.0643	645774
40	15228	21986	-.5650A	.0162	1.06	8.7	1.03	2.6	.33	.39	70.6	73.9	.0073	645775
41	16601	21986	-.7550A	.0166	1.02	2.3	1.04	2.4	.29	.38	75.6	75.8	-.1858	645776
42	14494	21986	-.2351A	.0156	.93	-9.9	.89	-9.9	.44	.40	73.5	71.3	-.1378	645777
43	15633	21984	-.7751A	.0167	.96	-5.6	.85	-9.9	.47	.38	76.1	76.0	.1118	645822
44	13862	21984	-.2214A	.0155	1.03	3.9	1.04	3.3	.37	.40	70.3	71.2	.0046	645823
45	13677	21984	-.0338A	.0153	1.04	5.9	1.04	4.1	.35	.40	68.6	70.1	-.1396	645824
46	13644	21984	-.0761A	.0154	1.00	.4	1.01	.6	.38	.40	70.4	70.3	-.0891	645825
47	12240	21984	.3696A	.0151	1.05	9.1	1.07	7.6	.34	.40	67.0	69.0	-.2053	645828
48	16312	21984	-.4346A	.0159	.83	-9.9	.77	-9.9	.46	.39	78.9	72.8	-.4283	645829
49	2947	5388	-.0170	.0307	.99	-1.1	.96	-2.2	.43	.42	70.1	69.6	-.0005	658253
50	3157	5388	-.2166	.0310	1.00	.2	1.01	.6	.41	.41	70.0	70.1	-.0005	658256
51	2966	5388	-.0350	.0307	1.05	3.7	1.06	3.2	.38	.42	67.9	69.6	-.0005	658257
52	3397	5388	-.4501	.0315	.95	-4.0	.90	-4.6	.46	.41	72.5	71.2	-.0005	658258
53	2759	5388	.1600	.0307	1.08	6.7	1.10	5.5	.34	.42	65.9	69.4	-.0005	658259
54	2676	5388	.2380	.0307	1.15	9.9	1.21	9.9	.29	.42	63.4	69.5	-.0005	658260
55	2481	5388	.4220	.0308	1.20	9.9	1.28	9.9	.23	.42	61.7	69.9	-.0005	658261
56	2625	5388	.2860	.0307	.99	-1.2	.99	-.8	.43	.42	70.5	69.5	-.0005	658262
57	4068	5388	-1.1713	.0346	.99	-.3	1.00	.0	.37	.37	77.5	77.4	-.0006	658264
58	2837	5388	.0867	.0307	.96	-3.6	.94	-3.5	.45	.42	71.3	69.5	-.0006	658265
59	3513	4253	-1.3622	.0436	.99	-.4	.94	-1.1	.35	.34	83.4	83.2	-.0012	658267
60	3724	4253	-1.8139	.0494	.88	-3.8	.69	-5.5	.43	.30	88.1	87.6	-.0010	658268
61	2849	4253	-.3455	.0361	.96	-2.5	.91	-3.4	.43	.39	73.4	72.9	-.0011	658269
62	3194	4253	-.8264	.0388	1.04	2.0	1.08	2.1	.33	.37	77.1	77.5	-.0011	658270
63	2493	4253	.0985	.0347	1.00	.1	.99	-.6	.39	.40	69.5	69.8	-.0010	658271
64	3621	4253	-1.5794	.0462	.86	-5.0	.71	-5.8	.47	.32	86.8	85.4	-.0012	658272
65	2664	4253	-.1104	.0352	1.00	-.1	1.01	.2	.40	.40	71.9	71.0	-.0011	658273
66	3315	4253	-1.0155	.0403	.94	-3.0	.81	-4.9	.43	.36	80.2	79.5	-.0012	658274
67	3371	4253	-1.1082	.0411	.95	-2.4	.88	-2.8	.41	.35	81.2	80.5	-.0012	658275
68	2974	4253	-.5120	.0369	1.10	5.9	1.23	7.3	.28	.39	71.9	74.4	-.0011	658276
69	3210	4074	-1.0621	.0416	.92	-3.6	.77	-5.7	.44	.35	81.0	80.0	-.0007	658278
70	3345	4074	-1.3095	.0441	.98	-.7	.95	-1.1	.35	.34	83.5	82.7	-.0008	658279
71	2835	4074	-.4802	.0376	.96	-2.4	.92	-2.7	.43	.39	74.5	74.1	-.0007	658280
72	2949	4074	-.6453	.0385	.98	-.9	.87	-4.0	.40	.38	73.9	75.7	-.0007	658281
73	3462	4074	-1.5511	.0469	.92	-2.8	.79	-4.0	.41	.32	85.9	85.2	-.0008	658282
74	2175	4074	.3769	.0352	1.06	4.3	1.06	3.0	.34	.40	66.3	69.1	-.0006	658283
75	1646	4074	1.0351	.0358	1.11	7.3	1.19	8.0	.27	.39	67.3	70.5	-.0005	658284
76	2977	4074	-.6871	.0388	1.07	3.7	1.21	5.6	.30	.38	75.4	76.1	-.0007	658285
77	2926	4074	-.6113	.0383	.96	-2.3	.91	-2.9	.42	.38	75.3	75.3	-.0007	658286
78	3397	4074	-1.4132	.0452	.96	-1.6	.92	-1.5	.37	.33	84.4	83.8	-.0008	658287
79	2048	4149	.5376	.0346	1.13	9.8	1.19	9.3	.25	.39	62.7	68.4	.0012	658288
80	2713	4149	-.2766	.0360	.96	-2.4	.90	-4.1	.42	.38	72.2	71.7	.0010	658289
81	2705	4149	-.2663	.0360	1.08	5.3	1.11	4.1	.30	.38	68.7	71.7	.0010	658290

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EX-EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
82	3584	4149	-1.6990	.0481	.92	-2.6	.81	-3.3	.39	.30	86.6	86.5	.0009	658291
83	3180	4149	-.9388	.0399	.88	-6.3	.75	-7.1	.49	.35	80.4	78.3	.0009	658292
84	2424	4149	.0857	.0349	1.02	1.1	1.02	.7	.38	.39	68.9	69.4	.0011	658293
85	1587	4149	1.0989	.0355	1.12	7.8	1.21	8.8	.25	.37	67.2	70.7	.0013	658294
86	2562	4149	-.0846	.0354	.99	-.6	.95	-2.0	.39	.39	69.9	70.4	.0011	658295
87	1793	4149	.8443	.0349	1.08	5.8	1.15	7.0	.30	.38	66.2	69.2	.0012	658296
88	2452	4149	.0515	.0350	1.19	9.9	1.30	9.9	.22	.39	61.8	69.6	.0011	658297
89	1969	4122	.6135	.0346	1.12	8.8	1.17	8.7	.27	.38	63.0	68.3	-.0003	658300
90	3205	4122	-1.0097	.0405	1.04	1.7	1.16	4.0	.30	.34	79.1	79.1	-.0004	658301
91	3610	4122	-1.8131	.0499	.93	-2.1	.91	-1.4	.36	.29	87.8	87.6	-.0004	658302
92	3631	4122	-1.8663	.0508	.90	-2.9	.74	-4.5	.40	.28	88.4	88.1	-.0005	658303
93	3048	4122	-.7642	.0387	1.09	4.4	1.15	4.3	.27	.36	74.8	76.3	-.0004	658304
94	1847	4122	.7603	.0348	1.12	8.7	1.19	9.1	.25	.38	63.7	68.7	-.0003	658305
95	3081	4122	-.8139	.0390	.90	-5.1	.79	-6.5	.46	.36	78.4	76.9	-.0004	658306
96	2273	4122	.2492	.0347	1.19	9.9	1.23	9.9	.19	.39	61.3	68.5	-.0003	658307
97	3340	4122	-1.2432	.0427	.91	-3.9	.81	-4.4	.43	.33	82.9	81.7	-.0004	658308
98	3527	4122	-1.6180	.0471	.88	-4.3	.69	-6.1	.45	.30	85.8	85.7	-.0004	658984
MEAN	8913.7	13012	-.5318	.0275	.99	.2	.97	-.4			74.6	75.2		
S.D.	6399.0	8799.2	.7089	.0114	.11	6.7	.19	6.9			7.8	5.7		

Grade 6 Reading

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EX-EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
1	19320	21651	-1.9672A	.0219	.73	-9.9	.48	-9.9	.47	.31	90.0	87.5	-.2175	563825
2	13915	21651	-.6942A	.0165	1.14	9.9	1.13	9.1	.39	.40	69.9	75.0	.3433	563827
3	14993	21651	-.9023A	.0171	1.16	9.9	1.20	9.9	.34	.39	72.3	77.0	.2730	563828
4	17502	21651	-1.7463A	.0206	1.07	5.6	.88	-5.0	.50	.33	82.6	85.4	.3591	563834
5	15259	21651	-1.5244A	.0194	1.62	9.9	1.94	9.9	.31	.35	71.6	83.3	.8233	563838
6	12764	21652	-.6356A	.0164	1.33	9.9	1.62	9.9	.28	.40	64.6	74.4	.5663	563852
7	16871	21652	-1.5700A	.0196	1.32	9.9	1.63	9.9	.27	.34	78.3	83.7	.3958	563855
8	15687	21652	-1.0678A	.0176	1.12	9.9	1.12	6.6	.37	.38	75.1	78.6	.2479	563857
9	19783	21652	-2.0884A	.0227	.69	-9.9	.53	-9.9	.41	.30	91.8	88.6	-.3777	563859
10	10012	21652	.4737A	.0153	1.05	7.8	1.09	9.9	.36	.41	67.7	69.2	.1008	563866
11	18148	21652	-1.4321A	.0190	.91	-8.8	.86	-6.7	.34	.35	84.4	82.3	-.2104	565832
12	18089	21651	-1.6712A	.0201	.92	-6.4	.76	-9.9	.46	.34	85.0	84.7	.0601	632746
13	12614	21651	.2052A	.0153	.90	-9.9	.87	-9.9	.50	.41	74.0	69.3	-.2409	632747
14	15058	21651	-.6997A	.0165	1.08	9.9	1.10	6.9	.34	.40	72.4	75.0	.0502	632750
15	10604	21651	.3715A	.0153	1.14	9.9	1.20	9.9	.27	.41	63.7	69.1	.0647	632752
16	17240	21651	-1.3055A	.0184	.84	-9.9	.66	-9.9	.53	.36	82.7	81.0	.0026	632754
17	11211	21651	.1081A	.0154	1.03	4.6	1.03	3.3	.39	.41	68.3	69.6	.1865	632758
18	13484	21651	-.2663A	.0157	1.05	7.9	1.06	4.9	.36	.41	69.2	71.4	.0198	632763
19	13527	21651	-.1630A	.0156	.93	-9.9	.91	-8.3	.46	.41	74.1	70.8	-.0948	632765
20	17991	21651	-1.7758A	.0207	.97	-2.0	.80	-8.1	.49	.33	84.5	85.7	.2060	632767
21	12036	21651	.0380A	.0154	1.03	4.8	1.04	3.5	.38	.41	68.8	69.8	.0633	632768
22	15747	21651	-.8036A	.0168	.94	-7.2	.92	-5.5	.43	.39	77.6	76.0	-.0379	632771
23	13279	21652	.0784A	.0154	1.05	7.8	1.06	5.9	.34	.41	67.9	69.7	-.2754	632787
24	7562	21652	1.0315A	.0158	1.07	9.8	1.27	9.9	.27	.39	70.8	71.5	.1364	632788
25	17681	21652	-1.2106A	.0181	.78	-9.9	.63	-9.9	.48	.37	84.5	80.1	-.2550	632789
26	18543	21652	-1.5391A	.0195	.81	-9.9	.69	-9.9	.40	.35	86.7	83.4	-.2704	632791
27	17606	21652	-1.0549A	.0175	.80	-9.9	.69	-9.9	.44	.38	83.4	78.5	-.3880	632792
28	10044	21652	.5462A	.0153	1.09	9.9	1.15	9.9	.33	.40	65.9	69.3	.0213	632796
29	9906	21651	.7347A	.0154	1.01	2.3	1.09	8.6	.38	.40	70.7	69.9	-.1329	645851
30	10407	21651	.6722A	.0154	1.07	9.9	1.13	9.9	.35	.40	67.6	69.6	-.1874	645852
31	17444	21651	-1.4272A	.0190	1.05	4.3	1.11	5.0	.34	.36	81.6	82.3	.0552	645855
32	18070	21651	-1.6098A	.0198	.92	-7.2	.80	-8.9	.43	.34	84.9	84.1	.0047	645860

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFINIT MNSQ	OUTFIT ZSTD	PTBISERL-EX CORR.	EXACT MATCH OBS%	MATCH EXP%	DISPLACE	ITEM			
33	18675	21651	-1.6895A	.0202	.78	-9.9	.59	-9.9	.46	.34	87.7	84.9	-.1753	645862
34	8629	21652	.9314A	.0156	1.09	9.9	1.25	9.9	.28	.39	69.3	70.9	-.0262	645864
35	11914	21652	.4845A	.0153	1.16	9.9	1.25	9.9	.28	.41	62.8	69.2	-.3520	645865
36	14393	21652	-.3173A	.0158	.91	-9.9	.85	-9.9	.46	.41	75.2	71.8	-.1595	645868
37	18848	21652	-1.7373A	.0205	.88	-9.8	.89	-4.2	.33	.33	87.5	85.4	-.2080	645870
38	16020	21652	-.6313A	.0164	.95	-7.5	.92	-6.0	.37	.40	75.9	74.4	-.2940	645873
39	9733	21652	.4775A	.0153	.96	-7.3	.98	-2.4	.42	.41	71.6	69.2	.1623	645878
40	12072	21652	.0911A	.0154	1.09	9.9	1.13	9.9	.33	.41	66.1	69.6	.0017	645880
41	17198	21651	-1.0855A	.0176	.89	-9.9	.84	-9.5	.40	.38	81.4	78.8	-.2088	645881
42	17655	21651	-1.4297A	.0190	1.04	3.7	1.24	9.9	.30	.35	82.1	82.3	-.0195	645885
43	18134	21651	-1.6441A	.0200	.93	-6.4	.78	-9.7	.43	.34	85.1	84.5	.0140	645886
44	19929	21651	-2.2365A	.0238	.69	-9.9	.47	-9.9	.41	.29	92.3	89.8	-.3263	645887
45	11745	21651	-.0830A	.0155	1.12	9.9	1.14	9.9	.33	.41	65.0	70.3	.2530	645888
46	13161	21651	-.1102A	.0155	.94	-9.1	.92	-7.8	.45	.41	72.7	70.5	-.0578	645889
47	17111	21651	-.7259A	.0166	.85	-9.9	.84	-9.9	.39	.39	80.8	75.3	-.5487	645891
48	16867	21651	-1.2402A	.0182	.98	-1.6	1.00	-.2	.41	.37	81.1	80.4	.0622	645895
49	3227	4172	-1.0481	.0403	.94	-2.6	.87	-3.4	.42	.36	80.0	79.2	.0013	658310
50	1534	4172	1.1251	.0357	.93	-5.0	.95	-2.3	.42	.37	74.4	71.3	.0018	658311
51	3907	4172	-2.7047	.0660	.87	-2.7	.50	-6.4	.40	.23	93.6	93.6	.0011	658312
52	2995	4172	-.6957	.0378	.94	-3.4	.91	-2.9	.44	.38	77.1	75.4	.0014	658314
53	2926	4172	-.5986	.0373	.96	-2.4	.94	-1.9	.42	.38	75.9	74.4	.0014	658315
54	3535	4172	-1.6159	.0462	.81	-7.0	.60	-8.3	.52	.32	86.6	85.1	.0012	658316
55	2713	4172	-.3140	.0359	1.06	3.8	1.12	4.5	.33	.39	70.0	71.8	.0015	658317
56	2767	4172	-.3843	.0362	1.17	9.9	1.30	9.9	.22	.39	66.5	72.4	.0015	658318
57	3245	4172	-1.0775	.0406	1.03	1.4	1.15	3.6	.32	.36	79.2	79.5	.0014	658319
58	1205	4172	1.5664	.0378	1.14	7.4	1.43	9.9	.20	.35	72.0	75.3	.0018	658320
59	4640	5186	-2.4904	.0482	.93	-2.2	.74	-4.0	.37	.30	89.7	89.6	-.0025	658322
60	4385	5186	-1.9829	.0416	.85	-6.3	.62	-7.9	.49	.34	85.6	84.9	-.0026	658323
61	3591	5186	-.9017	.0337	1.02	1.4	1.05	1.6	.40	.42	74.4	74.8	-.0022	658324
62	3313	5186	-.5964	.0326	1.06	4.1	1.12	4.7	.38	.43	71.3	72.6	-.0022	658325
63	4634	5186	-2.4764	.0479	.88	-3.9	.60	-6.6	.43	.30	89.7	89.4	-.0027	658326
64	2755	5186	-.0244	.0316	1.31	9.9	1.47	9.9	.17	.44	58.9	70.4	-.0018	658327
65	3791	5186	-1.1367	.0349	.98	-.9	1.00	.0	.42	.41	77.0	76.8	-.0023	658328
66	3789	5186	-1.1344	.0349	.93	-4.2	.90	-3.0	.47	.41	79.0	76.8	-.0023	658330
67	4446	5186	-2.0918	.0428	.90	-4.1	.70	-5.7	.44	.33	86.4	86.0	-.0025	658331
68	4043	5186	-1.4607	.0369	1.04	1.9	1.24	5.5	.34	.38	80.6	79.8	-.0025	658332
69	2511	4087	-.0935	.0358	1.23	9.9	1.38	9.9	.18	.40	61.6	70.5	.0011	658336
70	3271	4087	-1.2117	.0425	1.03	1.4	1.04	.8	.32	.35	80.9	81.1	.0009	658337
71	2143	4087	.3657	.0351	1.10	7.1	1.14	6.4	.30	.40	65.2	68.8	.0012	658339
72	2920	4087	-.6477	.0382	.95	-2.6	.92	-2.5	.43	.38	76.1	75.2	.0010	658340
73	3501	4087	-1.6755	.0478	.88	-4.2	.65	-6.7	.46	.32	86.5	85.9	.0008	658341
74	2288	4087	.1870	.0352	.97	-1.9	.95	-2.2	.42	.40	70.2	69.2	.0011	658343
75	3526	4087	-1.7336	.0486	.91	-2.8	.78	-3.9	.41	.31	87.0	86.5	.0009	658345
76	3469	4087	-1.6039	.0469	.93	-2.6	.83	-3.0	.40	.32	85.9	85.2	.0009	658347
77	3334	4087	-1.3285	.0437	.95	-2.0	.83	-3.5	.40	.34	82.7	82.4	.0009	658348
78	1995	4087	.5474	.0351	1.03	1.9	1.06	2.8	.36	.40	68.0	68.8	.0012	658350
79	3786	4129	-2.4004	.0592	.92	-2.0	.72	-3.8	.36	.26	91.6	91.7	.0006	658352
80	3277	4129	-1.1986	.0418	1.02	.8	1.02	.4	.33	.35	80.7	80.7	.0004	658354
81	1983	4129	.5426	.0347	1.06	4.3	1.10	4.9	.33	.39	66.0	68.5	.0007	658358
82	3011	4129	-.7732	.0385	1.05	2.5	1.03	.8	.33	.37	74.3	76.2	.0006	658359
83	2023	4129	.4944	.0347	1.24	9.9	1.36	9.9	.16	.39	58.6	68.5	.0007	658360
84	3667	4129	-2.0336	.0524	.85	-4.4	.57	-7.3	.47	.29	89.4	88.9	.0004	658361
85	3446	4129	-1.5162	.0451	.88	-4.6	.76	-4.9	.46	.33	85.5	84.0	.0005	658362
86	3270	4129	-1.1864	.0417	.94	-2.6	.84	-3.8	.42	.35	80.9	80.6	.0006	658363
87	3991	4129	-3.4333	.0887	.97	-.4	1.01	.1	.21	.18	96.6	96.7	.0005	658364
88	3271	4129	-1.1882	.0417	.99	-.6	1.00	.0	.36	.35	81.2	80.6	.0005	658365
89	2743	4078	-.4502	.0371	.96	-2.6	.94	-2.2	.44	.40	74.8	73.3	-.0001	658366
90	3575	4078	-1.9297	.0509	.93	-2.2	.87	-2.0	.39	.31	88.1	87.8	-.0003	658367
91	2547	4078	-.1876	.0361	1.02	1.1	1.01	.3	.39	.41	70.4	71.3	.0000	658368
92	2854	4078	-.6063	.0379	.95	-3.1	.96	-1.1	.45	.40	76.8	74.6	-.0001	658369

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EX-OBS%	EX-EXP%	MATCH-OBS%	MATCH-EXP%	DISPLACE	ITEM
93	3516	4078	-1.7835	.0487	.95	-1.7	.88	-1.9	.38	.32	86.8	86.4	-0.0003	658370	
94	2781	4078	-.5029	.0374	1.01	.4	.97	-1.2	.39	.40	73.4	73.7	-0.0001	658372	
95	2676	4078	-.3588	.0367	.95	-3.1	.94	-2.2	.45	.40	74.5	72.5	-0.0001	658374	
96	3352	4078	-1.4297	.0444	.94	-2.3	.88	-2.5	.41	.35	84.4	83.0	-0.0002	658375	
97	2831	4078	-.5735	.0377	1.05	3.1	1.06	1.7	.35	.40	72.8	74.3	-0.0001	658378	
98	3417	4078	-1.5622	.0459	.82	-7.1	.57	-9.2	.54	.34	85.6	84.3	-0.0002	658379	
MEAN	8907.1	12814	-.8485	.0300	.99	-.2	.97	-.4			77.5	78.0			
S.D.	6319.3	8664.1	.9608	.0141	.14	6.8	.26	7.0			8.6	7.0			

Grade 7 Reading

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EX-OBS%	EX-EXP%	MATCH-OBS%	MATCH-EXP%	DISPLACE	ITEM
1	15897	21433	-.8918A	.0173	.97	-3.4	.93	-4.3	.43	.38	77.7	77.5	.0559	633154	
2	13747	21433	.2560A	.0154	.99	-1.3	.97	-3.2	.40	.41	69.8	69.6	-.5134	633155	
3	15361	21433	-.1363A	.0157	.87	-9.9	.80	-9.9	.46	.41	75.8	71.2	-.5568	633157	
4	15468	21433	-.9882A	.0177	1.07	8.0	1.15	8.1	.43	.37	76.6	78.5	.2797	633160	
5	15836	21433	-.8438A	.0172	.89	-9.9	.75	-9.9	.50	.38	78.3	77.1	.0252	633161	
6	14979	21433	-.2248A	.0159	.84	-9.9	.77	-9.9	.50	.41	77.6	71.8	-.3584	633165	
7	10062	21438	.4993A	.0154	1.26	9.9	1.37	9.9	.18	.41	59.3	69.4	.1312	633171	
8	18439	21438	-1.7539A	.0212	.88	-9.7	.66	-9.9	.46	.32	86.9	86.4	.0188	633172	
9	8004	21438	1.0334A	.0157	.97	-4.8	1.03	3.1	.38	.40	73.9	71.1	.0954	633173	
10	17061	21438	-1.1433A	.0182	.90	-9.9	.86	-7.7	.44	.36	82.2	80.1	-.0630	633174	
11	13016	21438	-.3125A	.0160	1.15	9.9	1.25	9.9	.33	.41	67.6	72.4	.2416	633176	
12	11514	21438	.0214A	.0156	1.02	2.6	1.00	-.3	.43	.41	69.5	70.4	.2672	633177	
13	16447	21438	-.7856A	.0170	.80	-9.9	.68	-9.9	.51	.39	81.8	76.5	-.2244	633182	
14	13432	21438	-.1564A	.0158	1.04	5.6	1.03	3.0	.37	.41	69.7	71.3	-.0194	633183	
15	12669	21433	.1254A	.0155	.97	-4.1	.95	-4.8	.42	.41	71.0	70.0	-.1143	633204	
16	14311	21433	-.5688A	.0165	1.08	9.9	1.13	9.3	.37	.40	72.0	74.5	.1716	633208	
17	18552	21433	-1.9412A	.0224	.95	-3.2	.69	-9.9	.47	.30	87.0	88.1	.1577	633211	
18	17066	21433	-1.2565A	.0187	.90	-9.9	.75	-9.9	.49	.35	82.4	81.3	.0511	633213	
19	16324	21433	-1.0064A	.0177	1.00	.5	.93	-4.2	.39	.37	78.0	78.7	.0414	633214	
20	16891	21433	-1.3907A	.0193	1.05	4.3	1.01	.5	.44	.34	80.7	82.7	.2482	633215	
21	10415	21433	.3849A	.0154	1.13	9.9	1.17	9.9	.30	.41	64.1	69.4	.1621	645919	
22	16547	21433	-.7746A	.0170	.95	-6.6	.99	-.6	.34	.39	78.8	76.4	-.2688	645922	
23	14896	21433	-.7697A	.0170	1.12	9.9	1.14	8.8	.36	.39	72.3	76.3	.2182	645923	
24	17154	21433	-1.2428A	.0186	.95	-4.9	.94	-3.0	.40	.36	82.3	81.2	.0060	645924	
25	16029	21433	-.7941A	.0171	.93	-8.7	.87	-8.5	.42	.38	78.7	76.6	-.0843	645926	
26	15200	21438	-.5824A	.0165	1.05	7.0	1.06	4.0	.33	.40	72.6	74.6	-.0562	645929	
27	14351	21438	-.2034A	.0158	1.08	9.9	1.08	6.8	.29	.41	67.8	71.6	-.2089	645934	
28	13465	21438	-.1547A	.0158	.96	-5.8	.93	-6.4	.44	.41	72.6	71.3	-.0294	645937	
29	12216	21438	-.1819A	.0158	1.14	9.9	1.26	9.9	.34	.41	66.9	71.5	.3042	645938	
30	10311	21438	.4429A	.0154	1.07	9.9	1.11	9.9	.34	.41	66.5	69.4	.1288	645940	
31	15337	21438	-.7699A	.0170	1.02	2.5	.96	-2.5	.41	.39	74.8	76.3	.0958	645941	
32	18671	21438	-1.7329A	.0211	.91	-6.9	.84	-6.4	.34	.32	87.6	86.2	-.1129	645959	
33	12518	21438	-.0692A	.0157	1.04	6.9	1.07	6.4	.39	.41	69.1	70.8	.1179	645962	
34	10830	21438	.8514A	.0155	1.06	8.8	1.11	9.9	.40	.40	68.3	70.2	-.3959	645964	
35	17800	21438	-1.5877A	.0202	1.04	3.6	1.12	4.5	.35	.33	84.0	84.7	.1191	645965	
36	19887	21438	-2.0350A	.0230	.61	-9.9	.38	-9.9	.40	.29	93.1	88.9	-.5471	645967	
37	17269	21438	-1.1765A	.0183	.94	-6.5	.97	-1.7	.37	.36	82.0	80.5	-.1027	645970	
38	15519	21433	-.7774A	.0170	1.07	8.3	1.08	5.1	.34	.39	74.2	76.4	.0508	646029	
39	17953	21433	-1.5079A	.0198	.89	-9.9	.74	-9.9	.44	.34	85.3	83.9	-.0255	646030	
40	13710	21433	-.2555A	.0159	.94	-8.6	.89	-9.6	.46	.41	73.8	72.0	.0102	646034	
41	13909	21433	-.5930A	.0165	1.14	9.9	1.22	9.9	.36	.39	70.5	74.7	.3004	646035	
42	16069	21433	-.8036A	.0171	.86	-9.9	.75	-9.9	.49	.38	79.8	76.7	-.0867	646036	
43	16311	21433	-.8941A	.0174	1.01	.9	1.04	2.3	.34	.38	78.1	77.6	-.0696	646037	

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
44	12264	21433	.0247A	.0156	.99	-2.0	.95	-4.7	.43	.41	70.4	70.4	.0847	646038
45	12706	21433	-.0138A	.0156	.99	-2.0	.97	-3.5	.42	.41	70.5	70.6	.0164	646041
46	15877	21433	-1.0046A	.0177	.99	-.9	1.02	1.2	.46	.37	78.8	78.7	.1767	646043
47	14954	21433	-.4831A	.0163	.97	-4.3	.89	-8.8	.41	.40	73.6	73.7	-.0889	646045
48	13490	21433	-.2613A	.0159	1.08	9.9	1.09	7.6	.35	.41	68.7	72.0	.0717	646047
49	2967	4145	-.6146	.0380	1.17	9.1	1.29	8.0	.22	.39	70.2	75.4	.0010	658382
50	2858	4145	-.4610	.0372	1.00	.2	.98	-.6	.39	.39	74.2	73.9	.0010	658383
51	2351	4145	.1931	.0351	.92	-6.2	.89	-5.1	.48	.41	73.8	69.8	.0011	658386
52	2652	4145	-.1859	.0360	.98	-1.3	.93	-2.9	.42	.40	72.0	71.8	.0010	658387
53	1642	4145	1.0626	.0356	1.37	9.9	1.61	9.9	.05	.39	59.0	70.8	.0013	658388
54	1294	4145	1.5225	.0373	1.24	9.9	1.43	9.9	.17	.37	67.3	74.3	.0014	658389
55	2700	4145	-.2485	.0362	.98	-1.1	.93	-2.5	.42	.40	72.3	72.2	.0010	658390
56	2252	4145	.3143	.0349	.88	-9.1	.85	-7.3	.51	.41	75.1	69.4	.0011	658391
57	3169	4145	-.9208	.0400	.90	-5.1	1.78	-5.9	.47	.37	80.6	78.4	.0009	658393
58	2849	4145	-.4486	.0371	1.15	8.6	1.20	6.1	.25	.39	69.0	73.8	.0010	658394
59	1693	4142	.9842	.0354	1.21	9.9	1.34	9.9	.21	.39	62.2	70.4	-.0001	658397
60	3615	4142	-1.8244	.0499	.94	-1.8	.79	-3.4	.38	.31	87.7	87.4	-.0004	658400
61	3586	4142	-1.7538	.0488	.92	-2.8	.74	-4.6	.42	.32	87.2	86.8	-.0004	658401
62	2483	4142	.0112	.0355	1.18	9.9	1.28	9.9	.25	.41	64.4	70.7	-.0003	658404
63	3725	4142	-2.1234	.0547	.82	-5.1	.47	-8.6	.50	.29	90.2	90.0	-.0004	658405
64	3175	4142	-.9584	.0404	.94	-2.7	.89	-2.8	.43	.38	80.1	78.8	-.0003	658406
65	2935	4142	-.5924	.0379	1.02	1.3	1.00	.0	.38	.40	74.1	75.3	-.0003	658407
66	3308	4142	-1.1851	.0423	.87	-6.0	.73	-6.5	.50	.36	83.2	81.2	-.0004	658408
67	2123	4142	.4557	.0349	1.15	9.9	1.23	9.9	.28	.41	64.0	69.3	-.0002	658409
68	2864	4142	-.4918	.0374	1.02	1.4	1.09	2.9	.38	.40	75.1	74.4	-.0003	658410
69	3353	4840	-.7267	.0347	1.00	-.3	.94	-1.9	.42	.41	73.8	74.3	-.0006	658413
70	2797	4840	-.0968	.0329	1.00	-.3	.95	-2.1	.43	.43	69.9	70.7	-.0005	658414
71	4309	4840	-2.2438	.0488	.81	-6.2	.52	-8.3	.49	.29	89.4	89.1	-.0004	658417
72	1797	4840	.9856	.0337	1.34	9.9	1.56	9.9	.13	.42	62.4	72.6	-.0003	658418
73	2926	4840	-.2375	.0332	.94	-4.1	.91	-3.8	.48	.43	73.4	71.2	-.0005	658420
74	3854	4840	-1.3974	.0390	.85	-7.4	.69	-7.7	.51	.36	82.8	80.7	-.0006	658421
75	3132	4840	-.4678	.0338	1.07	4.7	1.06	2.2	.36	.42	69.3	72.5	-.0005	658422
76	2923	4840	-.2342	.0331	1.03	2.4	.97	-1.1	.40	.43	68.1	71.2	-.0004	658424
77	1600	4840	1.2150	.0346	1.18	9.9	1.44	9.9	.23	.40	70.6	74.2	-.0003	658427
78	2691	4840	.0173	.0328	.99	-.6	.98	-.9	.43	.43	71.2	70.4	-.0004	658429
79	2396	4127	.1220	.0352	1.28	9.9	1.43	9.9	.14	.40	58.7	69.7	.0005	658431
80	2998	4127	-.6781	.0384	.81	-9.9	1.66	-9.9	.58	.38	80.7	75.8	.0004	658433
81	3002	4127	-.6840	.0384	1.07	3.5	1.20	5.4	.31	.38	74.9	75.8	.0004	658434
82	3286	4127	-1.1383	.0419	.91	-4.1	.77	-5.7	.45	.35	82.0	80.7	.0003	658435
83	1184	4127	1.6653	.0382	1.22	9.9	1.55	9.9	.13	.36	71.4	75.6	.0008	658436
84	2669	4127	-.2243	.0362	.92	-5.6	.87	-5.3	.47	.40	74.6	71.7	.0004	658437
85	2080	4127	.5084	.0349	1.15	9.9	1.20	9.6	.26	.40	62.1	69.0	.0006	658438
86	3484	4127	-1.5182	.0460	.89	-4.2	.69	-6.3	.45	.32	85.6	84.7	.0003	658439
87	1954	4127	.6617	.0349	1.03	2.3	1.05	2.4	.36	.40	67.8	69.1	.0007	658440
88	3312	4127	-1.1844	.0423	1.05	2.2	1.20	4.2	.28	.35	80.7	81.2	.0003	658441
89	1688	4184	1.0027	.0352	1.58	9.9	1.93	9.9	-.12	.39	50.5	70.4	.0012	658442
90	3699	4184	-1.9211	.0512	.85	-4.6	.56	-7.8	.47	.29	88.7	88.5	.0008	658443
91	2968	4184	-.5902	.0375	1.10	5.3	1.20	5.9	.29	.38	73.3	74.9	.0009	658444
92	1828	4184	.8312	.0348	.90	-7.7	.91	-4.7	.46	.39	74.6	69.7	.0012	658447
93	2662	4184	-.1821	.0357	1.09	5.6	1.14	5.3	.32	.40	68.8	71.5	.0010	658448
94	2636	4184	-.1490	.0356	1.03	2.2	1.03	1.3	.37	.40	69.6	71.2	.0010	658450
95	1666	4184	1.0300	.0353	.98	-1.4	1.05	2.2	.37	.39	73.4	70.6	.0012	658451
96	2953	4184	-.5691	.0374	1.10	5.6	1.24	7.1	.28	.38	72.7	74.7	.0010	658452
97	3225	4184	-.9753	.0401	1.02	1.1	1.13	3.1	.34	.36	78.8	78.8	.0009	658453
98	2593	4184	-.0948	.0354	.96	-3.1	.90	-4.5	.44	.40	71.4	70.9	.0010	658454
MEAN	8639.2	12686	-.4385	.0279	1.01	.5	1.01	.1			74.4	75.5		
S.D.	6315.8	8574.2	.8431	.0111	.14	6.9	.25	7.0			7.8	5.6		

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Grade 8 Reading

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
1	11101	20989	-.2793A	.0159	1.38	9.9	1.54	9.9	.15	.40	56.7	71.3	.5014	564128
2	13138	20989	-.4305A	.0161	1.05	7.5	1.06	5.2	.39	.40	70.4	72.4	.1577	564133
3	12702	20989	-.5062A	.0163	1.08	9.9	1.06	5.1	.41	.40	68.9	73.1	.3428	564136
4	18700	20989	-2.0983A	.0231	.90	-6.9	.80	-7.2	.37	.30	89.6	88.7	-.0624	564137
5	14628	20989	-1.1083A	.0179	1.26	9.9	1.38	9.9	.34	.37	72.6	79.0	.4477	564139
6	13630	20992	.1606A	.0154	.97	-5.6	.95	-5.2	.41	.40	70.3	69.0	-.5579	564228
7	15101	20992	-.9222A	.0173	.96	-4.2	.89	-7.7	.47	.38	76.8	77.1	.1260	564229
8	15068	20992	-.8996A	.0172	1.05	6.3	1.05	3.5	.37	.38	75.1	76.9	.1127	564232
9	17204	20992	-1.5332A	.0197	.99	-.7	.90	-4.6	.39	.35	82.8	83.4	.0516	564233
10	17467	20992	-1.4267A	.0192	.81	-9.9	.66	-9.9	.48	.35	85.6	82.3	-.1632	564236
11	18396	20992	-1.5512A	.0198	.83	-9.9	.77	-9.9	.29	.35	87.5	83.5	-.4651	564238
12	12214	20992	-.1723A	.0157	1.00	.7	.99	-.9	.41	.40	70.2	70.6	.1272	564242
13	18683	20992	-2.7196A	.0285	1.49	9.9	1.41	9.0	.33	.25	89.1	93.1	.5782	564244
14	14481	20992	-.2750A	.0159	.98	-2.8	.96	-3.8	.36	.40	71.7	71.2	-.3521	633343
15	10667	20992	.1641A	.0154	1.12	9.9	1.17	9.9	.28	.40	64.1	69.0	.1602	633346
16	15871	20992	-.7593A	.0168	.97	-3.5	.94	-4.2	.33	.39	76.2	75.5	-.2737	633347
17	15871	20992	-.9139A	.0173	1.03	3.9	1.09	5.5	.30	.38	76.5	77.0	-.1160	633348
18	15082	20992	-.7363A	.0168	.97	-3.9	.94	-4.4	.40	.39	75.9	75.2	-.0569	633351
19	15519	20992	-.9607A	.0174	.90	-9.9	.80	-9.9	.50	.38	79.5	77.5	.0410	633353
20	13529	20992	-.5777A	.0164	1.26	9.9	1.46	9.9	.21	.39	66.2	73.7	.2062	633355
21	10896	20989	.3673A	.0154	1.07	9.9	1.11	9.9	.33	.39	66.4	68.6	-.0955	633356
22	14420	20989	-.6401A	.0166	.91	-9.9	.84	-9.9	.49	.39	76.1	74.3	.0326	633361
23	12574	20989	-.3994A	.0161	1.09	9.9	1.08	7.3	.38	.40	68.3	72.2	.2670	633365
24	13193	20989	-.6660A	.0166	1.20	9.9	1.35	9.9	.33	.39	69.2	74.6	.3807	633367
25	14423	20989	-.8186A	.0170	1.10	9.9	1.10	7.0	.37	.39	72.5	76.0	.2121	633370
26	17817	20989	-1.5034A	.0196	.81	-9.9	.66	-9.9	.43	.35	85.8	83.1	-.2341	633371
27	13404	20989	-.1591A	.0157	1.06	8.8	1.06	5.9	.32	.40	68.1	70.5	-.1823	633374
28	15874	20989	-1.0272A	.0176	.97	-3.8	.96	-2.3	.41	.38	78.9	78.2	-.0016	633376
29	14327	20989	-.6552A	.0166	1.02	2.8	1.08	5.7	.39	.39	74.3	74.5	.0733	633378
30	13719	20989	-.2316A	.0158	1.07	9.9	1.12	9.9	.30	.40	68.3	70.9	-.1912	633380
31	16765	20989	-1.2346A	.0184	.87	-9.9	.81	-9.9	.45	.37	83.1	80.3	-.0904	633382
32	15911	20989	-1.1289A	.0180	1.04	4.2	1.18	9.7	.37	.37	79.0	79.2	.0902	633383
33	14222	20989	-.7044A	.0167	1.07	9.1	1.12	8.9	.37	.39	72.9	74.9	.1513	645975
34	17337	20989	-1.6708A	.0204	1.01	.4	.90	-4.5	.42	.34	83.8	84.7	.1399	645976
35	18673	20989	-2.0885A	.0230	.89	-7.5	.76	-8.8	.39	.30	89.3	88.6	-.0570	645977
36	13862	20989	-.3393A	.0160	.98	-3.3	.96	-3.4	.39	.40	72.5	71.7	-.1207	645980
37	15647	20989	-.8984A	.0172	.94	-6.6	.89	-7.6	.42	.38	78.2	76.8	-.0618	645982
38	14317	20989	-.6794A	.0166	1.05	6.3	1.07	5.1	.37	.39	73.1	74.7	.1004	645984
39	18071	20992	-1.6567A	.0203	.88	-9.7	.91	-3.8	.34	.34	87.1	84.6	-.1922	646084
40	16312	20992	-.9096A	.0173	.87	-9.9	.80	-9.9	.42	.38	80.6	77.0	-.2652	646087
41	7685	20992	.9670A	.0158	1.04	6.7	1.15	9.9	.28	.37	70.2	70.4	.0772	646089
42	16296	20992	-1.0322A	.0177	.87	-9.9	.77	-9.9	.46	.38	81.1	78.2	-.1342	646090
43	15011	20992	-.6370A	.0165	.83	-9.9	.74	-9.9	.52	.39	79.3	74.3	-.1370	646092
44	15581	20989	-.9015A	.0172	.95	-5.8	.88	-8.0	.42	.38	77.9	76.9	-.0380	646094
45	14523	20989	-.5863A	.0164	.85	-9.9	.76	-9.9	.53	.39	77.8	73.8	-.0502	646095
46	15056	20989	-.5759A	.0164	.86	-9.9	.83	-9.9	.48	.39	79.0	73.7	-.2119	646097
47	16266	20989	-1.0662A	.0178	.97	-3.8	.95	-3.2	.37	.37	79.5	78.6	-.0896	646099
48	15849	20989	-1.1044A	.0179	.99	-1.1	.94	-3.5	.42	.37	78.6	79.0	.0848	646100
49	11365	20989	.4030A	.0154	1.08	9.9	1.13	9.9	.33	.39	65.1	68.6	-.2412	646101
50	16827	20989	-1.1366A	.0180	.80	-9.9	.67	-9.9	.49	.37	83.7	79.3	-.2135	646103
51	3019	4128	-.7963	.0387	.84	-8.9	.73	-8.9	.54	.38	80.0	76.5	.0016	658455
52	3268	4128	-1.1962	.0418	.88	-5.6	.76	-6.3	.49	.36	82.6	80.6	.0015	658456
53	1561	4128	1.0540	.0356	1.03	2.3	1.11	4.5	.32	.37	69.8	70.5	.0019	658457
54	2281	4128	.1760	.0349	1.05	3.5	1.07	3.3	.34	.40	67.7	69.2	.0018	658459
55	3419	4128	-1.4767	.0446	.93	-2.9	.77	-5.0	.43	.34	83.8	83.5	.0016	658460
56	2145	4128	.3407	.0347	.93	-5.2	.92	-4.3	.45	.39	71.9	68.8	.0018	658461
57	3340	4128	-1.3254	.0430	.92	-3.3	.88	-2.8	.44	.35	83.3	82.0	.0016	658462
58	2269	4128	.1906	.0349	.93	-5.2	.91	-4.7	.45	.40	71.8	69.1	.0018	658463
59	2375	4128	.0610	.0351	1.03	1.9	1.06	2.8	.38	.40	68.5	69.6	.0017	658464

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EX-EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
60	2010	4128	.5033	.0347	1.06	4.2	1.06	3.3	.34	.39	65.0	68.6	.0018	658465
61	1652	4038	.8869	.0354	1.04	3.3	1.11	5.2	.30	.36	68.1	69.1	.0015	658468
62	3175	4038	-1.1436	.0417	.91	-4.1	.85	-3.8	.45	.35	81.6	80.1	.0013	658469
63	2471	4038	-.1227	.0357	1.09	6.0	1.11	4.7	.29	.39	66.1	70.3	.0014	658470
64	2439	4038	-.0820	.0356	1.01	1.0	1.01	.5	.37	.39	69.2	70.1	.0014	658472
65	2690	4038	-.4101	.0368	1.07	4.0	1.04	1.7	.32	.38	68.8	72.6	.0014	658473
66	1884	4038	.6008	.0349	1.06	4.2	1.09	4.8	.32	.38	66.2	68.2	.0015	658474
67	3396	4038	-1.5670	.0462	.98	-6	.94	-1.2	.34	.33	85.1	84.5	.0013	658475
68	2054	4038	.3938	.0349	1.15	9.9	1.23	9.9	.22	.38	61.9	68.1	.0015	658476
69	3015	4038	-.8803	.0396	.94	-3.1	.86	-4.2	.43	.37	77.9	77.3	.0013	658477
70	2996	4038	-.8508	.0393	1.02	1.3	1.02	.7	.34	.37	76.5	77.0	.0013	658478
71	3444	4082	-1.6593	.0464	.90	-3.7	.73	-5.6	.45	.33	85.8	84.9	.0005	658479
72	1839	4082	.6208	.0349	1.10	7.1	1.17	8.3	.27	.38	64.5	68.5	.0006	658480
73	3561	4082	-1.9301	.0501	.89	-3.4	.70	-5.5	.44	.31	88.2	87.5	.0005	658481
74	3652	4082	-2.1756	.0540	.90	-2.8	.63	-6.0	.42	.29	89.9	89.6	.0005	658483
75	2659	4082	-.3934	.0363	.99	-6	1.00	-.1	.40	.39	73.1	72.0	.0005	658484
76	3412	4082	-1.5918	.0455	.93	-2.5	.81	-4.1	.41	.33	84.8	84.2	.0004	658486
77	2150	4082	.2440	.0348	.97	-2.6	.96	-1.9	.41	.39	70.3	68.4	.0006	658487
78	2103	4082	.3010	.0348	1.14	9.9	1.17	8.2	.26	.39	62.1	68.3	.0006	658488
79	3548	4082	-1.8978	.0496	.90	-3.3	.72	-5.1	.43	.31	87.6	87.2	.0004	658489
80	2078	4082	.3312	.0348	1.16	9.9	1.24	9.9	.21	.39	61.6	68.3	.0006	658490
81	3804	4049	-2.7979	.0684	.90	-1.9	.62	-4.4	.36	.23	94.0	93.9	.0005	658491
82	1894	4049	.5661	.0349	1.03	2.3	1.07	3.7	.33	.38	67.7	68.3	.0006	658492
83	2927	4049	-.7653	.0385	.91	-5.0	.87	-4.3	.47	.37	78.3	75.8	.0005	658493
84	2089	4049	.3286	.0349	1.21	9.9	1.31	9.9	.18	.38	59.6	68.3	.0006	658494
85	2986	4049	-.8542	.0391	1.05	2.5	1.12	3.3	.32	.37	75.2	76.7	.0004	658495
86	3236	4049	-1.2680	.0425	.97	-1.3	.93	-1.5	.38	.35	81.6	81.1	.0004	658496
87	3162	4049	-1.1380	.0413	.96	-1.9	.93	-1.8	.40	.36	80.3	79.8	.0004	658497
88	1202	4049	1.4611	.0378	1.14	7.8	1.36	9.9	.19	.33	71.0	74.3	.0006	658498
89	3460	4049	-1.7196	.0477	1.00	.2	1.34	5.4	.29	.32	86.5	85.7	.0005	658499
90	2846	4049	-.6474	.0378	1.01	.3	1.02	.5	.37	.38	74.1	74.6	.0005	658501
91	3103	4695	-.6570	.0345	.92	-5.1	.88	-4.8	.49	.42	75.5	73.3	-.0014	658502
92	3843	4695	-1.6866	.0413	.90	-4.5	.77	-5.3	.47	.37	84.7	82.8	-.0016	658503
93	3861	4695	-1.7177	.0417	.89	-4.7	.70	-6.9	.48	.36	84.0	83.1	-.0016	658504
94	3284	4695	-.8790	.0355	.98	-1.4	.95	-1.6	.43	.41	76.2	75.1	-.0014	658505
95	4035	4695	-2.0454	.0453	.89	-3.9	1.10	1.7	.42	.34	87.7	86.3	-.0015	658506
96	2295	4695	.2455	.0329	1.21	9.9	1.30	9.9	.24	.42	61.4	69.6	-.0012	658507
97	2555	4695	-.0368	.0330	1.01	.7	1.01	.5	.41	.42	69.6	70.0	-.0012	658508
98	3625	4695	-1.3417	.0384	.96	-2.0	.96	-.9	.43	.39	80.3	79.4	-.0014	658509
99	3791	4695	-1.5995	.0405	.98	-1.0	.98	-.4	.39	.37	83.0	82.0	-.0015	658510
100	3342	4695	-.9530	.0359	1.20	9.9	1.63	9.9	.22	.41	73.2	75.8	-.0014	658511
MEAN	8865.2	12594	-.7156	.0286	1.00	.1	.99	-.1			75.8	76.4		
S.D.	6269.7	8397.8	.8358	.0120	.12	6.6	.20	6.7			8.0	6.3		

Grade 11 Reading

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EX-EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
1	14804	20892	-1.1204A	.0173	1.06	6.7	1.12	7.2	.39	.39	75.5	76.7	.1362	564328
2	14653	20892	-.9170A	.0168	.87	-9.9	.78	-9.9	.52	.40	78.1	74.9	-.0268	564331
3	12830	20892	-.5325A	.0160	1.08	9.9	1.10	8.9	.35	.41	69.0	72.0	.0753	564333
4	16269	20892	-2.1395A	.0217	1.35	9.9	1.05	1.7	.54	.32	78.8	86.6	.7087	564335
5	15411	20892	-1.0521A	.0171	.86	-9.9	.76	-9.9	.50	.40	79.7	76.1	-.1150	564340
6	17471	20892	-2.3855A	.0233	1.21	9.9	.94	-1.7	.50	.30	83.9	88.8	.5144	564341
7	11050	20892	-.1839A	.0157	1.15	9.9	1.24	9.9	.30	.42	65.0	70.1	.1663	564402
8	14677	20892	-1.0250A	.0170	.85	-9.9	.75	-9.9	.57	.40	79.6	75.8	.0759	564403

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
9	15178	20892	-1.1805A	.0174	1.03	3.8	.96	-2.4	.40	.39	75.3	77.2	.0869	564404
10	16713	20892	-1.6609A	.0192	.87	-9.9	.67	-9.9	.54	.36	82.9	81.9	.0720	564420
11	14020	20892	-.7276A	.0164	.99	-.7	.97	-2.5	.40	.41	73.1	73.3	-.0414	565556
12	7579	20892	.5259A	.0157	1.09	9.9	1.18	9.9	.26	.40	67.9	70.1	.3092	565572
13	17356	20892	-1.6921A	.0193	.90	-9.7	.86	-6.7	.38	.36	84.4	82.2	-.1460	632827
14	15662	20892	-1.2115A	.0175	.99	-1.1	1.03	2.0	.38	.39	78.4	77.5	-.0310	632830
15	15855	20892	-2.0523A	.0212	1.61	9.9	2.05	9.9	.30	.33	76.5	85.8	.7556	632832
16	16666	20892	-1.6606A	.0192	.91	-8.4	.77	-9.9	.49	.36	82.7	81.9	.0889	632837
17	12532	20892	-.5308A	.0160	1.02	3.3	1.00	-.3	.42	.41	70.4	71.9	.1491	632838
18	11463	20915	-.0937A	.0156	1.02	2.7	1.03	2.8	.39	.42	69.2	69.8	-.0222	632840
19	14199	20915	-.7279A	.0163	.84	-9.9	.75	-9.9	.53	.41	77.9	73.3	-.0876	632844
20	10952	20915	-.0518A	.0156	1.09	9.9	1.12	9.9	.32	.41	65.4	69.7	.0598	632845
21	12626	20915	-.1683A	.0157	1.05	8.1	1.07	6.7	.35	.42	67.8	70.1	-.2352	632850
22	17358	20915	-1.4037A	.0182	.80	-9.9	.66	-9.9	.41	.38	84.0	79.3	-.4406	632852
23	15584	20892	-1.3237A	.0179	.93	-8.0	.83	-9.9	.50	.38	79.8	78.6	.1082	646157
24	14369	20892	-1.2694A	.0177	1.17	9.9	1.23	9.9	.40	.38	72.9	78.1	.4100	646158
25	10548	20892	.1631A	.0156	1.06	9.9	1.08	8.7	.35	.41	66.8	69.4	-.0578	646160
26	14982	20892	-.8524A	.0166	1.00	-.4	.99	-.5	.36	.40	75.0	74.4	-.1884	646162
27	8423	20892	.6302A	.0158	1.11	9.9	1.23	9.9	.28	.39	67.6	70.5	-.0056	646165
28	15641	20892	-1.2409A	.0176	1.00	-.1	.97	-1.9	.39	.39	77.9	77.8	.0058	646170
29	16038	20915	-.9336A	.0168	.78	-9.9	.67	-9.9	.50	.40	81.6	75.0	-.4344	646172
30	17038	20915	-1.4679A	.0184	.81	-9.9	.70	-9.9	.46	.37	84.2	80.0	-.2443	646173
31	18300	20915	-1.6801A	.0193	.65	-9.9	.49	-9.9	.46	.36	89.1	82.1	-.5929	646174
32	16209	20915	-1.2046A	.0175	.89	-9.9	.81	-9.9	.42	.39	80.1	77.4	-.2140	646175
33	14958	20915	-.7474A	.0164	.85	-9.9	.77	-9.9	.49	.41	78.5	73.5	-.2846	646176
34	15233	20915	-.9305A	.0168	.89	-9.9	.84	-9.9	.46	.40	79.0	75.0	-.1808	646179
35	15102	20915	-1.0882A	.0172	1.04	5.3	1.05	3.0	.36	.39	74.9	76.4	.0192	646180
36	15828	20915	-1.0312A	.0170	.90	-9.9	.85	-9.9	.41	.40	78.9	75.9	-.2648	646182
37	15950	20915	-1.0861A	.0172	.82	-9.9	.70	-9.9	.49	.39	80.9	76.4	-.2487	646183
38	12535	20915	-.1612A	.0157	1.06	9.9	1.07	7.3	.33	.42	67.6	70.1	-.2194	646197
39	18095	20915	-1.9259A	.0204	.91	-7.3	1.13	4.9	.28	.34	87.2	84.5	-.2289	646198
40	15046	20915	-.8890A	.0167	.94	-8.1	.94	-4.2	.42	.40	76.8	74.6	-.1669	646201
41	14869	20915	-1.0761A	.0171	1.16	9.9	1.23	9.9	.27	.40	71.4	76.3	.0755	646211
42	9819	20915	-.2789A	.0157	1.33	9.9	1.49	9.9	.19	.42	58.1	70.5	.5606	646213
43	12458	20915	-.3585A	.0158	1.25	9.9	1.36	9.9	.19	.42	61.8	70.9	-.0031	646214
44	13957	20892	-.8009A	.0165	.97	-3.7	.91	-7.2	.44	.41	74.0	73.9	.0498	646217
45	7577	20892	.7482A	.0160	1.09	9.9	1.20	9.9	.28	.39	69.8	71.2	.0896	646218
46	11907	20892	-.3574A	.0158	1.03	5.2	1.01	.6	.40	.42	68.5	70.9	.1308	646220
47	15825	20892	-1.3398A	.0179	1.01	1.6	.94	-3.6	.39	.38	77.6	78.7	.0479	646221
48	15149	20892	-.8926A	.0167	.84	-9.9	.74	-9.9	.51	.40	79.2	74.7	-.1975	646222
49	9696	20892	.4136A	.0156	1.14	9.9	1.25	9.9	.27	.40	65.2	69.7	-.1008	646228
50	15900	20892	-1.2948A	.0178	.86	-9.9	.75	-9.9	.51	.38	81.4	78.3	-.0225	646230
51	3667	4109	-2.4018	.0535	.96	-1.0	.88	-1.6	.33	.30	89.3	89.3	-.0001	658512
52	2374	4109	-.2318	.0355	.98	-1.2	.96	-1.7	.42	.42	70.7	70.3	.0000	658513
53	3347	4109	-1.6664	.0437	.84	-6.8	.67	-7.6	.52	.36	84.5	82.4	-.0001	658515
54	2065	4109	.1513	.0351	.97	-1.9	.99	-.5	.42	.41	70.7	69.3	.0000	658516
55	2463	4109	-.3445	.0357	1.14	9.4	1.18	7.3	.28	.41	65.5	70.9	-.0001	658517
56	3622	4109	-2.2780	.0515	.88	-3.7	.71	-4.6	.44	.31	88.6	88.2	-.0001	658518
57	2516	4109	-.4125	.0359	1.08	5.2	1.09	3.7	.34	.41	67.4	71.3	.0000	658519
58	3609	4109	-2.2440	.0509	.89	-3.5	.69	-5.1	.43	.31	88.2	87.9	-.0001	658520
59	2421	4109	-.2912	.0356	1.01	.6	1.01	.4	.40	.42	70.0	70.6	.0000	658522
60	3529	4109	-2.0478	.0482	.90	-3.6	.84	-2.8	.43	.33	87.4	86.1	-.0001	658524
61	3706	3977	-2.9304	.0657	.90	-2.1	.56	-5.4	.37	.25	93.2	93.2	.0000	658525
62	3347	3977	-1.8657	.0469	1.04	1.6	1.14	2.4	.29	.34	84.3	84.6	.0000	658526
63	3087	3977	-1.3603	.0417	.93	-3.4	.85	-3.8	.45	.38	81.0	79.6	-.0001	658527
64	3732	3977	-3.0476	.0686	.91	-1.7	.71	-3.1	.33	.24	93.9	93.8	.0000	658528
65	1999	3977	.1704	.0356	1.12	8.3	1.19	8.6	.29	.41	64.5	69.3	.0000	658529
66	2401	3977	-.3460	.0363	1.11	7.2	1.18	7.4	.31	.41	66.1	71.0	.0000	658530
67	2302	3977	-.2167	.0360	1.23	9.9	1.33	9.9	.21	.41	61.1	70.3	.0000	658531
68	2583	3977	-.5909	.0371	1.10	5.9	1.14	5.1	.32	.41	69.2	72.6	.0000	658532

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EX-EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
69	3301	3977	-1.7671	.0457	.89	-4.1	.86	-2.7	.45	.35	85.4	83.6	-.0001	658533
70	2876	3977	-1.0157	.0392	.95	-2.4	.94	-1.7	.44	.39	77.9	76.2	.0000	658535
71	2812	4090	-.8554	.0375	1.09	5.0	1.22	6.8	.32	.40	72.2	74.3	.0003	658536
72	2954	4090	-1.0609	.0386	.82	-9.9	.73	-8.8	.56	.39	81.6	76.1	.0003	658537
73	1882	4090	.3342	.0352	1.01	.7	1.03	1.4	.38	.41	69.5	69.5	.0004	658539
74	3286	4090	-1.6060	.0428	.89	-4.6	.74	-6.2	.47	.36	82.5	81.4	.0002	658541
75	3131	4090	-1.3374	.0405	.88	-6.2	.74	-7.1	.50	.38	81.0	78.7	.0002	658542
76	2668	4090	-.6577	.0366	.88	-7.9	.80	-7.9	.52	.41	77.0	72.7	.0003	658543
77	1877	4090	.3404	.0352	1.05	3.3	1.10	4.7	.35	.41	68.1	69.5	.0004	658544
78	930	4090	1.6475	.0409	1.36	9.9	2.27	9.9	-.05	.33	74.9	79.2	.0006	658545
79	2912	4090	-.9989	.0383	1.03	1.7	1.17	4.8	.36	.40	76.1	75.5	.0003	658546
80	2319	4090	-.2070	.0354	1.20	9.9	1.27	9.9	.24	.42	61.9	70.2	.0004	658547
81	784	4107	1.9105	.0429	1.22	8.4	1.90	9.9	.05	.30	79.6	81.9	.0036	658548
82	841	4107	1.8078	.0419	1.11	4.6	1.64	9.9	.14	.31	80.3	80.8	.0036	658549
83	3032	4107	-1.1123	.0389	1.01	.6	1.04	1.3	.36	.37	76.8	76.6	.0023	658550
84	943	4107	1.6349	.0404	1.17	7.7	1.59	9.9	.13	.32	76.6	78.9	.0035	658551
85	2486	4107	-.3708	.0354	.89	-7.6	.84	-7.4	.50	.40	74.5	70.4	.0025	658552
86	2431	4107	-.3021	.0353	.98	-1.7	.96	-2.0	.42	.40	70.2	70.0	.0026	658553
87	1582	4107	.7356	.0355	1.24	9.9	1.40	9.9	.13	.38	61.7	70.3	.0031	658554
88	2127	4107	.0693	.0348	1.25	9.9	1.34	9.9	.17	.40	58.9	68.7	.0028	658555
89	1489	4107	.8544	.0359	.96	-2.4	1.04	1.5	.38	.37	74.1	71.1	.0031	658556
90	1592	4107	.7230	.0355	.90	-7.0	.97	-1.3	.43	.38	76.7	70.2	.0031	658558
91	2637	4632	-.3499	.0338	1.08	5.2	1.08	3.6	.38	.44	67.6	71.3	-.0009	658559
92	3084	4632	-.8775	.0352	1.01	.6	.97	-1.1	.43	.43	73.1	74.1	-.0009	658560
93	3505	4632	-1.4374	.0381	1.02	.8	1.02	.5	.39	.41	78.7	78.5	-.0011	658561
94	3845	4632	-1.9854	.0427	.80	-8.8	.56	-9.8	.56	.36	85.7	83.5	-.0011	658562
95	3867	4632	-2.0259	.0431	.80	-8.5	.59	-8.8	.55	.36	86.0	83.9	-.0010	658563
96	2190	4632	.1531	.0335	1.29	9.9	1.45	9.9	.21	.43	60.2	70.4	-.0008	658564
97	3495	4632	-1.4230	.0380	.88	-6.4	.82	-4.9	.51	.41	82.2	78.3	-.0010	658566
98	3238	4632	-1.0724	.0360	1.04	2.4	1.11	3.4	.39	.43	75.0	75.5	-.0011	658567
99	3097	4632	-.8936	.0352	.86	-9.1	.76	-9.0	.55	.43	78.1	74.3	-.0010	658568
100	3503	4632	-1.4345	.0381	.79	-9.9	.64	-9.9	.60	.41	83.3	78.4	-.0011	658570
MEAN	8458.5	12542	-.7880	.0287	1.01	.0	1.01	-.2			75.7	76.3		
S.D.	6105.6	8360.7	.9673	.0126	.15	7.5	.30	7.4			7.9	5.9		

Appendix L: Mathematics Item Bank Difficulties

Grade 3 Mathematics

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
1	16682	22753	-1.0278A	.0166	1.01	1.4	1.05	3.0	.39	.40	76.6	76.6	-.0123	599739
2	12464	22754	-.5456A	.0156	1.22	9.9	1.42	9.9	.36	.43	65.7	72.8	.5455	599741
3	18632	22753	-1.6174A	.0186	.97	-3.0	1.02	.8	.37	.36	83.1	82.4	-.0261	599742
4	15900	22754	-1.0843A	.0168	1.11	9.9	1.05	2.7	.41	.40	73.2	77.1	.2593	599744
5	14468	22753	-.3878A	.0154	1.00	.3	1.01	.7	.41	.43	72.1	71.8	-.0846	599760
6	17141	22754	-.8946A	.0163	.80	-9.9	.69	-9.9	.52	.41	81.5	75.4	-.2829	599770
7	10458	22753	.5547A	.0152	1.10	9.9	1.18	9.9	.34	.43	67.5	70.8	-.0989	599771
8	18970	22754	-1.1485A	.0170	.80	-9.9	.69	-9.9	.39	.40	83.3	77.7	-.6448	599773
9	15134	22753	-.7646A	.0160	1.07	9.6	1.11	7.3	.39	.42	72.0	74.4	.1320	599777
10	15682	22754	-1.1266A	.0169	1.13	9.9	1.25	9.9	.42	.40	74.2	77.5	.3590	599786
11	14311	22753	-.4287A	.0155	1.02	3.3	1.03	2.4	.41	.43	71.3	72.0	-.0050	599790
12	12857	22754	-.1263A	.0152	1.03	4.5	1.02	1.8	.41	.43	69.1	70.7	.0336	599811
13	15645	22753	-.9872A	.0165	1.16	9.9	1.28	9.9	.34	.41	71.9	76.2	.2272	599813
14	17832	22754	-1.5302A	.0183	1.17	9.9	1.54	9.9	.27	.37	79.3	81.5	.1568	599816
15	17637	22753	-.9132A	.0163	.94	-8.1	.94	-3.7	.35	.41	77.6	75.6	-.4178	599825
16	15975	22754	-.4394A	.0155	.93	-9.9	.91	-8.2	.43	.43	74.6	72.1	-.4179	599846
17	16189	22753	-.9945A	.0165	.89	-9.9	.77	-9.9	.54	.41	78.6	76.3	.0905	599855
18	18216	22754	-1.5483A	.0183	.92	-8.5	.81	-9.2	.48	.37	82.1	81.7	.0490	599856
19	16111	22753	-.8016A	.0161	.85	-9.9	.78	-9.9	.53	.42	79.9	74.7	-.0853	599888
20	19048	22754	-1.8415A	.0197	.93	-5.9	.86	-5.7	.44	.34	85.3	84.6	.0493	599894
21	19149	22753	-1.8985A	.0200	1.01	.5	1.02	.7	.37	.34	84.9	85.2	.0677	599904
22	12973	22754	-.3063A	.0153	1.13	9.9	1.14	9.9	.34	.43	66.1	71.4	.1879	599912
23	17870	22753	-1.0364A	.0166	.92	-9.9	.87	-8.2	.36	.40	78.6	76.7	-.3656	600451
24	15743	22754	-.7879A	.0161	1.05	6.5	1.12	8.1	.37	.42	73.9	74.6	-.0007	600460
25	16917	22753	-.9922A	.0165	.87	-9.9	.80	-9.9	.49	.41	80.2	76.3	-.1164	600464
26	16114	22754	-.8880A	.0163	.98	-2.3	.99	-.6	.43	.41	75.9	75.4	.0025	600468
27	16091	22753	-.5876A	.0157	.97	-4.8	.92	-6.6	.39	.42	73.8	73.1	-.2985	600478
28	19117	22754	-1.8412A	.0197	1.04	3.2	1.07	2.8	.32	.34	84.1	84.6	.0219	600818
29	11580	22753	.1374A	.0151	.95	-8.3	.93	-7.6	.48	.43	72.2	70.2	.0613	603147
30	12227	22754	-.1427A	.0152	1.17	9.9	1.24	9.9	.31	.43	64.6	70.7	.1948	603149
31	16562	22753	-1.5122A	.0182	1.23	9.9	1.28	9.9	.43	.37	75.6	81.3	.5127	603152
32	14610	22754	-.4491A	.0155	.94	-8.5	.90	-8.5	.47	.43	73.8	72.2	-.0571	633891
33	11629	22753	.0003A	.0151	.83	-9.9	.79	-9.9	.59	.43	77.6	70.4	.1874	633899
34	17547	22754	-1.0209A	.0166	.79	-9.9	.67	-9.9	.52	.40	82.4	76.5	-.2772	646508
35	15112	22753	-.5870A	.0157	1.01	1.0	.99	-.8	.41	.42	72.6	73.0	-.0428	646514
36	11158	22754	.1950A	.0151	.90	-9.9	.87	-9.9	.50	.43	74.4	70.2	.0998	646516
37	14937	22753	-.5113A	.0156	.92	-9.9	.88	-9.9	.48	.43	75.2	72.5	-.0755	646519
38	16542	22754	-.9133A	.0163	.82	-9.9	.71	-9.9	.55	.41	80.5	75.6	-.0896	646522
39	15642	22753	-.7441A	.0160	1.09	9.9	1.08	5.7	.34	.42	71.1	74.2	-.0191	646531
40	17672	22754	-1.4536A	.0180	1.07	6.9	1.19	8.3	.37	.37	79.9	80.7	.1291	646537
41	12334	22753	-.0650A	.0152	1.18	9.9	1.24	9.9	.29	.43	63.1	70.5	.0921	646538
42	18118	22754	-1.5562A	.0184	1.07	6.6	1.08	3.5	.35	.37	80.3	81.7	.0901	646543
43	13057	22753	-.0810A	.0152	.98	-4.1	.97	-2.9	.45	.43	71.8	70.5	-.0584	646545
44	12591	22754	.1829A	.0151	1.02	4.0	1.05	4.8	.41	.43	69.6	70.2	-.2146	646546
45	17995	22753	-1.4701A	.0180	.94	-6.6	.85	-7.5	.45	.37	81.9	80.9	.0419	646549
46	14453	22754	-.5060A	.0156	1.09	9.9	1.15	9.9	.36	.43	69.5	72.5	.0389	646550
47	15657	22753	-.7685A	.0160	1.03	4.1	1.05	3.3	.39	.42	73.7	74.4	.0018	646553
48	17461	22754	-1.2910A	.0174	.98	-2.4	1.00	-.2	.42	.39	79.9	79.1	.0280	646555
49	18112	22753	-1.2489A	.0173	.78	-9.9	.68	-9.9	.51	.39	84.5	78.7	-.2258	646558
50	12433	22754	-.0332A	.0151	.98	-3.4	.99	-.9	.45	.43	71.9	70.4	.0378	646566
51	4483	5783	-1.5460	.0347	.94	-3.6	1.13	3.1	.43	.38	81.7	79.1	-.0003	659838
52	4650	5708	-1.8490	.0371	.90	-5.1	.90	-2.1	.45	.36	84.0	82.1	-.0003	659839
53	3268	4192	-1.2369	.0410	.95	-2.3	.96	-.9	.43	.38	81.2	79.7	.0002	659841
54	2774	4217	-.5382	.0364	1.10	6.4	1.14	4.5	.33	.42	68.9	73.0	.0003	659843
55	4245	5700	-1.3436	.0337	.87	-8.5	.77	-6.9	.52	.40	80.8	77.3	-.0003	659844
56	3219	4378	-.9686	.0379	.95	-2.7	.89	-2.9	.44	.39	77.0	76.5	.0002	659846

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	DISPLACE EXP%	ITEM
57	877	4290	2.0319	.0423	.92	-3.3	1.05	1.2	.36	.34	83.8	82.1	.0010 659848
58	628	4240	2.5185	.0480	1.00	.2	1.59	8.4	.24	.31	86.8	86.6	.0010 659849
59	2044	4224	.3988	.0349	1.09	6.0	1.13	5.7	.34	.43	66.9	70.0	.0006 659850
60	2683	4225	-.4092	.0359	1.10	6.4	1.16	5.7	.33	.42	68.3	71.8	.0003 659852
61	3245	4265	-1.1565	.0396	.97	-1.6	.89	-2.6	.42	.39	78.7	78.4	.0002 659854
62	3174	4306	-.9888	.0384	1.02	1.2	1.02	.7	.38	.40	75.9	76.9	.0002 659855
63	2730	4357	-.3449	.0352	.93	-4.9	.89	-4.4	.48	.42	74.2	71.7	.0003 659856
64	2889	4230	-.6544	.0369	.94	-3.5	.89	-3.6	.46	.41	75.5	74.0	.0003 659857
65	1984	4142	.3778	.0353	1.04	2.7	1.08	3.4	.40	.43	68.9	70.1	.0006 659859
66	3376	5848	-.3656	.0301	1.03	2.2	1.01	.5	.42	.44	70.0	71.1	.0000 659860
67	3559	4176	-1.8658	.0471	.96	-1.3	.80	-3.4	.39	.34	85.4	85.5	.0002 659861
68	2500	4315	-.0755	.0347	1.09	6.3	1.10	4.2	.33	.42	66.3	70.3	.0005 659862
69	3021	5763	-.0989	.0301	1.06	4.6	1.05	2.5	.39	.45	67.9	70.6	.0001 659863
70	3139	4276	-.9569	.0383	1.11	5.9	1.17	4.3	.29	.40	72.8	76.6	.0002 659864
71	2714	4179	-.4647	.0363	1.08	4.9	1.13	4.2	.34	.41	69.2	72.4	.0003 659866
72	2755	4249	-.4425	.0361	1.05	3.2	1.03	1.1	.37	.42	70.1	72.5	.0004 659867
73	2768	4215	-.4945	.0362	1.08	5.0	1.12	4.0	.34	.41	69.4	72.6	.0003 659868
74	4712	5749	-1.8704	.0373	.99	-.4	.97	-.6	.36	.36	83.1	82.6	-.0003 659870
75	3439	4239	-1.5082	.0428	.96	-1.5	.89	-2.2	.40	.36	82.4	82.0	.0002 659871
76	2150	4248	.2864	.0348	1.04	3.0	1.04	1.9	.38	.42	67.9	69.9	.0006 659872
77	1547	4242	1.0236	.0360	1.21	9.9	1.47	9.9	.19	.40	67.5	72.4	.0007 659873
78	3531	5657	-.6115	.0312	1.13	9.4	1.14	5.4	.33	.44	66.7	72.3	-.0001 659874
79	1489	4260	1.0996	.0365	1.17	9.9	1.39	9.9	.25	.40	68.5	73.3	.0008 659875
80	3821	4273	-2.2851	.0529	1.00	.0	.95	-.6	.30	.30	89.5	89.5	.0003 659877
81	4544	5727	-1.6607	.0357	.91	-4.7	.84	-4.1	.45	.37	81.9	80.5	-.0003 659878
82	3544	4230	-1.7225	.0452	1.03	1.1	1.11	1.8	.31	.35	84.0	84.2	.0002 659879
83	2581	4280	-.1944	.0352	1.01	.5	1.02	1.0	.42	.42	71.6	71.2	.0004 659880
84	3312	4331	-1.1808	.0396	.93	-3.4	.83	-4.3	.46	.39	79.9	78.7	.0002 659882
85	3299	4207	-1.2768	.0411	1.13	5.6	1.37	7.2	.24	.37	77.7	79.9	.0002 659883
86	4135	4268	-3.6816	.0901	.99	-.1	.91	-.7	.19	.17	96.9	96.9	.0011 659885
87	3707	4310	-1.9432	.0473	1.09	3.1	1.43	5.9	.22	.33	85.8	86.2	.0002 659886
88	3614	5787	-.6229	.0308	1.11	7.9	1.14	5.5	.35	.44	67.4	72.3	-.0001 659887
89	1647	4230	.8819	.0358	1.03	2.1	1.08	3.1	.37	.41	71.8	72.0	.0007 659888
90	3423	4204	-1.5274	.0433	.94	-2.4	.87	-2.6	.42	.37	83.3	82.2	.0002 659890
91	1733	4328	.8390	.0351	1.19	9.9	1.35	9.9	.24	.40	65.1	71.1	.0007 659891
92	3723	4210	-2.1937	.0513	1.07	1.9	1.42	5.0	.22	.30	88.3	88.5	.0003 659892
93	3938	4262	-2.6915	.0605	.94	-1.3	.78	-2.5	.32	.25	92.4	92.4	.0005 659894
94	3365	4172	-1.4490	.0427	.95	-2.3	.87	-2.8	.42	.36	82.6	81.7	.0002 659895
95	1505	4350	1.1121	.0361	1.21	9.9	1.46	9.9	.20	.40	68.9	73.5	.0008 659897
96	3774	4311	-2.0889	.0493	1.03	1.0	1.28	3.6	.27	.31	87.7	87.6	.0003 659898
97	4453	5723	-1.5618	.0350	.99	-.8	.98	-.5	.40	.38	79.5	79.4	-.0003 659899
98	2214	4166	.1589	.0352	.88	-9.2	.84	-7.7	.53	.43	75.9	70.1	.0005 659900
99	1212	4268	1.5140	.0382	1.06	3.0	1.04	1.3	.35	.37	74.6	76.6	.0009 659902
100	1818	4225	.6704	.0352	1.02	1.3	1.06	2.6	.39	.42	70.4	70.7	.0007 659903
MEAN	9297.1	13652	-.7279	.0281	1.01	.5	1.03	.6			76.2	76.5	
S.D.	6568.4	9111.3	.9708	.0134	.10	6.6	.20	6.3			6.9	5.7	

Grade 4 Mathematics

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	DISPLACE EXP%	ITEM
1	16704	22240	-1.6430A	.0189	1.06	5.4	.92	-3.2	.57	.37	79.2	82.4	.4687 599875
2	16068	22240	-.4594A	.0158	.92	-9.9	.86	-9.9	.44	.44	75.5	72.5	-.5531 603920
3	17969	22237	-1.5503A	.0185	.89	-9.9	.76	-9.9	.47	.38	83.3	81.5	-.0395 603927
4	11996	22240	-.2452A	.0155	1.03	4.0	1.03	2.7	.45	.45	70.4	71.5	.2737 603929
5	11383	22237	.0661A	.0154	1.09	9.9	1.13	9.9	.38	.45	67.1	70.7	.1059 603954
6	12852	22240	-.0863A	.0154	1.09	9.9	1.11	9.7	.36	.45	67.3	71.0	-.0908 603958

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EX-EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
7	17329	22237	-1.3742A	.0179	1.04	4.3	1.01	.6	.36	.39	78.6	79.8	-.0010	603969
8	10692	22240	.1981A	.0154	1.08	9.9	1.10	9.9	.38	.45	67.5	70.7	.1371	603974
9	18481	22237	-1.9695A	.0205	1.12	9.4	1.20	6.3	.35	.34	83.7	85.6	.2004	603975
10	14668	22240	-.6464A	.0160	.96	-5.0	.96	-3.2	.47	.44	75.2	73.6	.0223	603982
11	12707	22240	-.2308A	.0155	.82	-9.9	.74	-9.9	.60	.45	77.9	71.4	.0896	604017
12	17319	22240	-1.1857A	.0173	.96	-4.4	.88	-6.5	.38	.41	78.5	78.0	-.1919	604020
13	11650	22237	-.0545A	.0154	.98	-3.3	.97	-3.2	.47	.45	72.1	70.9	.1638	604045
14	17964	22240	-1.5357A	.0185	.83	-9.9	.73	-9.9	.51	.38	84.7	81.3	-.0522	604061
15	12654	22237	-.3228A	.0156	1.13	9.9	1.21	9.9	.37	.45	67.5	71.8	.1948	604077
16	13268	22240	-.1968A	.0155	.93	-9.9	.88	-9.9	.50	.45	73.6	71.3	-.0807	604102
17	18752	22237	-2.0323A	.0208	1.06	4.9	1.08	2.4	.37	.34	84.9	86.2	.1566	604108
18	13232	22240	-.4087A	.0157	1.01	1.9	1.06	5.1	.46	.44	72.3	72.2	.1419	604128
19	16721	22237	-.8883A	.0165	.80	-9.9	.73	-9.9	.52	.42	82.0	75.4	-.3087	604148
20	11818	22240	.0474A	.0154	1.15	9.9	1.22	9.9	.32	.45	65.5	70.7	.0220	634167
21	12770	22237	.0551A	.0154	.98	-2.6	.97	-3.2	.45	.45	71.2	70.7	-.2131	634169
22	15934	22240	-.9634A	.0167	.88	-9.9	.85	-9.7	.52	.42	79.6	76.1	.0024	634173
23	15206	22237	-.9064A	.0165	1.05	6.8	.94	-3.7	.43	.42	71.9	75.6	.1445	634177
24	13384	22240	-.3502A	.0156	.86	-9.9	.80	-9.9	.57	.44	77.5	71.9	.0457	634187
25	11034	22237	.5413A	.0155	1.05	6.9	1.07	7.1	.43	.44	70.0	71.3	-.2847	634194
26	12932	22240	-.0548A	.0154	1.10	9.9	1.14	9.9	.36	.45	67.4	70.9	-.1418	634200
27	17808	22237	-1.3991A	.0180	1.01	1.3	1.06	2.7	.32	.39	80.2	80.0	-.1386	634211
28	18488	22240	-1.8111A	.0197	.90	-9.3	.78	-8.7	.47	.36	85.0	84.0	.0356	634212
29	10867	22237	-.1033A	.0154	1.04	6.8	1.12	9.9	.42	.45	69.5	70.7	.1905	634217
30	17292	22240	-1.4761A	.0182	1.11	9.9	1.31	9.9	.33	.39	79.1	80.8	.1164	634218
31	16835	22237	-1.1613A	.0172	.96	-5.0	.92	-4.5	.42	.41	78.8	77.8	-.0623	646567
32	18952	22240	-1.9791A	.0205	.96	-3.0	.81	-6.8	.39	.34	85.7	85.7	.0183	646568
33	19546	22237	-2.1198A	.0213	.88	-9.0	.86	-4.8	.37	.33	88.3	87.0	-.1137	646571
34	17883	22237	-1.4783A	.0182	.94	-6.7	1.00	.2	.40	.39	82.7	80.8	-.0831	646574
35	9856	22237	.6484A	.0156	.84	-9.9	.80	-9.9	.57	.44	78.0	71.7	-.1128	646576
36	17635	22240	-1.5381A	.0185	1.00	-.1	1.02	1.0	.41	.38	81.3	81.4	.0657	646578
37	19053	22240	-1.9671A	.0205	.81	-9.9	.59	-9.9	.51	.34	87.2	85.5	-.0384	646580
38	16697	22240	-1.1179A	.0171	1.02	2.4	1.01	.6	.37	.41	76.6	77.4	-.0640	646582
39	11937	22237	.0213A	.0154	1.00	.8	1.02	1.6	.45	.45	70.9	70.8	.0198	646584
40	12787	22240	.0528A	.0154	1.03	4.8	1.03	2.5	.42	.45	69.6	70.7	-.2147	646586
41	18145	22237	-1.7063A	.0192	.87	-9.9	.76	-9.9	.51	.37	84.6	83.0	.0574	646588
42	15930	22237	-.7974A	.0163	1.07	9.8	1.04	2.9	.32	.43	71.6	74.7	-.1669	646590
43	16420	22237	-1.2773A	.0175	1.12	9.9	1.18	8.5	.36	.40	75.8	78.9	.1821	646592
44	13600	22237	-.3737A	.0157	1.14	9.9	1.21	9.9	.33	.44	67.0	72.0	.0160	646594
45	16893	22237	-1.4922A	.0183	1.22	9.9	1.43	9.9	.31	.38	77.2	80.9	.2585	646598
46	17683	22240	-1.3178A	.0177	.90	-9.9	.91	-4.4	.42	.40	82.4	79.2	-.1786	646600
47	11338	22237	.2550A	.0154	1.01	2.2	1.04	3.8	.43	.45	70.7	70.7	-.0723	646601
48	11372	22240	.1037A	.0154	1.08	9.9	1.13	9.9	.38	.45	67.8	70.7	.0710	646603
49	14978	22237	-.4595A	.0158	1.01	1.8	.97	-2.0	.39	.44	71.7	72.5	-.2498	646604
50	12989	22240	-.2350A	.0155	1.03	4.6	1.05	4.0	.42	.45	70.4	71.4	.0257	646606
51	15947	22237	-.9374A	.0166	.84	-9.9	.73	-9.9	.56	.42	79.8	75.8	-.0283	646607
52	17198	22240	-1.4558A	.0182	1.13	9.9	1.30	9.9	.32	.39	78.5	80.6	.1260	646610
53	12755	22237	-.2282A	.0155	1.04	6.8	1.03	2.5	.41	.45	69.3	71.4	.0752	646798
54	18418	22240	-2.1052A	.0212	1.16	9.9	.94	-2.0	.44	.33	83.3	86.8	.3633	646803
55	18137	22240	-1.5151A	.0184	1.00	.2	1.21	8.6	.31	.38	82.0	81.1	-.1370	646806
56	1973	4195	.4963	.0352	1.09	6.0	1.15	6.4	.35	.43	67.7	70.3	.0009	659905
57	3594	5552	-.8015	.0319	1.03	2.2	1.01	.5	.42	.44	72.0	73.1	.0005	659906
58	3615	4195	-2.0000	.0483	.94	-2.2	.93	-1.0	.39	.34	87.0	86.4	.0007	659911
59	3675	4204	-2.0647	.0498	.92	-2.7	.75	-3.7	.41	.32	87.9	87.5	.0008	659915
60	4664	5586	-2.0540	.0392	.91	-4.3	.82	-3.5	.44	.36	84.8	83.9	.0004	659916
61	1904	4145	.5278	.0357	.86	-9.8	.82	-8.2	.54	.44	76.5	70.9	.0009	659918
62	3920	5506	-1.1852	.0335	.95	-3.3	.83	-5.1	.48	.43	76.3	75.7	.0004	659919
63	3510	4098	-1.9142	.0481	.99	-.2	1.16	2.2	.34	.34	86.2	85.9	.0007	659921
64	3055	4065	-1.1072	.0404	.94	-2.8	.87	-3.1	.46	.41	79.1	78.0	.0006	659922
65	2784	4199	-.5654	.0367	1.10	6.0	1.12	3.8	.34	.43	69.9	73.3	.0007	659923
66	3659	5598	-.8565	.0320	.97	-2.4	.95	-1.6	.48	.45	74.9	73.6	.0004	659924

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	TOTAL MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
67	3769	4263	-2.1977	.0512	.93	-2.1	.85	-2.0	.38	.32	88.9	88.5	.0008	659926
68	3016	4211	-.8590	.0383	.89	-6.3	.81	-5.4	.52	.42	79.5	76.0	.0007	659927
69	5150	5535	-3.1537	.0552	.96	-.9	1.02	.3	.26	.25	93.1	93.0	.0006	659928
70	2494	4192	-.1851	.0356	1.01	.9	1.01	.3	.42	.43	70.4	71.0	.0008	659932
71	3003	4244	-.8338	.0379	.95	-2.6	.91	-2.5	.47	.42	77.0	75.7	.0007	659935
72	2098	4174	.3111	.0354	.97	-2.3	.96	-2.0	.46	.44	71.9	70.4	.0009	659937
73	3171	5647	-.3456	.0308	1.13	9.4	1.17	7.2	.36	.46	66.6	71.6	.0005	659939
74	2194	4111	.1200	.0357	1.08	5.2	1.09	3.8	.37	.44	67.1	70.4	.0008	659941
75	3280	4144	-1.3915	.0418	1.00	-.1	.94	-1.2	.38	.37	80.2	80.3	.0007	659943
76	2273	4165	.0930	.0354	1.01	.8	1.00	.1	.42	.44	69.4	70.3	.0008	659945
77	2986	4216	-.8219	.0379	1.10	5.5	1.24	6.2	.33	.42	73.4	75.5	.0007	659946
78	3399	5584	-.5764	.0313	1.04	3.1	1.08	3.3	.42	.45	70.8	72.2	.0005	659947
79	3345	4149	-1.4712	.0431	.97	-1.1	.91	-1.7	.40	.38	81.8	81.7	.0007	659949
80	2887	4181	-.6866	.0375	1.01	.8	.98	-.5	.41	.42	73.8	74.6	.0007	659950
81	2180	5598	.5794	.0316	1.21	9.9	1.36	9.9	.28	.45	66.6	73.2	.0008	659951
82	2186	4143	.1327	.0355	1.10	6.9	1.12	5.0	.35	.44	66.2	70.3	.0008	659953
83	3097	4195	-1.0206	.0391	1.13	6.5	1.24	5.6	.29	.41	74.4	77.2	.0007	659955
84	3554	4341	-1.5743	.0430	1.13	5.2	1.30	5.0	.24	.37	81.2	82.7	.0007	659957
85	2986	4243	-.7978	.0376	1.07	4.2	1.08	2.3	.35	.42	72.5	75.1	.0007	659960
86	2448	4134	-.1937	.0360	1.03	1.7	1.04	1.4	.43	.45	70.5	71.5	.0008	659961
87	3101	4126	-1.0993	.0399	1.09	4.5	1.24	5.3	.31	.40	76.4	77.9	.0007	659963
88	1903	4244	.5889	.0352	1.16	9.9	1.26	9.9	.29	.43	64.9	70.7	.0009	659965
89	3409	4142	-1.6470	.0444	.97	-1.4	1.15	2.6	.38	.37	84.7	83.1	.0006	659966
90	2955	4192	-.8329	.0379	1.04	2.5	1.13	3.5	.38	.42	74.9	75.2	.0007	659967
91	1200	4202	1.4749	.0386	1.21	9.9	1.52	9.9	.21	.39	71.8	76.7	.0010	659969
92	1996	4115	.4122	.0356	1.23	9.9	1.38	9.9	.24	.44	62.2	70.3	.0009	659970
93	3012	5541	-.2343	.0310	.85	-9.9	.80	-9.9	.57	.46	77.8	71.3	.0006	659971
94	3064	4052	-1.0843	.0405	.97	-1.6	1.00	-.1	.42	.40	79.8	78.2	.0007	659972
95	2216	5603	.5519	.0316	1.08	5.6	1.21	8.6	.37	.46	71.9	73.2	.0007	659974
96	2570	4089	-.3947	.0366	1.11	6.9	1.13	4.5	.33	.43	68.0	72.1	.0007	659976
97	3209	4164	-1.2492	.0407	1.00	.2	1.07	1.5	.38	.39	79.4	79.1	.0007	659977
98	3837	4236	-2.4370	.0556	.87	-3.4	.61	-5.4	.43	.29	90.8	90.6	.0008	659978
99	2456	4149	-.1643	.0360	1.12	7.6	1.20	7.4	.35	.44	67.5	71.4	.0008	659979
100	3875	4195	-2.6929	.0611	1.01	.2	.94	-.6	.26	.26	92.3	92.3	.0009	659980
101	2188	4102	.1611	.0356	1.40	9.9	1.64	9.9	.10	.44	55.8	70.3	.0009	659982
102	2348	4054	-.1022	.0363	1.10	6.4	1.17	6.2	.36	.45	67.8	71.2	.0008	659983
103	2195	4163	.1554	.0353	1.32	9.9	1.53	9.9	.17	.44	58.3	70.2	.0009	659984
104	3723	4103	-2.4807	.0570	.92	-2.0	.73	-3.5	.38	.29	90.8	90.7	.0008	659985
105	3683	4100	-2.3575	.0549	.92	-2.1	.77	-2.9	.37	.30	90.1	89.8	.0008	659987
MEAN	9349.9	13767	-.8075	.0278	1.02	1.2	1.03	.9			75.9	76.7		
S.D.	6417.7	8893.9	.8955	.0125	.11	6.7	.19	6.4			7.6	6.2		

Grade 5 Mathematics

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	TOTAL MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
1	4672	22022	1.0176A	.0160	1.02	3.2	1.12	9.9	.22	.41	73.3	73.3	.9075	603389
2	19180	22025	-1.9503A	.0206	.81	-9.9	.67	-9.9	.43	.32	88.1	85.8	-.1447	603400
3	15737	22022	-.9511A	.0166	1.06	7.1	1.09	5.6	.36	.40	74.3	75.7	.0362	603407
4	15215	22025	-.7709A	.0162	1.06	7.7	1.14	9.5	.36	.41	73.1	74.1	-.0038	603415
5	13416	22022	-.7680A	.0162	1.39	9.9	1.72	9.9	.20	.41	62.7	74.1	.4497	603427
6	16762	22025	-.7795A	.0163	.83	-9.9	.76	-9.9	.46	.41	79.9	74.2	-.4443	603429
7	12125	22022	-.5634A	.0159	1.16	9.9	1.24	9.9	.41	.42	67.1	72.5	.5512	603432
8	13654	22025	-.5649A	.0159	1.17	9.9	1.26	9.9	.31	.42	66.5	72.5	.1872	603439
9	18288	22022	-1.7105A	.0194	1.00	.4	1.31	9.9	.31	.34	84.1	83.4	-.0111	603440
10	14963	22025	-.4476A	.0157	1.03	4.8	1.03	2.4	.35	.42	70.3	71.8	-.2664	603447
11	15591	22025	.0171A	.0153	1.11	9.9	1.13	9.9	.32	.43	65.0	70.2	-.9103	603454

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	DISPLACEMENT	ITEM	
12	19528	22022	-2.3986A	.0236	1.08	4.9	1.12	3.5	.30	.28	88.7	89.9	.1435	603458
13	13318	22025	-.3648A	.0156	1.05	7.6	1.08	6.6	.39	.43	69.8	71.4	.0670	603459
14	15109	22022	-.4446A	.0157	.83	-9.9	.75	-9.9	.53	.42	78.3	71.8	-.3093	603488
15	12690	22025	-.2448A	.0155	1.13	9.9	1.14	9.9	.32	.43	65.3	70.8	.0972	603495
16	12170	22022	-.0823A	.0154	.86	-9.9	.81	-9.9	.55	.43	75.8	70.3	.0566	603508
17	20515	22025	-2.5125A	.0245	.71	-9.9	.57	-9.9	.33	.27	93.2	90.8	-.3707	603544
18	18122	22022	-1.2816A	.0176	.84	-9.9	.83	-9.1	.37	.38	83.8	78.9	-.3940	603546
19	14596	22025	-.4862A	.0158	.89	-9.9	.82	-9.9	.50	.42	75.7	72.0	-.1305	603576
20	15309	22022	-.7264A	.0162	.93	-9.6	.89	-7.7	.46	.41	75.9	73.7	-.0754	603579
21	17205	22025	-1.2904A	.0176	.89	-9.9	.76	-9.9	.46	.38	81.4	79.0	-.0580	603623
22	13208	22022	-.2466A	.0155	.92	-9.9	.87	-9.9	.50	.43	74.0	70.9	-.0262	603627
23	17686	22025	-1.4538A	.0182	.85	-9.9	.71	-9.9	.49	.36	83.3	80.7	-.0528	603631
24	16200	22022	-1.4955A	.0184	1.25	9.9	1.33	9.9	.38	.36	75.2	81.2	.4576	603653
25	15452	22025	-.6714A	.0160	.94	-8.6	.90	-7.5	.43	.41	75.0	73.3	-.1702	603678
26	18180	22022	-1.8170A	.0199	1.03	2.7	.99	-.3	.38	.33	83.7	84.5	.1400	603683
27	15601	22025	-1.1330A	.0171	1.07	8.3	1.11	6.2	.43	.39	75.3	77.4	.2600	603689
28	14421	22022	-.8549A	.0164	.99	-1.7	.93	-4.9	.51	.41	74.2	74.8	.2885	603703
29	11531	22025	.2428A	.0153	1.01	1.2	1.01	1.5	.43	.43	69.9	70.1	-.1185	634224
30	15276	22022	-.7197A	.0161	1.05	6.4	1.10	6.7	.35	.41	72.3	73.7	-.0733	634227
31	13727	22025	-.4864A	.0158	.86	-9.9	.78	-9.9	.56	.42	77.1	72.0	.0897	634233
32	10752	22022	.4654A	.0154	1.09	9.9	1.13	9.9	.36	.43	67.3	70.5	-.1583	634242
33	14896	22025	-.7098A	.0161	1.12	9.9	1.18	9.9	.31	.41	69.9	73.6	.0189	634254
34	15398	22022	-.8797A	.0165	1.08	9.9	1.18	9.9	.35	.40	73.0	75.0	.0570	634260
35	14112	22025	-.5250A	.0158	.93	-9.9	.86	-9.9	.49	.42	74.3	72.3	.0328	634285
36	14371	22022	-.7262A	.0162	1.10	9.9	1.07	4.7	.37	.41	69.2	73.7	.1708	646613
37	15255	22025	-.7940A	.0163	.87	-9.9	.77	-9.9	.53	.41	78.1	74.3	.0089	646616
38	15004	22022	-.8661A	.0164	.80	-9.9	.68	-9.9	.64	.41	80.5	74.9	.1488	646618
39	14475	22025	-.6058A	.0159	.97	-5.0	.90	-8.2	.45	.42	73.4	72.8	.0225	646620
40	13658	22022	-.5154A	.0158	1.00	.4	.97	-2.3	.45	.42	71.8	72.2	.1356	646621
41	9384	22025	.4623A	.0154	1.16	9.9	1.25	9.9	.27	.43	65.1	70.5	.1670	646624
42	10708	22022	.5819A	.0155	.92	-9.9	.93	-7.2	.51	.43	74.8	70.9	-.2633	646627
43	14931	22025	-.6653A	.0160	.89	-9.9	.84	-9.9	.51	.42	77.6	73.3	-.0357	646629
44	11505	22022	.0442A	.0153	1.06	9.9	1.09	9.3	.38	.43	67.9	70.1	.0860	646631
45	17595	22025	-1.3032A	.0177	.88	-9.9	.85	-7.9	.42	.38	82.7	79.2	-.1769	646632
46	16151	22022	-.9499A	.0166	.92	-9.9	.91	-5.7	.45	.40	78.5	75.7	-.0835	646635
47	17476	22025	-1.1481A	.0172	.95	-6.3	.95	-2.6	.33	.39	79.4	77.6	-.2969	646638
48	18571	22022	-1.8486A	.0201	1.06	5.2	1.16	5.6	.27	.33	84.6	84.8	.0183	646640
49	10234	22025	.5412A	.0154	.97	-4.0	.96	-3.8	.46	.43	71.8	70.8	-.1121	646645
50	15831	22022	-1.0816A	.0170	.97	-3.1	.93	-3.9	.47	.39	77.3	76.9	.1430	646648
51	18137	22025	-1.7360A	.0195	.93	-6.5	.80	-8.7	.46	.34	84.0	83.7	.0743	646650
52	10276	22022	.5449A	.0154	1.06	8.5	1.14	9.9	.37	.43	70.3	70.8	-.1259	646655
53	13204	22022	-.3876A	.0156	1.08	9.9	1.13	9.9	.38	.43	68.9	71.5	.1173	646658
54	13228	22025	-.0943A	.0154	1.01	1.5	1.00	-.3	.41	.43	69.8	70.4	-.1843	646666
55	11257	22025	.3195A	.0153	.85	-9.9	.84	-9.9	.55	.43	77.6	70.2	-.1309	646667
56	3398	4224	-1.4236	.0422	1.13	5.5	1.36	6.6	.22	.36	79.8	81.4	.0003	659988
57	3005	4065	-.9695	.0393	.97	-1.4	.92	-2.0	.41	.38	77.0	76.6	.0004	659989
58	3227	4071	-1.3473	.0421	.94	-2.5	.83	-3.7	.42	.36	81.3	80.4	.0004	659990
59	3373	5424	-.6249	.0316	1.07	4.9	1.06	2.3	.38	.43	69.4	71.7	.0002	659991
60	1292	4020	1.2648	.0382	.97	-1.5	1.04	1.4	.40	.40	76.8	74.9	.0008	659992
61	3079	4082	-1.0983	.0398	1.08	4.2	1.13	3.1	.29	.37	76.0	77.5	.0004	659993
62	2257	4146	.1328	.0353	1.06	4.1	1.07	3.0	.37	.43	67.5	69.9	.0006	659994
63	2452	4161	-.1539	.0354	1.03	2.1	1.05	1.9	.39	.42	68.3	70.3	.0005	659995
64	3920	4055	-3.5616	.0896	.99	.0	1.11	.9	.18	.18	96.7	96.7	.0012	659997
65	3036	4136	-.9258	.0389	1.13	6.8	1.20	4.9	.27	.39	73.0	76.5	.0004	659998
66	2992	5549	-.1691	.0307	1.15	9.9	1.20	9.0	.33	.45	64.5	70.8	.0003	659999
67	3397	4159	-1.5123	.0434	.91	-3.9	.77	-4.6	.44	.35	83.9	82.3	.0004	660000
68	2680	4259	-.3445	.0355	.96	-3.0	.93	-2.8	.46	.42	72.6	71.4	.0005	660001
69	2938	4054	-.9200	.0389	.96	-2.4	.91	-2.5	.44	.39	77.4	75.8	.0004	660002
70	1384	4085	1.1526	.0373	1.18	9.9	1.41	9.9	.21	.40	69.5	73.7	.0008	660005
71	3468	4154	-1.6540	.0449	1.05	2.0	1.13	2.2	.27	.33	83.8	83.8	.0004	660006

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFINIT MNSQ	OUTFIT ZSTD	PTBISERL-EX CORR.	EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
72	3455	4147	-1.6758	.0448	1.07	2.5 1.22	3.7	.26	.33	83.6	83.7	.0004 660007
73	3088	4187	-.9424	.0387	1.03	1.5 1.02	.5	.36	.39	76.4	76.6	.0004 660008
74	1233	4195	1.4559	.0380	1.55	9.9 2.19	9.9	-.09	.38	63.4	75.9	.0008 660009
75	1608	4176	.9205	.0360	1.16	9.9 1.29	9.9	.26	.41	66.7	71.9	.0008 660010
76	2142	5496	.5877	.0317	1.00	-.2 1.02	1.0	.45	.45	73.4	72.9	.0005 660011
77	2947	4142	-.7944	.0380	.99	-.4 .96	-1.0	.40	.40	74.9	74.9	.0004 660012
78	2993	4069	-.9383	.0391	1.00	-.3 1.03	.9	.39	.39	76.6	76.4	.0004 660013
79	1955	5501	-.7797	.0323	.94	-3.8 1.00	.0	.46	.44	77.3	74.2	.0006 660014
80	3475	5544	-.6574	.0313	.92	-6.1 .87	-5.6	.50	.43	74.3	71.9	.0002 660016
81	1216	4078	1.4019	.0385	1.00	.1 1.15	4.5	.35	.39	77.4	75.7	.0008 660017
82	2263	4093	.0573	.0355	1.15	9.9 1.20	8.4	.29	.43	64.1	69.9	.0005 660018
83	2548	4163	-.2761	.0356	1.10	6.7 1.13	4.8	.33	.42	66.8	70.8	.0005 660019
84	3511	4137	-1.8088	.0465	.90	-3.6 .76	-4.2	.42	.32	85.8	85.1	.0004 660020
85	3940	5494	-1.1954	.0334	.90	-6.8 .88	-3.8	.49	.41	79.1	75.5	.0001 660021
86	2688	4218	-.4110	.0359	.98	-1.6 .93	-2.7	.44	.42	72.2	71.8	.0004 660022
87	4596	5516	-1.9964	.0390	.84	-7.5 .60	-8.9	.50	.34	84.3	83.6	.0001 660023
88	3529	4095	-1.9365	.0485	.89	-3.7 .83	-2.7	.43	.32	87.1	86.3	.0004 660024
89	3323	4136	-1.4327	.0424	1.01	.5 1.02	.4	.34	.35	80.8	81.2	.0004 660025
90	3161	4215	-1.0591	.0391	.87	-7.1 .73	-7.3	.51	.38	80.0	77.4	.0003 660026
91	4233	5375	-1.6463	.0365	.91	-5.1 .77	-5.6	.46	.37	81.7	79.9	.0000 660027
92	2255	4070	.0622	.0356	.97	-2.4 .96	-2.0	.45	.43	71.9	70.1	.0006 660028
93	4985	5555	-2.6318	.0467	.92	-2.4 .92	-1.2	.34	.28	89.9	89.8	.0002 660029
94	3303	4193	-1.3177	.0412	1.07	3.1 1.23	4.7	.29	.36	79.6	80.1	.0004 660030
95	3563	4111	-1.9789	.0489	1.02	.6 1.05	.8	.29	.31	86.9	86.8	.0004 660031
96	3394	4217	-1.4405	.0422	1.00	.0 1.01	.2	.36	.36	81.5	81.4	.0003 660032
97	1322	5516	1.5001	.0356	1.11	5.7 1.35	9.1	.29	.39	78.0	79.7	.0008 660033
98	1659	4096	.8193	.0359	1.26	9.9 1.43	9.9	.17	.41	62.5	71.1	.0008 660034
99	1165	4151	1.5323	.0389	1.14	6.9 1.35	9.3	.27	.39	73.9	76.7	.0009 660035
100	3199	4086	-1.2460	.0414	1.05	2.4 1.10	2.1	.31	.37	78.6	79.7	.0004 660036
101	3669	4234	-1.9596	.0482	.96	-1.3 .81	-3.1	.36	.31	87.1	86.8	.0004 660037
102	2174	4019	.1154	.0356	1.18	9.9 1.23	9.7	.24	.42	61.6	69.3	.0006 660038
103	3530	4119	-1.8653	.0476	.97	-1.2 1.01	.2	.35	.32	86.3	85.9	.0004 660039
104	3726	4087	-2.4789	.0578	.98	-.4 1.16	1.8	.27	.26	91.2	91.1	.0006 660040
105	3383	4160	-1.4803	.0431	.97	-1.1 .94	-1.2	.38	.35	82.7	82.0	.0004 660041
MEAN	9057.0	13634	-.7039	.0280	1.01	.2 1.03	.4			76.1	76.5	
S.D.	6252.9	8807.6	.9790	.0134	.12	7.0 .23	7.0			7.3	5.9	

Grade 6 Mathematics

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFINIT MNSQ	OUTFIT ZSTD	PTBISERL-EX CORR.	EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
1	15578	21704	-1.5077A	.0185	1.30	9.9 1.44	9.9	.38	.40	73.9	80.6	.4990 603161
2	16562	21707	-.9395A	.0169	.85	-9.9 .75	-9.9	.48	.44	80.3	75.7	-.3901 603174
3	12748	21704	-.3655A	.0160	1.10	9.9 1.13	9.9	.40	.47	68.9	72.5	.1080 603180
4	15297	21707	-.9359	.0169	1.09	9.9 1.18	9.9	.37	.44	73.5	75.7	.0001 603183
5	14005	21704	-.7281A	.0165	1.19	9.9 1.35	9.9	.33	.45	68.6	74.3	.1476 603184
6	16099	21707	-1.5199A	.0185	1.22	9.9 1.34	9.9	.38	.40	75.7	80.7	.3565 603191
7	14900	21704	-.9176A	.0168	.98	-2.8 .97	-2.1	.49	.44	75.9	75.6	.0950 603214
8	16789	21707	-1.7709A	.0196	1.02	2.0 .80	-7.7	.57	.38	80.7	83.1	.3913 603228
9	13411	21704	-.4189A	.0161	.90	-9.9 .84	-9.9	.54	.47	76.0	72.7	-.0093 603237
10	19228	21707	-2.0267A	.0208	.79	-9.9 .68	-9.9	.37	.36	89.4	85.5	-.3607 603243
11	17178	21704	-1.4479A	.0183	.83	-9.9 .66	-9.9	.54	.41	83.4	80.0	-.0738 603247
12	12400	21707	.2367A	.0158	1.01	1.0 1.02	2.2	.48	.47	71.6	71.7	-.4085 603264
13	12344	21704	-.3162A	.0160	.98	-2.9 .99	-.4	.50	.47	73.7	72.4	.1608 603267
14	17842	21707	-1.6743A	.0191	.90	-9.8 .75	-9.9	.45	.39	83.5	82.1	-.0870 603273
15	14580	21704	-1.2097A	.0175	1.07	8.0 .95	-2.6	.55	.43	74.1	77.9	.4796 603277
16	11886	21707	-.2140A	.0159	.97	-3.9 .99	-.5	.51	.47	73.7	72.1	.1732 603283

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EX-EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
17	14823	21704	-1.1955A	.0175	1.19	9.9	1.41	9.9	.41	.43	73.4	77.8	.3987	603285
18	15679	21707	-1.0460A	.0171	.93	-8.8	.84	-9.2	.50	.44	78.4	76.5	.0001	603295
19	14852	21704	-1.1511A	.0174	1.20	9.9	1.31	9.9	.39	.43	72.5	77.4	.3458	603305
20	15582	21707	-1.3212A	.0179	1.18	9.9	1.15	6.6	.39	.42	73.6	78.9	.3101	603308
21	14458	21704	-.9222A	.0168	1.16	9.9	1.26	9.9	.38	.44	71.1	75.6	.2223	603315
22	15530	21707	-.5108A	.0162	1.04	6.0	1.07	5.3	.36	.46	71.6	73.1	-.5065	603319
23	12500	21704	-.3748A	.0160	.94	-9.4	.92	-6.4	.54	.47	75.3	72.6	.1805	603332
24	10495	21707	.3100A	.0158	.94	-9.3	.94	-5.2	.49	.47	74.7	71.8	-.0052	603346
25	11970	21704	-.4565A	.0161	.99	-1.8	.97	-2.4	.53	.47	72.8	72.9	.3963	603364
26	12978	21707	-.2290A	.0159	1.14	9.9	1.22	9.9	.36	.47	67.4	72.1	-.0889	603366
27	18466	21704	-2.2356A	.0220	1.05	3.4	.98	-.5	.44	.34	85.7	87.4	.2323	603379
28	14934	21707	-.8205A	.0166	.96	-5.1	.92	-5.3	.48	.45	75.7	74.9	-.0136	603384
29	12290	21704	-.1728A	.0159	1.03	4.7	1.02	1.6	.44	.47	70.4	72.0	.0298	634376
30	14682	21707	-.6800A	.0164	1.01	1.5	.99	-.7	.43	.46	73.5	74.0	-.0863	634401
31	13624	21704	-.4368A	.0161	1.12	9.9	1.12	8.5	.36	.47	67.5	72.8	-.0472	634408
32	14267	21707	-.4326A	.0161	1.00	-.3	.95	-4.2	.44	.47	72.2	72.8	-.2241	634409
33	11946	21704	.1564A	.0158	1.00	.4	1.02	1.5	.47	.47	71.7	71.7	-.2141	634433
34	17900	21707	-1.5014A	.0185	.79	-9.9	.70	-9.9	.48	.40	85.9	80.5	-.2915	646672
35	16100	21704	-.9543A	.0169	.84	-9.9	.77	-9.9	.52	.44	80.6	75.9	-.2248	646674
36	14229	21707	-.5504A	.0162	.94	-8.2	.88	-8.9	.49	.46	75.0	73.3	-.0936	646677
37	14435	21704	-.8588A	.0167	.98	-2.7	.93	-4.1	.51	.45	75.7	75.2	.1642	646680
38	16999	21707	-1.4768A	.0184	1.05	4.8	1.21	8.4	.37	.41	80.2	80.3	.0197	646683
39	17670	21704	-1.4876A	.0184	.98	-2.1	1.02	1.0	.34	.41	81.2	80.4	-.2155	646688
40	9545	21707	.5931A	.0160	.89	-9.9	.86	-9.9	.54	.47	76.6	72.6	-.0489	646693
41	12210	21704	-.1454A	.0158	1.14	9.9	1.22	9.9	.37	.47	67.4	71.9	.0224	646694
42	19094	21707	-2.1173A	.0213	.81	-9.9	.68	-9.9	.41	.35	89.0	86.3	-.1917	646695
43	18000	21704	-1.7528A	.0195	.84	-9.9	.65	-9.9	.50	.38	85.6	82.9	-.0694	646697
44	14252	21707	-.8194A	.0166	1.02	2.9	.99	-.9	.47	.45	73.8	74.9	.1742	646699
45	13798	21704	-.5633A	.0162	1.03	3.8	1.04	3.0	.45	.46	72.5	73.4	.0352	646701
46	15225	21707	-.7429A	.0165	1.09	9.9	1.19	9.9	.34	.45	71.9	74.4	-.1770	646706
47	10859	21704	.3965A	.0158	1.18	9.9	1.30	9.9	.34	.47	66.1	72.0	-.1820	646707
48	16478	21707	-1.4457A	.0183	.99	-1.2	.98	-1.1	.48	.41	80.7	80.0	.1618	646709
49	19374	21704	-2.3402A	.0227	.83	-9.9	.77	-6.9	.42	.33	89.7	88.3	-.1132	646712
50	14892	21707	-.6675A	.0164	.79	-9.9	.70	-9.9	.60	.46	81.4	74.0	-.1584	646713
51	13151	21704	-.1697A	.0159	.82	-9.9	.75	-9.9	.61	.47	79.1	72.0	-.1938	646714
52	13695	21707	-.3064A	.0159	.99	-1.2	.96	-2.9	.46	.47	72.5	72.3	-.1981	646718
53	15087	21704	-.5248A	.0162	.96	-5.7	.97	-2.2	.45	.46	74.7	73.2	-.3613	646720
54	17309	21707	-1.4121A	.0182	.95	-5.5	1.16	6.7	.38	.41	82.2	79.7	-.1577	646721
55	15408	21704	-1.0783A	.0172	1.04	4.4	1.11	6.0	.44	.44	76.7	76.8	.1132	646724
56	15284	21707	-.7861A	.0166	.86	-9.9	.82	-9.9	.54	.45	79.9	74.7	-.1499	646727
57	17314	21704	-1.4434A	.0183	1.02	2.3	1.30	9.9	.32	.41	81.4	80.0	-.1276	646728
58	14586	21707	-.8400A	.0167	1.24	9.9	1.38	9.9	.28	.45	68.3	75.0	.1038	646729
59	3264	4053	-1.5112	.0437	.93	-3.1	.80	-3.8	.46	.39	82.8	81.7	.0002	660042
60	3510	4111	-1.9545	.0479	.88	-4.4	.89	-1.6	.46	.36	87.2	85.6	.0002	660043
61	3312	4163	-1.4544	.0424	.82	-8.7	.63	-8.1	.56	.39	84.5	80.9	.0002	660046
62	2567	4109	-.3785	.0369	.97	-1.8	.95	-1.7	.48	.46	73.3	72.5	.0002	660048
63	3075	4130	-1.0635	.0399	.99	-.7	.94	-1.3	.43	.42	78.1	77.8	.0002	660049
64	2345	4041	-.1351	.0368	.95	-3.1	.91	-3.4	.50	.47	74.2	72.0	.0003	660050
65	2957	4058	-1.0019	.0397	1.05	2.6	1.05	1.1	.39	.43	73.7	76.7	.0002	660051
66	2476	4163	-.2081	.0363	1.10	6.1	1.17	5.9	.38	.46	69.4	72.1	.0003	660052
67	2531	4062	-.3565	.0372	1.08	5.0	1.17	5.3	.40	.47	69.9	72.9	.0002	660053
68	2879	4025	-.9248	.0394	.93	-4.1	.83	-4.4	.50	.44	77.2	76.1	.0002	660054
69	3283	4044	-1.5765	.0442	.95	-2.2	.83	-3.1	.44	.39	82.8	82.1	.0002	660055
70	2708	4121	-.5423	.0373	1.09	5.2	1.13	3.9	.38	.45	70.6	73.6	.0003	660057
71	4142	5330	-1.6647	.0366	.95	-2.5	.99	-.1	.44	.41	80.6	79.5	-.0002	660058
72	3291	4090	-1.5165	.0435	.87	-5.7	.72	-5.6	.51	.39	83.2	81.5	.0001	660061
73	1756	4246	.7636	.0360	1.14	8.3	1.27	9.9	.33	.45	69.1	72.4	.0006	660063
74	2347	4084	-.0945	.0364	1.39	9.9	1.60	9.9	.14	.46	57.5	71.5	.0004	660064
75	1097	4097	1.6282	.0405	1.15	6.8	1.66	9.9	.26	.40	75.8	78.4	.0008	660065
76	3305	4092	-1.5389	.0437	1.07	3.0	1.17	2.7	.32	.39	81.0	81.9	.0002	660069

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT		OUTFIT		PTBISERL-EX		EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
					MNSQ	ZSTD	MNSQ	ZSTD	CORR.	EXP.				
77	2602	4070	-.4678	.0372	1.18	9.9	1.27	7.8	.31	.45	67.0	72.9	.0002	660071
78	3413	4126	-1.6927	.0451	1.11	4.3	1.24	3.7	.27	.38	82.5	83.3	.0002	660073
79	2627	4076	-.4950	.0375	.87	-8.4	.77	-7.7	.57	.46	78.0	73.5	.0003	660076
80	4558	5363	-2.2504	.0416	.97	-1.2	1.05	.7	.37	.36	85.6	85.2	-.0001	660077
81	2298	4081	-.0639	.0365	.85	-9.9	.80	-8.3	.58	.47	77.8	71.8	.0003	660080
82	3264	5210	-.7608	.0330	1.02	1.5	1.01	.4	.46	.47	72.5	73.2	-.0001	660081
83	2170	5219	.4070	.0329	1.22	9.9	1.41	9.9	.31	.48	67.6	73.5	.0003	660082
84	2089	4061	.2128	.0364	1.13	8.0	1.21	8.0	.36	.47	67.9	71.5	.0004	660083
85	2400	4027	-.2770	.0369	.98	-1.0	.96	-1.3	.47	.46	72.4	72.0	.0003	660086
86	3451	4159	-1.7622	.0451	1.06	2.5	1.29	4.3	.31	.37	82.9	83.5	.0002	660090
87	2501	4098	-.3123	.0367	1.33	9.9	1.47	9.9	.19	.46	60.9	72.4	.0003	660091
88	1928	4106	.4574	.0362	1.12	7.2	1.19	7.4	.37	.46	67.9	71.6	.0005	660092
89	3326	4121	-1.5620	.0435	.90	-4.2	.81	-3.5	.48	.39	83.9	81.8	.0002	660093
90	2933	4119	-.8873	.0387	1.03	1.7	1.02	.4	.41	.43	74.7	75.7	.0002	660094
91	3573	5382	-.9488	.0330	1.16	9.9	1.42	9.9	.33	.46	70.2	74.2	-.0001	660095
92	2353	4180	-.0470	.0360	.88	-8.1	.82	-7.2	.55	.47	76.4	71.7	.0003	660096
93	3992	5271	-1.5490	.0360	1.00	-.2	.96	-1.0	.42	.42	78.7	78.2	-.0002	660097
94	2984	5273	-.4122	.0323	1.03	2.0	1.02	1.0	.46	.48	70.9	72.3	.0000	660098
95	1504	4056	.9783	.0376	1.17	9.5	1.34	9.9	.30	.44	69.1	73.9	.0006	660099
96	3437	4157	-1.7105	.0449	.87	-5.4	.75	-4.5	.50	.37	84.8	83.3	.0002	660102
97	2754	4110	-.6428	.0378	1.02	1.1	1.05	1.5	.44	.45	73.9	74.3	.0002	660105
98	3573	4125	-2.0746	.0495	.95	-1.8	.81	-2.7	.40	.35	87.2	86.8	.0002	660107
99	2791	4037	-.7966	.0387	.94	-3.3	.84	-4.5	.49	.45	76.8	75.1	.0002	660108
100	2350	4081	-.1025	.0364	1.15	9.2	1.22	7.7	.34	.46	66.4	71.6	.0003	660109
101	2311	4083	-.0839	.0363	1.22	9.9	1.33	9.9	.28	.46	62.9	71.6	.0003	660110
102	1508	4143	1.0452	.0375	1.20	9.9	1.40	9.9	.29	.45	69.0	74.4	.0006	660113
103	2454	4045	-.2612	.0370	1.05	3.4	1.06	2.1	.42	.46	70.7	72.4	.0003	660114
104	3265	5342	-.6439	.0325	1.07	5.2	1.08	3.0	.42	.48	70.1	72.9	.0000	660116
105	3968	5333	-1.4383	.0355	.85	-9.4	.74	-6.8	.56	.44	81.8	77.8	-.0002	660118
106	2466	5350	.2061	.0322	1.13	9.0	1.23	9.3	.39	.49	68.5	72.6	.0002	660120
107	1715	4095	.7449	.0367	.88	-7.6	.88	-5.0	.52	.45	77.4	72.4	.0006	660122
108	2999	4137	-.9915	.0390	1.15	7.8	1.26	5.8	.29	.42	72.8	76.3	.0002	660123
MEAN	9289.1	13666	-.7591	.0271	1.02	.6	1.03	.7			75.5	76.2		
S.D.	6250.3	8664.6	.7783	.0110	.13	7.1	.23	6.9			6.4	4.4		

Grade 7 Mathematics

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT		OUTFIT		PTBISERL-EX		EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
					MNSQ	ZSTD	MNSQ	ZSTD	CORR.	EXP.				
1	13641	21457	-.6472A	.0165	1.12	9.9	1.27	9.9	.39	.45	70.6	74.0	.1702	599955
2	18421	21469	-2.0277A	.0212	.84	-9.9	.72	-9.8	.49	.35	87.3	86.0	.0043	599964
3	11183	21457	.2125A	.0158	.89	-9.9	.86	-9.9	.55	.47	76.2	71.3	-.0680	599969
4	15720	21469	-1.1468A	.0176	.96	-4.5	.90	-5.3	.49	.42	77.9	77.8	.0918	599999
5	14173	21457	-.4826A	.0162	.98	-2.9	.98	-1.3	.45	.46	73.9	73.0	-.1410	600012
6	15698	21469	-.8793A	.0169	.96	-4.8	.95	-3.2	.42	.44	76.8	75.6	-.1764	600014
7	12606	21457	-.1893A	.0159	.95	-8.2	.91	-8.0	.50	.46	73.6	71.8	-.0235	600019
8	12492	21469	-.3014A	.0160	1.11	9.9	1.14	9.9	.38	.46	67.8	72.2	.1198	600020
9	18235	21457	-2.0504A	.0213	.95	-3.9	.84	-5.4	.45	.34	86.1	86.2	.1088	600029
10	14620	21469	-1.2561A	.0179	1.29	9.9	1.47	9.9	.39	.41	71.4	78.8	.5214	600032
11	19011	21457	-2.1717A	.0221	.79	-9.9	.59	-9.9	.45	.33	89.2	87.4	-.1491	600035
12	17045	21469	-1.3234A	.0181	.79	-9.9	.68	-9.9	.53	.41	84.9	79.4	-.1663	600036
13	12733	21457	-.4627A	.0162	1.14	9.9	1.17	9.9	.38	.46	67.5	72.9	.2202	600048
14	13614	21469	-.8339A	.0168	1.23	9.9	1.33	9.9	.36	.44	67.9	75.3	.3673	600075
15	13122	21457	-.7606A	.0167	1.11	9.9	1.14	8.4	.46	.44	71.2	74.8	.4206	600077
16	18775	21469	-2.2222A	.0224	.94	-4.3	.74	-8.2	.41	.33	87.9	87.8	.0337	600081
17	16926	21457	-1.4914A	.0187	1.01	1.1	1.28	9.9	.39	.39	81.6	81.0	.0480	600087
18	19180	21469	-2.2324A	.0225	.85	-9.9	.79	-6.4	.36	.33	89.7	87.9	-.1768	600879

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-EX CORR.	EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
19	15074	21457	-.7202A	.0166	.82	-9.9	.72	-9.9	.56	.45	80.3	74.5	-.1537	634515
20	14337	21469	-.7406A	.0166	.86	-9.9	.79	-9.9	.58	.45	79.3	74.6	.0780	634519
21	13945	21457	-.6589A	.0165	.97	-4.8	.91	-6.0	.50	.45	74.8	74.1	.1007	634524
22	17283	21469	-1.5158A	.0188	.98	-2.4	.84	-6.9	.40	.39	81.0	81.2	-.0542	634528
23	15328	21457	-.8224A	.0168	1.00	.3	.97	-1.8	.41	.44	74.9	75.2	-.1240	634529
24	17326	21469	-1.5319A	.0189	.85	-9.9	.67	-9.9	.51	.39	83.8	81.3	-.0537	634531
25	10563	21469	-.1402A	.0158	1.08	9.9	1.12	9.9	.41	.47	68.5	71.2	-.1599	634534
26	16461	21469	-1.2198A	.0178	.95	-5.5	1.17	7.5	.42	.42	81.2	78.5	-.0702	634535
27	14590	21457	-.7859A	.0167	1.17	9.9	1.36	9.9	.32	.44	70.5	75.0	.0524	634538
28	12098	21469	-.1020A	.0159	1.01	1.2	1.01	.7	.46	.47	71.6	71.6	.0187	634546
29	14117	21457	-.6470A	.0165	.97	-3.5	.93	-4.8	.48	.45	74.8	74.0	.0419	634552
30	11365	21469	.0991A	.0158	.98	-2.6	.97	-2.9	.48	.47	71.9	71.3	.0008	634557
31	19286	21457	-2.3595A	.0233	.77	-9.9	.54	-9.9	.46	.31	90.2	89.0	-.1119	634566
32	16698	21469	-1.1038A	.0174	.90	-9.9	.95	-2.8	.42	.42	80.9	77.5	-.2715	634576
33	9104	21457	-.7594A	.0161	.98	-3.2	1.02	1.8	.47	.46	74.2	72.8	-.0909	634584
34	13651	21469	-.0658A	.0158	1.11	9.9	1.17	9.9	.36	.47	67.7	71.5	-.4209	634586
35	14679	21457	-.7197A	.0166	.85	-9.9	.74	-9.9	.57	.45	79.4	74.5	-.0403	646868
36	16388	21469	-1.1655A	.0176	.77	-9.9	.62	-9.9	.58	.42	83.9	78.0	-.1020	646870
37	14372	21457	-.6713A	.0165	.96	-5.5	.97	-1.9	.48	.45	76.1	74.2	-.0036	646871
38	11978	21469	-.0694A	.0158	.98	-2.6	.97	-2.8	.47	.47	72.4	71.5	.0162	646873
39	12378	21457	-.0033A	.0158	.97	-5.0	.96	-3.6	.48	.47	73.0	71.4	-.1527	646875
40	11379	21469	-.0985A	.0158	1.12	9.9	1.16	9.9	.37	.47	66.8	71.3	-.0021	646881
41	16916	21457	-1.2448A	.0179	.85	-9.9	.72	-9.9	.48	.41	82.3	78.7	-.2040	646883
42	18585	21469	-2.3161A	.0230	1.11	7.2	1.20	5.3	.36	.32	86.7	88.6	.2241	646889
43	14291	21457	-.7403A	.0166	.97	-3.5	.99	-.9	.49	.45	75.9	74.6	.0891	646890
44	17767	21469	-1.7814A	.0199	1.01	1.3	1.01	.5	.37	.37	83.5	83.7	.0326	646891
45	11794	21457	.0208A	.0158	1.10	9.9	1.18	9.9	.39	.47	67.8	71.3	-.0290	646894
46	8649	21469	.6906A	.0160	1.08	9.9	1.20	9.9	.37	.46	71.0	72.4	.0943	646897
47	11778	21457	.2126A	.0158	1.12	9.9	1.19	9.9	.37	.47	67.7	71.3	-.2172	646899
48	10040	21469	-.3709A	.0158	.99	-1.1	1.03	2.6	.46	.47	72.3	71.4	.0598	646900
49	12638	21457	-.3046A	.0160	1.14	9.9	1.16	9.9	.36	.46	66.8	72.2	.0848	646902
50	12622	21469	-.2747A	.0160	.97	-3.9	.96	-3.0	.49	.46	73.5	72.1	.0596	646907
51	18233	21457	-1.8752A	.0204	.80	-9.9	.67	-9.9	.51	.36	86.9	84.6	-.0719	646909
52	17345	21469	-1.3954A	.0183	.82	-9.9	.73	-9.9	.48	.40	84.2	80.1	-.2030	646910
53	14457	21457	-.6726A	.0165	1.08	9.9	1.23	9.9	.37	.45	72.5	74.2	-.0260	646911
54	9180	21469	.6049A	.0160	1.15	9.9	1.22	9.9	.34	.46	67.3	72.1	.0434	646912
55	14080	21457	-.5644A	.0163	1.07	9.5	1.13	8.4	.39	.45	71.4	73.5	-.0321	646915
56	11923	21469	-.1555A	.0158	1.16	9.9	1.23	9.9	.33	.47	65.4	71.2	-.1958	646918
57	13467	21457	-.3508A	.0161	.99	-1.0	.97	-2.2	.45	.46	72.4	72.4	-.0843	646919
58	10735	21457	.1606A	.0158	1.16	9.9	1.23	9.9	.33	.47	65.6	71.2	.0958	646924
59	3326	4902	-.9287	.0350	.84	-9.9	.78	-6.7	.58	.46	80.5	75.0	.0001	660125
60	2194	4131	.1481	.0359	1.09	5.9	1.15	5.5	.38	.46	68.5	71.2	.0004	660127
61	2789	4169	-.5846	.0374	.83	-9.9	.71	-9.3	.59	.45	79.1	74.2	.0003	660128
62	3351	4195	-1.4366	.0424	.94	-2.7	.88	-2.3	.44	.39	82.2	81.1	.0003	660130
63	3243	4209	-1.2483	.0407	.91	-4.2	.76	-5.4	.49	.40	80.7	79.3	.0003	660132
64	2750	4107	-.6185	.0377	.89	-6.6	.86	-4.2	.53	.45	78.3	74.2	.0004	660133
65	3374	4099	-1.6426	.0449	1.00	.0	1.02	.4	.38	.38	83.2	83.1	.0003	660134
66	2746	4907	-.2732	.0335	.92	-5.9	.88	-4.9	.55	.49	75.4	72.6	.0002	660135
67	2723	4099	-.5881	.0374	.95	-2.8	.92	-2.5	.48	.44	75.1	73.6	.0004	660136
68	2459	4118	-.1747	.0364	1.02	1.5	1.01	.4	.44	.46	70.8	71.9	.0004	660138
69	2181	4080	.1245	.0362	1.06	4.0	1.04	1.6	.41	.46	68.4	71.1	.0005	660143
70	3283	4146	-1.3788	.0423	.91	-4.2	.73	-5.4	.49	.40	81.7	80.7	.0003	660144
71	2717	4076	-.5827	.0377	.97	-1.8	.94	-1.9	.47	.44	74.5	73.9	.0004	660145
72	3067	4049	-1.1499	.0409	1.14	6.4	1.21	4.2	.30	.41	74.8	78.5	.0003	660146
73	3509	4096	-1.9626	.0484	.92	-2.8	.70	-4.7	.44	.35	86.2	85.9	.0003	660147
74	2260	4035	-.0147	.0364	1.25	9.9	1.39	9.9	.26	.46	62.6	71.2	.0005	660149
75	2669	5023	-.1218	.0328	1.21	9.9	1.27	9.9	.32	.48	64.5	71.8	.0003	660150
76	1851	4112	.5780	.0362	.86	-9.9	.86	-6.0	.55	.46	78.0	71.6	.0005	660151
77	2962	4064	-.9290	.0396	.94	-3.2	.86	-3.5	.48	.42	78.0	76.8	.0003	660152
78	1814	4142	.5987	.0360	1.00	-.1	1.05	1.9	.43	.45	72.8	71.5	.0006	660154

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	EXP%	DISPLACE	ITEM
79	3624	4159	-2.1070	.0498	.92	-2.7	.99	-.1	.39	.33	87.9	87.2	.0004	660156
80	3632	4196	-2.0101	.0489	.97	-1.1	1.12	1.6	.36	.34	87.4	86.7	.0004	660157
81	3180	4059	-1.3587	.0422	1.09	3.8	1.18	3.2	.32	.40	79.0	80.3	.0003	660158
82	3545	4168	-1.8775	.0472	.98	-.6	.95	-.8	.37	.35	85.7	85.4	.0003	660161
83	2782	4054	-.7577	.0383	1.12	6.7	1.17	4.3	.34	.44	70.6	74.8	.0003	660162
84	3963	4907	-1.8014	.0400	.95	-2.4	1.13	2.3	.41	.39	83.9	81.7	.0000	660163
85	2656	4185	-.4013	.0365	.95	-3.2	.91	-3.2	.49	.45	74.0	72.5	.0004	660165
86	3370	4146	-1.5594	.0438	.96	-1.8	.91	-1.5	.42	.38	83.5	82.3	.0003	660167
87	2255	4116	.0578	.0360	1.14	9.3	1.24	8.8	.35	.46	66.0	71.1	.0005	660168
88	1011	4055	1.7906	.0418	1.06	2.5	1.39	8.2	.33	.40	79.2	79.9	.0006	660169
89	2081	5087	.5841	.0333	.99	-.6	1.02	.8	.47	.47	73.9	73.2	.0005	660170
90	2224	4167	.1194	.0357	1.03	1.9	1.02	.8	.43	.46	69.7	71.0	.0005	660172
91	1779	4091	.6405	.0364	1.01	.7	1.06	2.3	.43	.45	71.8	71.8	.0006	660173
92	2161	4092	.1520	.0360	1.12	7.7	1.17	6.3	.36	.46	67.6	70.9	.0005	660174
93	3223	4141	-1.3024	.0415	.96	-1.9	.87	-2.8	.44	.40	80.5	79.8	.0003	660175
94	3430	4984	-.9829	.0348	.99	-.6	.92	-2.2	.46	.45	73.8	75.1	.0001	660176
95	3695	4998	-1.3037	.0362	.83	-9.9	.71	-7.6	.56	.43	81.9	77.5	.0001	660177
96	3639	4166	-2.1179	.0503	.92	-2.7	.85	-2.1	.41	.34	87.5	87.4	.0003	660178
97	3736	4013	-2.8636	.0653	.94	-1.3	.81	-1.9	.32	.26	93.1	93.1	.0007	660179
98	3803	4171	-2.5656	.0578	.90	-2.5	.68	-4.0	.38	.29	91.1	91.1	.0005	660180
99	3154	4949	-.6938	.0340	.92	-5.5	.91	-2.9	.53	.47	76.8	73.5	.0001	660182
100	861	4105	2.0874	.0441	.91	-3.9	1.13	2.4	.41	.39	84.6	82.6	.0006	660183
101	1798	4200	.6573	.0359	1.14	8.6	1.31	9.9	.31	.45	69.3	71.9	.0006	660184
102	1206	4245	1.5403	.0393	.96	-1.9	1.21	5.4	.40	.42	80.4	78.0	.0007	660185
103	2578	4983	-.0438	.0329	1.18	9.9	1.29	9.9	.34	.48	64.9	71.6	.0003	660186
104	2465	5061	.1725	.0327	1.03	2.2	1.06	2.7	.44	.48	71.2	71.8	.0004	660187
105	2605	3999	-.4835	.0378	1.08	4.8	1.14	4.0	.39	.45	70.4	73.4	.0004	660188
106	1736	4092	.6974	.0365	1.09	5.4	1.19	7.2	.36	.45	69.7	71.9	.0006	660189
107	3228	4097	-1.3870	.0422	1.14	5.9	1.38	6.3	.26	.39	78.3	80.4	.0003	660191
108	1830	4185	.6665	.0361	.93	-4.8	.97	-1.2	.49	.46	75.6	71.8	.0006	660192
MEAN	8987.2	13514	-.6668	.0278	.99	-.3	1.00	.4			76.5	76.6		
S.D.	6174.9	8564.9	.9538	.0121	.11	6.9	.20	6.8			7.1	5.6		

Grade 8 Mathematics

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	EXP%	DISPLACE	ITEM
1	14523	21018	-.8755A	.0168	1.03	3.6	1.03	1.8	.41	.43	73.5	74.6	.0099	600140
2	16464	21012	-1.5909A	.0189	.91	-8.6	.77	-9.9	.52	.38	82.1	81.2	.1335	600152
3	17628	21018	-1.9102A	.0204	.91	-7.6	.76	-9.3	.45	.35	85.3	84.4	.0170	600153
4	14886	21012	-1.0619A	.0172	1.00	.1	.97	-1.6	.45	.42	75.6	76.2	.0942	600166
5	15181	21018	-1.1436A	.0174	1.04	4.2	1.02	1.1	.41	.41	75.8	76.9	.0905	600225
6	18664	21012	-2.1655A	.0219	.78	-9.9	.63	-9.9	.42	.32	89.2	86.8	-.2264	600227
7	19085	21018	-2.3306A	.0229	.68	-9.9	.45	-9.9	.45	.31	91.2	88.3	-.3098	600233
8	17034	21012	-1.4603A	.0184	.81	-9.9	.71	-9.9	.48	.39	84.2	79.9	-.2109	600235
9	13167	21018	-.4568A	.0161	1.04	5.7	1.08	5.7	.40	.44	70.9	71.9	-.0433	600253
10	15494	21012	-.7994A	.0166	.81	-9.9	.71	-9.9	.53	.43	80.6	74.0	-.3615	600260
11	13880	21018	-.9404A	.0169	1.07	9.4	1.09	5.2	.44	.42	72.9	75.1	.2558	600306
12	10196	21012	-.0756A	.0158	1.16	9.9	1.24	9.9	.34	.45	64.2	70.7	.3282	600316
13	14284	21018	-.7005A	.0165	.94	-7.9	.88	-8.5	.46	.44	74.9	73.4	-.1008	600332
14	16313	21012	-1.3693A	.0181	.96	-4.9	.90	-5.0	.42	.39	80.3	79.0	-.0423	600337
15	15025	21018	-.7802A	.0166	.98	-3.3	.91	-5.9	.40	.43	73.8	73.9	-.2355	600360
16	15484	21012	-1.0659A	.0172	1.01	.8	1.09	4.9	.38	.42	76.4	76.2	-.0833	600517
17	14910	21018	-1.1237A	.0174	1.11	9.9	1.28	9.9	.36	.41	74.6	76.7	.1509	600522
18	13174	21012	-.7195A	.0165	1.14	9.9	1.24	9.9	.37	.43	69.4	73.5	.2208	634597
19	12168	21018	-.2446A	.0159	1.06	8.5	1.07	5.5	.40	.45	68.9	71.1	.0020	634599

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20	9512	21012	.3090A	.0159	1.14	9.9	1.21	9.9	.33	.45	65.9	70.9	.1149	634608
21	17983	21018	-2.1306A	.0216	1.05	3.8	1.42	9.9	.31	.33	85.9	86.5	.0873	634612
22	15997	21012	-1.1909A	.0176	.83	-9.9	.70	-9.9	.53	.41	81.2	77.3	-.1198	634616
23	14108	21018	-.4303A	.0161	1.07	9.9	1.10	7.7	.34	.45	69.3	71.8	-.3271	634620
24	16055	21012	-1.5555A	.0188	1.11	9.9	1.16	6.6	.39	.38	79.0	80.8	.2355	634625
25	13375	21018	-.5640A	.0162	.90	-9.9	.82	-9.9	.52	.44	75.5	72.5	.0101	634630
26	16019	21012	-1.7044A	.0194	1.16	9.9	1.15	5.4	.44	.37	78.2	82.3	.3982	634633
27	14928	21018	-.9282A	.0169	1.01	1.2	.96	-2.7	.40	.42	74.5	75.0	-.0544	634636
28	13381	21012	.0438A	.0158	1.09	9.9	1.10	9.1	.38	.45	67.5	70.6	-.6074	634648
29	15439	21018	-.7648A	.0166	1.00	-.1	1.18	9.9	.35	.43	75.1	73.8	-.3790	634650
30	17791	21012	-1.8765A	.0202	.82	-9.9	.65	-9.9	.48	.35	86.1	84.0	-.0907	634656
31	10640	21018	.3446A	.0159	1.02	3.5	1.04	3.9	.44	.45	70.4	71.0	-.2034	634661
32	11643	21012	-.0554A	.0158	1.04	5.6	1.06	5.3	.41	.45	69.7	70.7	-.0556	634663
33	12909	21018	-.3994A	.0161	.92	-9.9	.88	-9.9	.51	.45	74.7	71.7	-.0334	646812
34	15471	21012	-1.1479A	.0174	.99	-1.7	1.00	-.1	.42	.41	77.6	76.9	.0051	646813
35	14111	21018	-.7048A	.0165	.96	-5.9	.89	-7.8	.46	.44	74.5	73.4	-.0477	646818
36	13212	21012	-.5854A	.0163	1.10	9.9	1.13	9.0	.37	.44	68.9	72.6	.0747	646820
37	11655	21018	-.1037A	.0158	1.25	9.9	1.42	9.9	.25	.45	61.8	70.7	-.0096	646821
38	15561	21012	-1.2577A	.0178	1.01	1.7	1.02	1.1	.42	.40	77.8	77.9	.0896	646822
39	11135	21018	-.0047A	.0158	.97	-4.7	.93	-6.5	.47	.45	71.2	70.6	.0219	646823
40	16630	21012	-1.6030A	.0190	1.08	7.6	1.17	6.7	.34	.38	80.0	81.3	.0873	646824
41	18050	21018	-2.1692A	.0219	.98	-1.7	.89	-3.7	.41	.32	86.3	86.9	.0960	646827
42	13022	21012	-.3851A	.0160	1.05	7.9	1.12	9.5	.39	.45	70.4	71.6	-.0782	646829
43	13460	21018	-.7349A	.0165	.94	-8.8	.89	-7.8	.52	.43	75.8	73.6	.1609	646832
44	15626	21012	-1.2784A	.0178	1.00	-.2	.93	-3.8	.44	.40	77.0	78.1	.0904	646834
45	10346	21018	.2223A	.0158	.91	-9.9	.88	-9.9	.52	.45	74.3	70.7	-.0078	646837
46	14187	21012	-.8191A	.0167	1.02	3.1	1.02	1.0	.42	.43	72.8	74.2	.0470	646839
47	16776	21018	-1.6832A	.0193	.93	-7.0	.73	-9.9	.50	.37	82.0	82.1	.1181	646842
48	15360	21012	-1.2077A	.0176	.87	-9.9	.75	-9.9	.56	.41	80.2	77.5	.1008	646843
49	12315	21018	-.2091A	.0159	.89	-9.9	.85	-9.9	.53	.45	75.6	71.0	-.0716	646845
50	17145	21012	-1.6670A	.0193	.86	-9.9	.80	-8.4	.48	.37	84.8	81.9	-.0390	646846
51	13481	21018	-.5485A	.0162	.86	-9.9	.78	-9.9	.55	.44	77.0	72.4	-.0341	646849
52	12381	21012	-.1716A	.0159	1.09	9.9	1.12	9.9	.37	.45	67.3	70.9	-.1269	646851
53	11409	21018	.1852A	.0158	1.06	9.3	1.10	9.4	.40	.45	68.8	70.7	-.2373	646852
54	9594	21012	.4391A	.0159	1.14	9.9	1.23	9.9	.33	.45	66.6	71.2	-.0356	646854
55	14406	21018	-.8492A	.0167	1.03	3.4	1.03	1.8	.41	.43	73.5	74.4	.0165	646856
56	9332	21012	.4122A	.0159	1.03	5.2	1.06	5.2	.42	.45	69.7	71.2	.0574	646862
57	12666	21018	-.7963A	.0166	1.13	9.9	1.19	9.9	.43	.43	69.5	74.0	.4310	646863
58	9552	21012	.1426A	.0158	.98	-3.8	.95	-4.5	.46	.45	71.2	70.6	.2713	646864
59	13008	21018	-.4799A	.0161	1.01	1.0	1.01	.4	.44	.44	71.9	72.0	.0222	646866
60	8920	21012	.3496A	.0159	.98	-2.7	.97	-2.5	.44	.45	72.1	71.0	.2249	646867
61	3002	4003	-1.1749	.0405	.90	-5.0	.77	-5.4	.50	.40	79.7	77.8	.0002	660193
62	1159	4088	1.4539	.0398	1.10	4.6	1.24	6.2	.34	.41	75.8	77.5	.0007	660195
63	3521	4072	-2.0626	.0492	.96	-1.3	.80	-3.0	.38	.33	86.6	86.6	.0003	660197
64	3440	4004	-2.0177	.0489	.97	-.8	.97	-.4	.36	.33	86.3	86.0	.0003	660198
65	2770	4072	-.7352	.0376	1.31	9.9	1.65	9.9	.14	.42	65.4	73.9	.0003	660201
66	2678	3978	-.7020	.0378	1.12	7.1	1.22	6.4	.31	.42	69.8	73.3	.0003	660202
67	3128	4879	-.7688	.0339	.96	-2.6	.88	-4.1	.48	.45	73.1	72.7	.0001	660203
68	3511	4121	-1.9684	.0471	.91	-3.2	.74	-4.4	.43	.33	85.6	85.4	.0003	660204
69	3070	4011	-1.2898	.0411	1.08	3.9	1.05	1.2	.32	.39	75.8	78.4	.0002	660207
70	3148	4778	-.8620	.0346	1.07	4.3	1.02	.5	.39	.44	70.6	73.5	.0001	660208
71	3143	3990	-1.4169	.0425	.93	-3.1	.82	-3.9	.45	.38	80.9	80.2	.0002	660209
72	2649	4910	-.2221	.0329	1.06	4.2	1.07	2.9	.41	.46	68.9	71.2	.0002	660210
73	2934	3982	-1.0896	.0401	.98	-.9	.88	-2.9	.43	.41	76.5	77.0	.0002	660211
74	2417	4076	-.2693	.0361	1.12	7.9	1.15	5.6	.33	.44	65.7	70.9	.0004	660213
75	2876	4096	-.8902	.0383	1.00	.0	1.02	.6	.42	.42	75.0	75.0	.0002	660214
76	2508	4097	-.3436	.0363	1.03	2.0	.98	-.7	.41	.44	69.7	71.3	.0003	660215
77	959	4139	1.7888	.0418	1.23	9.6	1.97	9.9	.14	.38	77.5	80.4	.0008	660216
78	3539	4089	-2.0510	.0491	.94	-1.8	.93	-1.0	.37	.33	87.3	86.7	.0003	660217
79	1501	4768	1.0245	.0359	1.37	9.9	1.73	9.9	.15	.44	66.8	76.1	.0006	660219

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
80	1985	4045	.2782	.0360	1.10	6.4	1.14	5.8	.37	.45	67.5	70.6	.0005	660220
81	1585	4036	.7380	.0367	1.26	9.9	1.45	9.9	.22	.43	63.6	72.1	.0007	660221
82	2316	4049	-.1321	.0363	.90	-7.1	.85	-5.9	.53	.45	74.9	71.0	.0004	660222
83	3305	3996	-1.7232	.0455	.85	-5.9	.67	-6.1	.50	.36	85.1	83.3	.0002	660223
84	2380	4796	.0110	.0332	.98	-1.7	1.00	.1	.48	.46	73.1	71.0	.0003	660224
85	2728	4148	-.6553	.0368	.94	-3.8	.86	-4.6	.48	.43	74.2	72.8	.0003	660225
86	2833	4050	-.8533	.0383	1.09	5.1	1.13	3.3	.34	.42	71.4	74.7	.0002	660227
87	3019	4812	-.7024	.0340	.99	-.7	.96	-1.3	.46	.46	73.1	72.7	.0001	660228
88	2217	4073	-.0130	.0359	.91	-6.0	.87	-5.8	.51	.45	73.4	70.5	.0004	660229
89	3124	3934	-1.4893	.0433	.88	-5.5	.72	-5.9	.50	.38	82.2	80.7	.0002	660230
90	2890	4116	-.8802	.0382	.98	-1.3	.91	-2.3	.45	.42	74.9	75.0	.0002	660231
91	3401	4773	-1.1902	.0360	.99	-.5	1.03	.7	.43	.43	76.6	75.7	.0000	660232
92	3410	4004	-1.9428	.0479	.94	-1.9	.87	-2.0	.40	.34	85.8	85.4	.0003	660233
93	3408	4090	-1.7695	.0455	.98	-.7	1.00	.0	.37	.35	84.0	83.8	.0002	660234
94	2225	4090	-.0191	.0357	1.04	2.5	1.05	2.3	.41	.44	68.8	70.3	.0004	660235
95	3180	3987	-1.4842	.0433	1.00	.1	1.15	2.6	.37	.38	82.4	81.0	.0002	660236
96	2854	4051	-.8733	.0386	.95	-2.6	.97	-.8	.46	.42	76.7	75.2	.0002	660237
97	2743	4051	-.7219	.0378	.96	-2.6	.90	-3.0	.47	.43	75.2	73.9	.0003	660238
98	1828	4833	.6708	.0344	.98	-1.2	1.06	2.5	.45	.46	76.0	73.9	.0005	660239
99	1940	4007	.2749	.0360	1.13	8.9	1.23	9.2	.32	.44	66.1	70.1	.0005	660240
100	2316	4143	-.1029	.0357	.98	-1.4	.96	-1.4	.46	.45	71.3	70.6	.0004	660241
101	3469	4145	-1.8412	.0455	.94	-2.1	.86	-2.3	.41	.35	84.5	84.0	.0002	660242
102	2672	4012	-.6697	.0376	.94	-3.7	.90	-3.0	.48	.43	75.5	73.3	.0003	660243
103	1663	3954	.6343	.0368	1.28	9.9	1.46	9.9	.20	.43	63.0	71.4	.0006	660244
104	2735	4864	-.3274	.0332	1.14	9.5	1.17	6.6	.35	.47	66.3	71.5	.0002	660245
105	1857	4025	.4579	.0361	1.10	6.9	1.18	7.2	.35	.44	67.4	70.7	.0006	660246
106	3311	4046	-1.6976	.0445	.91	-3.5	.82	-3.2	.45	.37	84.0	82.6	.0002	660247
107	2839	4799	-.5063	.0337	1.03	1.9	1.04	1.4	.44	.46	70.8	71.9	.0001	660248
108	1088	4005	1.5624	.0404	.87	-6.4	.97	-.9	.45	.40	81.3	78.0	.0008	660250
109	1426	4058	1.0260	.0377	1.15	8.5	1.48	9.9	.24	.43	72.1	74.1	.0007	660251
110	1985	4005	.2595	.0362	1.00	-.1	1.01	.6	.44	.45	71.6	70.5	.0005	660252
MEAN	8880.3	13373	-.6877	.0272	1.01	.7	1.02	.4			75.1	75.7		
S.D.	6028.9	8373.9	.8651	.0113	.11	6.6	.23	6.6			6.5	5.0		

Grade 11 Mathematics

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
1	13582	20902	-.6107A	.0164	.91	-9.9	.91	-5.9	.52	.46	76.9	72.9	-.1114	600406
2	14590	20902	-.9118A	.0168	1.03	4.2	1.08	4.5	.39	.44	73.5	74.3	-.0932	600410
3	11464	20902	-.2734A	.0162	1.04	5.8	1.02	1.8	.46	.48	70.4	72.2	.1178	600419
4	13875	20906	-.8642A	.0167	1.07	8.9	1.06	3.4	.41	.45	72.1	74.0	.0672	600552
5	13811	20902	-.8944A	.0168	1.05	6.2	.99	-.6	.44	.44	71.6	74.2	.1158	600561
6	17790	20906	-1.7208A	.0191	.81	-9.9	.76	-9.4	.37	.37	85.9	81.0	-.4002	600562
7	14199	20902	-.8019A	.0167	.99	-1.7	.94	-3.4	.44	.45	73.9	73.7	-.0912	600583
8	14296	20906	-.9044A	.0168	.96	-5.8	.89	-6.3	.48	.44	74.9	74.2	-.0129	600629
9	14035	20906	-.5793A	.0164	.91	-9.9	.88	-8.6	.50	.46	75.7	72.8	-.2734	600638
10	12716	20902	-.4395A	.0163	1.02	3.1	.99	-1.0	.45	.47	71.2	72.5	-.0473	600653
11	13683	20902	-.7220A	.0165	1.08	9.9	1.34	9.9	.38	.46	71.5	73.3	-.0253	600656
12	14090	20906	-.7163A	.0165	.83	-9.9	.75	-9.9	.57	.46	79.7	73.3	-.1474	600660
13	14479	20902	-.9966A	.0170	.99	-.8	1.05	2.5	.44	.44	76.3	74.8	.0278	600677
14	18081	20906	-1.8569A	.0197	.74	-9.9	.56	-9.9	.42	.36	87.1	82.5	-.3950	600689
15	13090	20902	-.6047A	.0164	.85	-9.9	.81	-9.9	.58	.46	78.8	72.9	.0196	600702
16	13679	20906	-.6912A	.0165	.90	-9.9	.84	-9.9	.53	.46	77.1	73.2	-.0553	600704
17	13883	20902	-.8049A	.0167	.98	-3.2	.95	-3.0	.47	.45	74.5	73.7	.0032	600724
18	15752	20902	-1.4046A	.0180	.97	-3.8	.92	-3.5	.45	.40	79.0	77.9	.0539	600735
19	12748	20906	-.5088A	.0163	1.17	9.9	1.22	9.9	.34	.47	66.3	72.6	.0155	600744
20	12986	20902	-.3542A	.0162	.88	-9.9	.85	-9.9	.56	.48	76.9	72.3	-.2088	600746
21	16232	20906	-1.2487A	.0175	.88	-9.9	.83	-8.4	.43	.42	80.9	76.5	-.2731	600751
22	13295	20902	-.5398A	.0163	1.02	3.2	1.01	.9	.44	.47	71.6	72.7	-.1038	600771

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT		OUTFIT		PTBISERL-EX		EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
					MNSQ	ZSTD	MNSQ	ZSTD	CORR.	EXP.				
23	7669	20906	1.0731A	.0173	1.30	9.9	1.57	9.9	.29	.47	69.8	76.5	-.2123	600773
24	12944	20906	- .5338A	.0163	1.11	9.9	1.22	9.9	.38	.47	68.7	72.7	-.0124	600777
25	13437	20902	- .4292A	.0163	.98	-2.9	.94	-4.5	.46	.47	72.7	72.4	-.2576	600795
26	12520	20906	- .4976A	.0163	1.20	9.9	1.36	9.9	.32	.47	66.1	72.6	.0657	600810
27	12157	20902	- .2734A	.0162	.97	-4.1	.96	-2.8	.50	.48	72.9	72.2	-.0661	600819
28	14523	20906	-1.2414A	.0175	1.08	9.6	1.05	2.5	.44	.42	73.9	76.5	.2670	634442
29	13910	20902	- .9243A	.0169	.91	-9.9	.91	-5.0	.54	.44	77.4	74.3	.1184	634446
30	17670	20906	-2.0867A	.0208	.93	-6.0	.77	-7.8	.42	.33	84.8	85.0	.0422	634450
31	12376	20902	- .6468A	.0165	1.04	5.6	1.05	3.1	.48	.46	71.5	73.0	.2557	634451
32	17271	20906	-1.8000A	.0194	.92	-8.4	.95	-1.8	.39	.36	83.7	81.9	-.0877	634469
33	14669	20902	-1.3179A	.0177	.96	-5.2	.85	-7.1	.55	.41	77.6	77.1	.3014	646731
34	12412	20902	- .5181A	.0163	1.03	4.9	.98	-1.5	.46	.47	70.2	72.6	.1151	646732
35	9590	20902	.3113A	.0162	.99	-1.9	.98	-1.5	.49	.49	73.4	72.8	.0211	646736
36	13380	20906	- .7136A	.0165	1.02	3.5	1.05	3.0	.45	.46	72.9	73.3	.0517	646737
37	15355	20906	-1.1876A	.0174	.88	-9.9	.82	-9.1	.51	.42	80.2	76.1	-.0421	646740
38	8280	20902	.5987A	.0165	1.17	9.9	1.27	9.9	.34	.49	69.2	73.8	.0864	646741
39	13097	20906	- .4175A	.0162	1.00	.6	.99	-.7	.45	.47	72.1	72.4	-.1739	646744
40	11835	20906	- .1055A	.0161	1.06	8.8	1.05	4.0	.43	.48	70.0	72.1	-.1505	646745
41	11542	20902	- .2493A	.0162	1.10	9.9	1.12	9.5	.41	.48	68.7	72.2	.0728	646747
42	15147	20906	- .7865A	.0166	.97	-4.6	.89	-7.1	.41	.45	74.0	73.6	-.3958	646753
43	16636	20902	-1.7104A	.0191	.89	-9.9	.68	-9.9	.50	.37	81.6	80.9	.0643	646755
44	9724	20906	.1051A	.0161	.89	-9.9	.87	-9.9	.56	.49	76.4	72.3	.1931	646756
45	10599	20902	- .2303A	.0162	.96	-6.0	.91	-7.3	.53	.48	73.4	72.2	.3010	646758
46	9393	20906	.4166A	.0163	1.12	9.9	1.17	9.9	.40	.49	69.0	73.1	-.0317	646759
47	12471	20906	- .5765A	.0164	1.05	7.3	1.03	2.3	.45	.46	71.1	72.8	.1593	646760
48	8608	20902	.2946A	.0162	1.01	.7	1.02	1.6	.45	.49	73.2	72.7	.3009	646762
49	14562	20906	- .9345A	.0169	.96	-6.1	.96	-2.5	.46	.44	76.1	74.4	-.0605	646765
50	10961	20902	- .1786A	.0161	1.00	-.5	.98	-1.9	.49	.48	72.1	72.1	.1539	646769
51	11750	20906	- .3142A	.0162	.90	-9.9	.87	-9.9	.56	.48	76.8	72.3	.0843	646771
52	12645	20902	- .6651A	.0165	.97	-4.7	1.15	9.4	.52	.46	76.0	73.1	.2023	646772
53	11531	20906	- .3876A	.0162	.79	-9.9	.71	-9.9	.66	.47	80.9	72.4	.2165	646773
54	15619	20902	-1.2800A	.0176	.86	-9.9	.74	-9.9	.52	.41	80.8	76.8	-.0320	646775
55	9670	20906	.5215A	.0164	.86	-9.9	.84	-9.9	.60	.49	78.6	73.5	-.2095	646776
56	9415	20906	.4130A	.0163	1.08	9.9	1.12	9.9	.43	.49	70.6	73.1	-.0339	646780
57	10009	20906	.1306A	.0162	.88	-9.9	.83	-9.9	.57	.49	76.6	72.4	.0923	646784
58	15682	20902	-1.2534A	.0176	.93	-9.4	.88	-5.9	.45	.42	79.4	76.6	-.0805	646785
59	12608	20906	- .5159A	.0163	.95	-7.2	.91	-6.5	.51	.47	74.2	72.6	.0606	646786
60	15436	20902	-1.2895A	.0177	.96	-5.0	.85	-7.1	.46	.41	77.6	76.9	.0371	646788
61	3206	4553	-1.1510	.0366	.86	-9.4	.72	-7.2	.55	.44	79.4	74.9	-.0002	660258
62	1756	4057	.5547	.0372	.92	-4.6	.90	-4.2	.54	.49	75.8	73.4	.0004	660262
63	2012	4172	.1974	.0361	.91	-6.0	.87	-5.4	.55	.48	75.6	72.1	.0002	660266
64	1292	4632	1.3234	.0385	1.37	9.9	1.83	9.9	.19	.47	72.4	79.2	.0006	660271
65	1665	3992	.5657	.0376	1.11	6.0	1.17	6.2	.41	.48	70.4	73.5	.0004	660273
66	1669	4178	.7435	.0370	1.36	9.9	1.54	9.9	.21	.48	63.4	73.9	.0005	660275
67	2496	4177	- .3876	.0364	1.16	9.6	1.23	7.3	.35	.47	66.6	72.5	.0000	660276
68	2190	4136	- .0214	.0361	1.12	7.8	1.13	4.7	.38	.48	68.1	71.9	.0001	660278
69	2531	4520	- .3453	.0348	.97	-2.0	.94	-2.3	.51	.48	73.3	72.3	.0000	660281
70	1193	4029	1.2906	.0405	1.06	3.0	1.24	6.4	.39	.46	77.2	78.2	.0007	660283
71	2259	4115	- .1245	.0363	1.22	9.9	1.44	9.9	.32	.48	65.4	72.1	.0001	660285
72	1045	3920	1.5120	.0421	1.25	9.9	1.58	9.9	.26	.44	74.7	79.4	.0008	660286
73	1330	4080	1.1464	.0392	.81	-9.9	.84	-5.2	.57	.47	83.3	76.7	.0006	660288
74	2095	4077	.0496	.0366	.96	-2.8	.92	-2.9	.51	.49	74.0	72.2	.0001	660290
75	2176	4544	.0774	.0348	1.01	.7	1.01	.6	.47	.50	73.4	72.8	.0001	660291
76	2404	4105	- .3071	.0368	1.14	8.4	1.21	6.4	.38	.48	67.9	72.6	.0000	660292
77	2335	4138	- .2062	.0364	1.34	9.9	1.62	9.9	.23	.48	60.8	72.4	.0001	660293
78	1931	4072	.2664	.0367	1.23	9.9	1.32	9.9	.32	.49	64.9	72.4	.0003	660297
79	1546	4060	.7972	.0380	1.04	2.3	1.13	4.5	.43	.48	74.5	74.7	.0005	660299
80	2390	4028	- .3735	.0369	.91	-5.7	.85	-5.3	.54	.47	75.8	72.2	.0000	660302
81	1907	4082	.3389	.0366	1.15	8.9	1.23	8.7	.36	.48	68.8	72.6	.0003	660304
82	2323	4094	- .2493	.0364	1.02	1.4	1.07	2.2	.46	.48	71.5	72.0	.0001	660306
83	2763	4105	- .8216	.0378	1.02	1.5	1.04	1.0	.43	.45	72.8	74.1	-.0001	660307
84	2474	4598	- .2242	.0344	1.05	3.6	1.06	2.3	.44	.49	70.6	72.2	.0000	660310
85	2901	4087	-1.0391	.0389	.98	-1.1	.93	-1.7	.46	.44	75.1	75.5	-.0001	660313
86	2632	4147	- .6031	.0369	.98	-1.0	.98	-.6	.47	.46	73.4	73.1	.0000	660316
87	1784	4032	.4450	.0371	1.02	1.0	1.09	3.5	.45	.48	73.7	72.9	.0003	660318
88	2208	4642	.1081	.0344	1.09	5.8	1.14	5.4	.41	.49	70.8	72.7	.0001	660322
89	1814	4097	.4737	.0367	1.56	9.9	1.79	9.9	.08	.48	54.4	72.8	.0003	660323
90	2920	4159	- .9967	.0382	1.12	6.8	1.33	7.2	.33	.43	72.6	75.0	-.0001	660327
91	1658	4030	.6293	.0375	1.23	9.9	1.39	9.9	.30	.48	67.8	73.7	.0004	660329
92	3291	4009	-1.8263	.0448	.86	-6.1	.65	-6.0	.49	.36	83.2	82.3	-.0001	660330

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT		OUTFIT		PTBISERL-EX		EXACT MATCH		DISPLACE	ITEM
					MNSQ	ZSTD	MNSQ	ZSTD	CORR.	EXP.	OBS%	EXP%		
93	2148	4484	.0754	.0349	1.23	9.9	1.29	9.9	.32	.49	64.7	72.6	.0001	660334
94	2762	4117	-.8132	.0377	1.05	3.1	1.12	3.1	.41	.45	72.7	73.9	-.0001	660336
95	2574	4549	-.4124	.0346	.93	-5.1	.89	-4.1	.53	.48	75.5	72.1	-.0001	660339
96	2842	4110	-.9168	.0381	.87	-8.2	.76	-6.7	.55	.44	78.3	74.6	-.0001	660340
97	2372	4072	-.2824	.0367	.98	-1.3	.95	-1.8	.49	.48	73.6	72.3	.0001	660344
98	2388	4110	-.2840	.0365	.76	-9.9	.67	-9.9	.66	.48	82.6	72.4	.0001	660347
99	2035	4088	.1470	.0364	1.11	6.7	1.16	6.1	.39	.48	68.7	72.0	.0002	660348
100	2927	4117	-1.0787	.0387	.80	-9.9	.66	-8.9	.60	.43	81.4	75.5	-.0001	660354
101	2744	4088	-.8237	.0378	.96	-2.7	.86	-3.9	.49	.45	74.4	73.9	-.0001	660355
102	1709	4663	.7632	.0358	1.33	9.9	1.52	9.9	.27	.49	66.3	75.3	.0004	660356
103	2278	4068	-.1807	.0367	1.10	5.9	1.10	3.3	.41	.48	69.3	72.4	.0001	660358
104	1900	4010	.2907	.0368	1.19	9.9	1.26	9.6	.34	.48	65.2	72.3	.0003	660361
105	2346	4110	-.2547	.0363	1.13	8.0	1.25	7.9	.38	.47	67.5	71.9	.0001	660364
106	2910	4050	-1.0779	.0393	.95	-2.9	.86	-3.2	.48	.43	77.2	75.8	-.0001	660366
107	2614	4006	-.6713	.0379	1.12	7.3	1.14	3.7	.36	.46	69.3	73.6	.0000	660369
108	2544	4493	-.3626	.0349	1.05	3.2	1.02	.9	.44	.48	70.3	72.4	.0000	660371
109	2147	4132	.0104	.0361	1.39	9.9	1.62	9.9	.19	.48	57.5	72.0	.0002	660377
110	951	4106	1.8011	.0429	1.16	6.5	1.38	7.5	.32	.42	78.1	81.3	.0009	660378
MEAN	8180.4	13303	-.3625	.0261	1.02	.3	1.04	.1			73.5	74.1		
S.D.	5733.3	8328.1	.7426	.0103	.14	7.5	.24	6.9			5.6	2.7		

Appendix M: Science Item Bank Difficulties

Grade 5 Science

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S. E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	MATCH EXP%	DISPLACE	ITEM
1	17510	22042	-1.5924A	.0181	.96	-4.6	.89	-5.6	.40	.34	81.2	80.6	.0285	634836
2	14089	22042	-.6709A	.0156	1.01	1.0	1.02	2.1	.40	.39	71.8	71.5	.0423	634839
3	18716	22037	-1.9687A	.0199	.89	-9.5	.78	-9.5	.41	.31	85.7	84.7	-.0312	634845
4	14570	22042	-.7248A	.0157	.99	-1.9	1.00	-.3	.40	.39	72.7	71.9	-.0225	634847
5	11968	22037	-.2710A	.0152	1.03	5.1	1.03	2.9	.38	.40	68.1	69.5	.1378	634854
6	18662	22037	-2.0367A	.0203	.91	-7.5	.71	-9.9	.45	.30	85.3	85.5	.0613	634861
7	13929	22037	-.6597A	.0156	.96	-6.4	.94	-5.4	.45	.39	72.8	71.4	.0694	634863
8	16276	22037	-1.3944A	.0174	1.02	2.4	.95	-2.6	.43	.35	76.9	78.3	.2037	634869
9	14161	22037	-.6872A	.0156	.95	-8.0	.90	-8.9	.45	.39	73.2	71.6	.0405	634871
10	17356	22042	-1.4675A	.0176	.96	-4.7	.92	-4.2	.37	.35	80.2	79.1	-.0492	634873
11	19633	22037	-2.5699A	.0239	1.01	.8	.75	-8.2	.39	.26	89.1	90.4	.1599	634875
12	14307	22037	-1.0103A	.0163	1.18	9.9	1.33	9.9	.32	.38	69.3	74.3	.3318	634877
13	16764	22042	-1.2578A	.0169	.94	-7.0	.94	-3.8	.39	.36	78.9	76.8	-.0787	634878
14	16835	22037	-1.4608A	.0176	.96	-4.5	.86	-7.8	.45	.35	79.2	79.1	.1071	634880
15	18244	22042	-2.0097A	.0201	1.16	9.9	1.24	8.9	.27	.30	82.9	85.2	.1980	634884
16	17541	22037	-1.3954A	.0174	.91	-9.9	.85	-8.9	.37	.35	80.9	78.3	-.1865	634894
17	17042	22042	-1.2179A	.0168	.91	-9.9	.83	-9.9	.38	.36	78.4	76.4	-.2060	634895
18	13514	22042	-.7151A	.0157	.97	-4.4	.92	-6.5	.47	.39	72.6	71.8	.2259	634906
19	14493	22042	-.6897A	.0156	1.13	9.9	1.21	9.9	.26	.39	67.0	71.6	-.0388	634909
20	16630	22042	-1.0459A	.0164	.95	-6.4	.92	-5.9	.34	.37	76.0	74.7	-.2566	634916
21	12689	22037	-.3971A	.0153	1.03	5.4	1.07	6.8	.38	.40	69.3	70.0	.0984	634925
22	15281	22042	-.7650A	.0158	.90	-9.9	.84	-9.9	.45	.39	75.7	72.2	-.1651	634926
23	18247	22037	-1.7368A	.0187	.94	-6.2	.96	-1.8	.34	.33	83.7	82.2	-.0851	634932
24	12679	22037	-.2964A	.0152	.97	-5.5	.94	-6.4	.43	.40	70.9	69.6	-.0008	634933
25	15305	22037	-.8057A	.0158	.88	-9.9	.80	-9.9	.48	.39	76.7	72.5	-.1306	634934
26	11984	22042	-.0982A	.0151	1.10	9.9	1.13	9.9	.31	.41	65.0	69.1	-.0390	634943
27	13170	22042	-.5461A	.0154	1.10	9.9	1.14	9.9	.33	.40	66.5	70.7	.1366	634944
28	17623	22037	-1.5928A	.0181	.95	-5.1	.84	-8.7	.39	.34	81.3	80.6	-.0103	634947
29	15258	22042	-.5596A	.0155	.98	-2.6	.95	-4.8	.35	.40	70.9	70.8	-.3687	634952
30	17565	22037	-1.5493A	.0179	1.02	2.5	1.17	8.2	.29	.34	80.8	80.1	-.0355	634957
31	11232	22037	.1828A	.0151	1.05	7.5	1.07	8.2	.36	.40	67.9	69.2	-.1483	634961
32	14383	22037	-.8360A	.0159	1.23	9.9	1.42	9.9	.21	.39	66.0	72.7	.1366	634962
33	13852	22037	-.6435A	.0156	.95	-8.0	.91	-8.0	.46	.39	73.1	71.3	.0717	634963
34	14058	22037	-.2199A	.0152	.97	-5.6	.95	-6.0	.41	.40	70.3	69.4	-.4071	634965
35	16940	22037	-1.4345A	.0175	.91	-9.9	.81	-9.9	.47	.35	79.8	78.8	.0479	647389
36	16483	22042	-1.2829A	.0170	1.03	4.1	1.14	8.3	.33	.36	76.9	77.1	.0309	647390
37	12086	22042	.0804A	.0151	.97	-4.8	.98	-2.7	.44	.41	70.9	69.1	-.2410	647393
38	16707	22037	-1.3649A	.0173	1.05	5.3	1.13	7.1	.33	.35	77.4	78.0	.0475	647394
39	10371	22042	.0756A	.0151	1.07	9.9	1.08	9.4	.34	.41	66.1	69.1	.1550	647396
40	17077	22042	-1.1647A	.0167	.86	-9.9	.80	-9.9	.41	.37	80.0	75.8	-.2722	647401
41	9770	22042	.1413A	.0151	1.09	9.9	1.13	9.9	.31	.41	65.5	69.2	.2271	647402
42	12212	22042	-.3909A	.0153	.93	-9.9	.89	-9.9	.49	.40	72.8	69.9	.2029	647413
43	16705	22042	-1.2874A	.0170	1.07	8.3	1.17	9.7	.27	.36	76.3	77.1	-.0304	647415
44	15624	22037	-.9771A	.0162	.93	-9.9	.87	-9.9	.44	.38	75.9	74.0	-.0410	647419
45	12518	22042	-.1044A	.0151	.98	-3.5	.96	-4.7	.41	.41	69.9	69.1	-.1559	647420
46	8841	22037	.5916A	.0154	.91	-9.9	.94	-6.2	.45	.40	75.4	70.8	-.0051	647423
47	11132	22042	.0324A	.0151	1.04	6.5	1.05	6.1	.37	.41	67.6	69.1	.0248	647427
48	14734	22037	-.9274A	.0161	1.04	6.1	1.04	3.2	.38	.38	71.7	73.5	.1414	647430
49	19429	22042	-2.1245A	.0208	.83	-9.9	.70	-9.9	.36	.29	88.4	86.4	-.1929	647432
50	13031	22042	-.5457A	.0154	1.10	9.9	1.20	9.9	.34	.40	67.7	70.7	.1689	647434
51	2846	4081	-.8871	.0374	1.00	.1	1.01	.3	.37	.37	73.3	73.6	.0007	661220
52	4002	5437	-1.3800	.0337	1.08	5.0	1.15	4.3	.29	.37	74.5	76.0	.0003	661221
53	950	4214	1.6902	.0408	.95	-2.3	.99	-.2	.37	.34	80.9	80.0	.0008	661222
54	1733	4211	.6085	.0350	1.15	9.9	1.25	9.9	.24	.39	65.2	70.2	.0008	661223
55	3324	4123	-1.5580	.0425	.98	-.7	.97	-.5	.35	.33	81.6	81.3	.0006	661224

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	TOTAL MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-EX CORR.	PTBISERL-EX EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
56	1802	4125	.4890	.0351	.91	-6.6	.90	-5.4	.46	.39	73.0	69.5	.0008	661225
57	2896	5330	-.3463	.0309	1.20	9.9	1.29	9.9	.24	.42	61.1	69.5	.0004	661226
58	3606	4099	-2.2269	.0506	.94	-1.7	.93	-1.0	.34	.27	88.1	88.0	.0008	661229
59	3086	4136	-1.1804	.0389	.98	-1.3	.97	-.8	.38	.36	77.7	76.4	.0006	661230
60	2703	4156	-.6280	.0360	.92	-5.5	.87	-5.1	.47	.39	74.4	71.7	.0006	661231
61	4065	5456	-1.4447	.0340	.91	-5.8	.80	-6.3	.46	.37	77.9	76.5	.0003	661232
62	2917	4105	-.9701	.0378	.96	-2.3	.91	-2.9	.41	.37	75.7	74.4	.0006	661233
63	2613	4259	-.4380	.0349	1.20	9.9	1.29	9.9	.21	.39	62.2	70.2	.0007	661234
64	2265	4192	-.0293	.0345	1.01	.7	.99	-.3	.38	.39	67.7	68.6	.0007	661235
65	3976	4119	-3.6605	.0868	.98	-.2	.85	-1.2	.20	.16	96.5	96.5	.0015	661236
66	2415	5358	.1102	.0309	1.12	9.1	1.19	9.9	.30	.42	65.8	70.0	.0005	661239
67	4029	4072	-4.8847	.1545	.96	-.2	.73	-1.5	.18	.09	98.9	98.9	.0024	661240
68	2831	4176	-.7738	.0363	1.09	5.7	1.14	4.7	.28	.37	69.4	72.4	.0007	661241
69	3101	5464	-.4338	.0306	.99	-1.1	.96	-1.9	.43	.42	69.9	69.9	.0004	661242
70	3708	4121	-2.4565	.0543	.94	-1.7	.77	-3.3	.34	.26	90.1	90.0	.0009	661243
71	1708	4093	.5783	.0355	1.06	4.3	1.13	5.7	.32	.39	69.2	70.3	.0008	661244
72	2202	4075	-.0467	.0349	1.04	2.9	1.04	2.0	.34	.39	66.5	68.6	.0007	661245
73	3744	4284	-2.1563	.0486	1.04	1.4	1.03	.5	.23	.28	87.2	87.4	.0007	661246
74	4418	5388	-1.9751	.0381	.92	-3.8	.87	-3.0	.41	.33	83.1	82.4	.0003	661247
75	1234	4167	1.2528	.0377	1.07	3.6	1.19	6.0	.28	.36	74.6	75.3	.0008	661248
76	1193	4217	1.2677	.0378	1.23	9.9	1.44	9.9	.15	.36	70.4	75.8	.0009	661249
77	3448	4160	-1.7521	.0440	1.08	3.0	1.24	4.5	.22	.31	83.0	83.2	.0007	661250
78	2349	4177	-.1701	.0346	1.06	4.6	1.10	4.9	.33	.39	66.3	68.9	.0007	661254
79	3259	4287	-1.2341	.0388	1.00	-.1	.94	-1.7	.36	.35	77.2	77.6	.0006	661255
80	3667	4205	-2.1462	.0488	.98	-.7	.95	-.8	.31	.28	87.4	87.2	.0007	661256
81	4361	5497	-1.7675	.0360	.93	-3.6	.83	-4.4	.41	.34	81.2	80.1	.0003	661258
82	3696	4232	-2.1256	.0488	.90	-3.2	.68	-5.7	.40	.28	87.4	87.4	.0008	661259
83	3188	4188	-1.2915	.0395	.92	-4.1	.80	-5.5	.45	.36	78.5	77.7	.0006	661260
84	3911	4124	-3.2117	.0724	.97	-.5	.87	-1.3	.24	.20	94.8	94.8	.0012	661261
85	3697	4089	-2.4860	.0555	.97	-.8	.94	-.8	.29	.25	90.4	90.4	.0009	661262
86	3411	5473	-.7670	.0311	.93	-5.9	.91	-4.2	.48	.41	74.0	71.0	.0004	661263
87	3022	4193	-.9942	.0377	.91	-5.2	.85	-4.9	.46	.37	76.5	75.1	.0006	661264
88	3123	4297	-1.0612	.0373	1.10	5.7	1.13	3.7	.26	.36	71.6	75.2	.0007	661265
89	1517	4125	.7848	.0359	1.33	9.9	1.53	9.9	.07	.38	60.0	71.4	.0009	661266
90	4271	5447	-1.7173	.0357	1.04	2.0	1.10	2.4	.31	.35	79.0	79.3	.0003	661267
91	1624	4133	.6809	.0354	1.23	9.9	1.36	9.9	.16	.38	62.3	70.4	.0008	661268
92	2309	4052	-.2069	.0353	1.12	8.5	1.20	9.0	.28	.40	64.8	69.3	.0007	661269
93	2033	5425	.5179	.0316	1.23	9.9	1.36	9.9	.22	.41	65.0	72.3	.0006	661270
94	3235	4107	-1.4323	.0413	.90	-4.6	.79	-5.1	.45	.34	81.6	79.7	.0007	661272
95	3265	4222	-1.3480	.0398	1.09	4.3	1.11	2.7	.25	.34	76.6	78.5	.0006	661273
96	2753	4155	-.6952	.0362	.97	-1.8	.93	-2.6	.41	.38	72.3	71.8	.0006	661274
97	2609	4108	-.5244	.0359	1.02	1.3	.99	-.6	.37	.39	69.9	70.9	.0006	661275
98	3830	4205	-2.6133	.0565	.89	-2.7	.61	-5.8	.39	.25	91.1	91.1	.0009	661276
99	3489	4014	-2.1280	.0495	.92	-2.7	.71	-5.1	.39	.29	87.3	87.0	.0008	661277
100	2939	4022	-1.0897	.0387	1.11	5.6	1.15	4.1	.25	.36	72.5	75.5	.0006	663133
MEAN	8976.0	13224	-.9565	.0298	1.01	.1	1.00	-.1			75.7	76.3		
S.D.	6312.1	8823.3	1.0349	.0188	.10	6.5	.18	6.7			8.2	7.0		

Grade 8 Science

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	TOTAL MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTBISERL-EX CORR.	PTBISERL-EX EXP.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
1	15913	21038	-1.2330A	.0171	.95	-6.6	.93	-4.9	.37	.33	78.4	76.4	-.0419	635004
2	10406	21038	.2617A	.0152	1.00	.6	1.01	1.0	.39	.37	67.5	67.7	-.1665	635005
3	11902	21038	-.3968A	.0154	1.03	5.9	1.03	3.5	.36	.37	66.5	68.6	.1477	635007
4	13323	21036	-.6189A	.0156	1.05	7.8	1.07	6.3	.32	.36	67.9	70.1	.0325	635011

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	OUTFIT ZSTD	PTBISERL-EX CORR.	EXACT OBS%	MATCH EXP%	DISPLACE	ITEM			
5	11959	21038	-.3150A	.0153	.95	-9.5	.91	-9.9	.43	.37	70.0	68.1	.0521	635019
6	10225	21036	.0824A	.0151	.95	-8.9	.94	-8.1	.41	.37	69.9	67.4	.0533	635020
7	11383	21036	-.1677A	.0152	.98	-3.2	.96	-5.1	.39	.37	67.9	67.6	.0377	635026
8	13660	21038	-.6437A	.0157	1.09	9.9	1.14	9.9	.26	.36	67.4	70.3	-.0259	635031
9	13571	21036	-.6314A	.0157	1.06	9.3	1.04	3.6	.29	.36	66.7	70.2	-.0163	635037
10	15037	21038	-1.0116A	.0165	.92	-9.9	.88	-9.4	.43	.34	76.5	73.9	-.0139	635043
11	13410	21036	-.7084A	.0158	1.04	5.8	1.04	3.9	.35	.36	69.0	70.8	.1015	635053
12	13302	21038	-.7929A	.0160	1.01	2.0	.99	-.6	.41	.36	70.5	71.6	.2137	635059
13	16335	21038	-1.3511A	.0175	.93	-7.5	.89	-7.3	.37	.32	79.1	77.9	-.0530	635067
14	13672	21038	-.4777A	.0155	.99	-1.7	.99	-.9	.34	.37	69.8	69.0	-.1969	635069
15	16042	21038	-.9363A	.0163	.97	-4.3	.92	-6.6	.25	.35	73.3	73.1	-.3863	635074
16	13298	21036	-.8785A	.0161	1.11	9.9	1.17	9.9	.34	.35	68.6	72.5	.3009	635075
17	15395	21038	-.8323A	.0160	.93	-9.9	.89	-9.9	.34	.35	74.6	72.0	-.2985	635076
18	11621	21036	-.4131A	.0154	1.07	9.9	1.09	9.4	.33	.37	65.3	68.6	.2292	635078
19	17657	21038	-1.5423A	.0183	.74	-9.9	.63	-9.9	.44	.31	85.8	80.2	-.3326	635083
20	15313	21036	-.8297A	.0160	.85	-9.9	.77	-9.9	.44	.35	77.3	72.0	-.2778	635085
21	14421	21036	-.6745A	.0157	.85	-9.9	.78	-9.9	.48	.36	76.5	70.5	-.1906	635086
22	16559	21038	-1.6056A	.0185	1.19	9.9	1.50	9.9	.16	.31	78.6	81.0	.1344	635100
23	15994	21038	-1.1865A	.0170	.86	-9.9	.79	-9.9	.45	.33	80.0	75.9	-.1144	635102
24	12658	21038	-.5853A	.0156	.97	-4.3	.94	-6.2	.43	.36	70.3	69.8	.1596	635110
25	17884	21036	-2.0262A	.0208	.94	-4.9	.75	-9.9	.42	.27	85.4	85.9	.0719	635114
26	15558	21036	-1.2525A	.0172	.95	-5.6	.89	-7.4	.43	.33	77.1	76.7	.0833	635117
27	16784	21036	-1.5269A	.0182	.96	-4.5	.95	-2.5	.35	.31	80.9	80.0	-.0223	635120
28	13459	21038	-.9406A	.0163	1.07	9.1	1.07	5.3	.40	.35	70.6	73.1	.3242	635123
29	13301	21038	-.7481A	.0159	1.02	3.4	1.02	1.8	.39	.36	69.4	71.2	.1686	635134
30	11133	21036	-.1923A	.0152	1.12	9.9	1.17	9.9	.25	.37	62.0	67.7	.1200	635144
31	18158	21036	-1.7350A	.0192	.82	-9.9	.72	-9.9	.31	.30	86.7	82.5	-.3509	635160
32	9982	21038	.0758A	.0151	1.11	9.9	1.14	9.9	.26	.37	62.2	67.4	.1157	635161
33	10693	21036	-.0036A	.0151	1.12	9.9	1.15	9.9	.25	.37	61.1	67.4	.0320	635240
34	12930	21038	-.5672A	.0156	1.05	8.6	1.11	9.9	.33	.36	68.0	69.7	.0761	647100
35	16286	21036	-.7754A	.0159	.76	-9.9	.68	-9.9	.47	.36	81.3	71.4	-.6302	647102
36	11047	21036	-.0619A	.0152	.89	-9.9	.87	-9.9	.49	.37	73.5	67.4	.0091	647106
37	8862	21036	.4134A	.0153	1.05	7.8	1.09	9.9	.31	.37	66.9	68.4	.0382	647109
38	12871	21038	-.4192A	.0154	1.02	3.5	1.02	2.6	.34	.37	67.6	68.7	-.0590	647111
39	16444	21036	-1.5384A	.0183	1.06	5.8	1.15	8.0	.30	.31	79.0	80.2	.1030	647112
40	16019	21038	-1.3270A	.0174	.99	-1.5	.95	-3.3	.35	.33	77.8	77.6	.0218	647115
41	9036	21038	.5283A	.0154	1.02	3.1	1.06	7.2	.35	.37	69.1	69.1	-.1159	647119
42	10397	21036	-.1261A	.0152	1.05	8.2	1.05	5.9	.34	.37	65.2	67.5	.2225	647120
43	9425	21036	.3077A	.0152	1.06	9.9	1.07	9.1	.31	.37	65.0	67.9	.0126	647122
44	12431	21038	-.4287A	.0154	1.05	8.2	1.05	5.2	.33	.37	66.3	68.7	.0556	647123
45	12658	21036	-.4269A	.0154	1.03	5.4	1.02	2.5	.33	.37	66.8	68.7	-.0003	647128
46	14818	21038	-1.4907A	.0181	1.24	9.9	1.25	9.9	.39	.31	72.6	79.6	.5302	647132
47	18038	21036	-1.5230A	.0182	.75	-9.9	.68	-9.9	.35	.31	86.1	80.0	-.5177	647133
48	15953	21038	-1.2580A	.0172	.90	-9.9	.79	-9.9	.44	.33	78.5	76.7	-.0286	647134
49	15556	21036	-1.2164A	.0171	.94	-7.6	.86	-9.9	.43	.33	77.6	76.2	.0471	647136
50	15272	21036	-1.2255A	.0171	1.00	-.4	.93	-4.9	.41	.33	75.5	76.3	.1378	647138
51	16482	21038	-1.4152A	.0178	1.04	3.9	1.12	6.7	.25	.32	79.0	78.6	-.0350	647146
52	17081	21036	-1.4988A	.0181	.86	-9.9	.84	-9.4	.39	.31	83.1	79.7	-.1561	647147
53	17352	21036	-1.8157A	.0196	1.04	3.5	1.10	4.5	.29	.29	82.9	83.5	.0692	647149
54	9897	21038	.0734A	.0151	1.03	6.2	1.05	6.2	.34	.37	66.1	67.4	.1376	647150
55	18034	21036	-1.9763A	.0205	.93	-5.3	.86	-6.4	.33	.28	85.9	85.3	-.0443	647151
56	15278	21038	-.9136A	.0162	.96	-6.3	1.00	-.4	.33	.35	75.5	72.8	-.1817	647152
57	13528	21038	-.6625A	.0157	1.01	2.0	.99	-.6	.36	.36	69.6	70.4	.0261	647154
58	12227	21036	-.2644A	.0152	1.01	2.6	1.00	-.2	.34	.37	67.1	67.9	-.0617	647156
59	17051	21038	-1.5259A	.0182	.87	-9.9	.78	-9.9	.40	.31	82.2	80.0	-.1168	647159
60	17539	21036	-1.7453A	.0192	.87	-9.9	.82	-9.3	.39	.30	84.4	82.7	-.0754	647220
61	2656	4075	-.6440	.0357	1.01	1.0	1.02	1.0	.33	.35	69.9	70.2	.0001	661278
62	2350	4721	-.0646	.0322	.98	-1.3	.97	-1.6	.40	.39	68.9	68.1	.0001	661279
63	1045	4131	1.4028	.0389	.98	-.9	1.05	1.7	.33	.33	77.9	77.3	.0005	661280
64	1164	4106	1.2092	.0376	1.34	9.9	1.67	9.9	-.04	.33	66.7	74.8	.0005	661281

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	DISPLACE	ITEM
65	2419	4008	-.3841	.0352	1.17	9.9	1.23	9.9	.18	.36	60.6	68.4	.0001 661282
66	2314	4085	-.2293	.0345	1.09	7.0	1.12	6.1	.26	.37	63.9	67.6	.0002 661283
67	1355	4147	.9656	.0362	1.00	.0	1.03	1.3	.34	.35	72.8	72.5	.0005 661284
68	3023	4039	-1.2017	.0389	.99	-.8	.97	-1.0	.34	.33	76.8	76.3	.0000 661285
69	2477	4833	-.1252	.0318	.99	-1.1	.98	-1.3	.40	.39	68.5	68.0	.0001 661286
70	2580	3998	-.6148	.0360	1.11	7.1	1.18	6.9	.24	.36	65.9	70.2	.0001 661287
71	2845	4041	-.9108	.0371	1.25	9.9	1.70	9.9	.03	.34	68.0	73.1	.0001 661288
72	1102	4116	1.2807	.0383	1.12	6.3	1.34	9.9	.17	.33	74.9	76.2	.0005 661289
73	1972	4808	.3804	.0324	1.24	9.9	1.33	9.9	.17	.39	60.3	69.5	.0003 661290
74	2389	4084	-.3081	.0346	1.01	.9	1.00	-.2	.35	.36	66.7	68.0	.0002 661291
75	1379	4130	.9263	.0360	1.29	9.9	1.45	9.9	.05	.34	62.4	71.9	.0005 661292
76	4055	4745	-2.1622	.0435	.88	-4.6	.71	-6.2	.42	.28	85.8	85.6	-.0001 661293
77	2602	4043	-.5932	.0357	.90	-7.3	.89	-5.0	.47	.35	73.5	69.9	.0001 661294
78	2286	4118	-.1807	.0342	1.03	2.7	1.04	2.0	.33	.36	65.9	67.3	.0002 661295
79	3141	4125	-1.2386	.0392	.87	-6.7	.74	-8.0	.48	.33	78.9	77.4	.0000 661296
80	4176	4813	-2.2725	.0448	.91	-3.1	.69	-6.3	.39	.28	87.0	86.8	.0000 661297
81	1806	4050	.3853	.0347	.92	-6.5	.90	-5.8	.45	.37	72.0	68.0	.0003 661298
82	2025	4027	.0799	.0344	1.09	7.3	1.14	7.8	.26	.36	62.7	66.7	.0003 661299
83	2864	4063	-.9420	.0372	.95	-3.3	.91	-3.3	.41	.34	74.5	73.4	.0000 661300
84	1576	4092	.6929	.0352	1.06	4.4	1.10	4.8	.29	.36	67.8	69.6	.0004 661301
85	2982	4805	-.6501	.0327	.93	-5.7	.88	-5.7	.46	.39	73.1	70.1	.0000 661302
86	2992	3995	-1.1757	.0391	.91	-4.7	.85	-4.5	.43	.33	78.5	76.3	.0000 661303
87	3541	4024	-2.1749	.0506	.86	-4.4	.61	-7.2	.45	.25	88.1	88.0	.0001 661304
88	2686	4041	-.7002	.0362	.91	-6.4	.87	-5.6	.46	.36	75.0	71.2	.0001 661305
89	2792	4712	-.5073	.0327	1.01	1.0	1.02	1.2	.37	.39	68.9	69.2	.0000 661306
90	3702	4090	-2.4615	.0553	.94	-1.4	.76	-3.7	.32	.23	90.5	90.5	.0001 661307
91	2466	4123	-.3542	.0346	1.10	7.5	1.09	4.1	.25	.36	62.3	68.3	.0001 661308
92	1487	4070	.7730	.0355	1.11	7.5	1.25	9.9	.19	.35	68.3	70.2	.0004 661309
93	1258	4057	1.0642	.0370	1.10	5.6	1.19	7.1	.23	.34	70.7	73.2	.0005 661310
94	2055	3941	-.0059	.0349	1.01	.7	1.02	1.3	.36	.36	66.7	67.0	.0002 661312
95	2135	4122	.0275	.0342	1.06	4.4	1.06	3.4	.30	.37	64.9	67.2	.0002 661314
96	1941	4080	.2210	.0343	1.00	-.2	1.01	.6	.35	.37	68.4	67.2	.0003 661315
97	2920	4049	-1.0272	.0378	.95	-3.1	.89	-3.7	.40	.34	75.9	74.4	.0000 661316
98	1973	4772	.3636	.0325	1.06	4.7	1.12	6.2	.32	.38	67.9	69.4	.0003 661317
99	3428	4001	-1.9760	.0474	.95	-1.7	.96	-.7	.33	.27	86.0	85.7	.0000 661318
100	2290	4034	-.2355	.0347	1.11	8.4	1.15	7.4	.25	.36	62.6	67.6	.0002 661319
101	2619	4803	-.2810	.0319	1.25	9.9	1.32	9.9	.13	.39	56.6	68.1	.0001 661320
102	2776	4055	-.8082	.0366	.98	-1.3	.95	-1.9	.37	.35	72.9	72.1	.0000 661321
103	2766	4090	-.7562	.0361	1.11	7.2	1.16	6.0	.21	.34	67.6	71.4	.0001 661322
104	3449	4720	-1.2583	.0356	.92	-5.1	.81	-6.6	.45	.35	76.0	75.3	-.0001 661323
105	3264	4007	-1.6462	.0432	.96	-1.6	.91	-2.0	.35	.30	82.3	81.7	.0000 661324
106	3173	4127	-1.3206	.0395	1.03	1.6	1.02	.5	.28	.32	77.3	77.8	.0000 661325
107	2138	4046	-.0562	.0345	1.02	1.8	1.02	1.1	.34	.37	65.8	67.2	.0002 663231
108	676	4072	2.0064	.0450	1.21	7.0	1.84	9.9	.01	.28	82.7	84.0	.0004 663232
109	2152	4071	-.0110	.0344	1.13	9.8	1.16	8.4	.23	.37	61.4	67.2	.0002 663233
110	1672	4065	.5472	.0349	1.05	3.9	1.09	4.5	.31	.36	66.3	68.7	.0004 663234
MEAN	8758.7	13387	-.5970	.0259	1.01	.7	1.01	.4			72.5	73.1	
S.D.	6116.3	8382.2	.8534	.0108	.11	6.8	.20	6.9			7.5	5.8	

Grade 11 Science

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTBISERL-CORR.	EXACT EXP.	MATCH OBS%	DISPLACE	ITEM
1	14034	20888	-.4625A	.0157	1.03	4.5	1.06	5.4	.31	.39	69.5	70.2	-.2888 635174
2	13094	20902	-.3861A	.0156	.96	-6.6	.94	-6.2	.41	.39	71.7	69.7	-.1224 635180
3	12174	20902	-.3517A	.0156	.94	-9.6	.92	-8.8	.46	.39	72.1	69.5	.0691 635192

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT		OUTFIT		PTBISERL-EX		EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
					MNSQ	ZSTD	MNSQ	ZSTD	CORR.	EXP.				
4	13989	20888	-.9478A	.0166	1.04	5.5	1.02	1.5	.41	.37	72.3	74.3	.2144	635197
5	11804	20902	-.3772A	.0156	1.03	5.1	1.08	7.9	.39	.39	69.5	69.6	.1835	635204
6	14769	20888	-.8982A	.0165	1.09	9.9	1.22	9.9	.26	.37	71.9	73.8	-.0478	635211
7	12833	20902	-.4318A	.0157	1.06	9.1	1.06	5.5	.33	.39	67.0	70.0	-.0113	635212
8	14630	20888	-.8275A	.0163	1.14	9.9	1.19	9.9	.20	.38	68.6	73.1	-.0808	635216
9	11164	20902	-.0515A	.0154	1.13	9.9	1.16	9.9	.27	.39	62.3	68.3	.0088	635239
10	15934	20888	-1.0945A	.0170	.87	-9.9	.77	-9.9	.43	.36	79.4	75.9	-.1955	635241
11	12891	20902	-.2967A	.0155	.93	-9.9	.92	-8.9	.44	.39	72.5	69.2	-.1616	635243
12	13262	20888	-.4916A	.0157	1.04	6.9	1.00	.0	.33	.39	66.8	70.4	-.0594	635247
13	10921	20902	-.3760A	.0156	1.08	9.9	1.09	9.3	.38	.39	66.1	69.6	.3913	635259
14	14305	20888	-.9370A	.0166	1.03	3.6	.98	-1.3	.39	.37	72.3	74.2	.1193	635265
15	15514	20902	-1.0665A	.0169	.90	-9.9	.86	-9.9	.43	.36	78.5	75.6	-.0918	635266
16	14106	20902	-.7183A	.0161	1.01	.7	1.04	3.3	.36	.38	72.7	72.2	-.0479	635271
17	16351	20902	-1.6115A	.0189	1.05	4.8	1.05	2.3	.39	.33	79.6	81.6	.1991	635278
18	18414	20888	-1.9121A	.0205	.74	-9.9	.64	-9.9	.39	.30	89.1	84.9	-.3445	635281
19	16649	20888	-1.3992A	.0180	.82	-9.9	.68	-9.9	.48	.34	82.9	79.2	-.1225	635289
20	15437	20888	-1.0116A	.0168	.83	-9.9	.73	-9.9	.51	.37	80.1	75.0	-.1263	635290
21	9808	20902	.2752A	.0154	.90	-9.9	.88	-9.9	.49	.39	72.8	68.4	.0014	635291
22	13769	20888	-.6021A	.0159	.93	-9.9	.90	-9.0	.44	.38	73.9	71.2	-.0779	635489
23	11312	20902	-.1572A	.0154	1.11	9.9	1.14	9.9	.29	.39	64.0	68.6	.0796	635492
24	12677	20888	-.6820A	.0160	1.00	-.6	.98	-1.6	.46	.38	71.8	71.8	.2784	635495
25	15902	20902	-1.3439A	.0178	.92	-8.5	.91	-5.2	.46	.35	80.6	78.6	.0718	635501
26	15226	20902	-.9152A	.0165	.86	-9.9	.78	-9.9	.46	.37	77.9	74.0	-.1604	635503
27	13445	20888	-.5605A	.0158	1.05	7.3	1.05	4.8	.33	.39	69.1	70.9	-.0363	635506
28	7760	20902	.6808A	.0157	1.08	9.9	1.15	9.9	.28	.38	67.4	70.2	.0899	635517
29	12139	20888	-.3644A	.0156	1.06	9.1	1.04	4.5	.35	.39	66.2	69.6	.0895	635520
30	10159	20902	.1292A	.0153	1.23	9.9	1.31	9.9	.17	.39	58.4	68.2	.0644	635527
31	17473	20902	-1.7738A	.0197	.90	-9.2	.88	-5.7	.39	.32	84.7	83.4	-.0470	635532
32	20405	20902	-4.0633	.0461	.93	-1.8	.39	-9.9	.26	.14	97.6	97.6	.0012	635534
33	15985	20888	-1.3227A	.0178	1.01	1.0	1.08	4.5	.34	.35	78.7	78.4	.0220	635535
34	18644	20888	-2.1621A	.0220	.82	-9.9	.81	-7.2	.32	.28	89.6	87.4	-.2105	635553
35	12895	20902	-.4946A	.0157	.95	-7.5	.91	-8.8	.44	.39	71.9	70.4	.0366	635558
36	13270	20888	-.5443A	.0158	1.04	5.8	1.06	5.8	.35	.39	69.4	70.7	-.0082	635562
37	12820	20902	-.5281A	.0158	.93	-9.9	.91	-9.1	.47	.39	73.5	70.6	.0889	635565
38	15133	20888	-.9818A	.0167	.82	-9.9	.71	-9.9	.54	.37	79.8	74.7	-.0667	636026
39	12506	20902	-.2835A	.0155	.90	-9.9	.86	-9.9	.48	.39	73.9	69.1	-.0801	636032
40	18316	20888	-1.9966A	.0209	.77	-9.9	.64	-9.9	.42	.30	88.4	85.8	-.2049	636033
41	9460	20902	.2067A	.0153	1.10	9.9	1.14	9.9	.28	.39	64.2	68.2	.1514	636042
42	16080	20888	-1.2686A	.0176	.92	-9.6	.90	-6.2	.40	.35	80.4	77.8	-.0640	636044
43	17254	20902	-1.8220A	.0200	.96	-3.6	.93	-2.9	.41	.31	83.8	83.9	.0899	636045
44	13858	20888	-.4271A	.0157	.96	-6.7	.96	-3.7	.39	.39	72.3	69.9	-.2781	636047
45	10303	20888	.1146A	.0153	1.07	9.9	1.10	9.9	.31	.39	65.1	68.2	.0446	647161
46	17096	20902	-1.5286A	.0186	.88	-9.9	.79	-9.9	.39	.33	83.2	80.7	-.1509	647164
47	13501	20888	-.6570A	.0160	1.00	-.1	.96	-3.6	.40	.38	70.5	71.6	.0469	647169
48	9710	20902	.3740A	.0154	.99	-1.2	.99	-.9	.41	.39	69.1	68.6	-.0735	647170
49	12328	20888	-.4288A	.0157	.89	-9.9	.84	-9.9	.52	.39	74.5	69.9	.1085	647172
50	10441	20888	.4017A	.0154	.97	-4.5	1.01	.6	.43	.39	71.5	68.7	-.2721	647177
51	9469	20902	.2081A	.0153	1.00	.8	1.00	.4	.38	.39	67.8	68.2	.1479	647179
52	10639	20888	-.1555A	.0154	1.01	1.8	.99	-.9	.40	.39	67.4	68.6	.2358	647180
53	15779	20902	-1.2623A	.0175	.96	-4.4	.94	-3.5	.40	.35	78.8	77.7	.0269	647182
54	8965	20888	.3771A	.0154	.99	-2.3	1.01	1.5	.38	.39	70.2	68.6	.0986	647184
55	18669	20888	-2.4042A	.0238	.87	-8.2	.59	-9.9	.44	.26	89.5	89.6	.0258	647194
56	16124	20902	-1.4191A	.0181	.96	-4.3	.85	-8.8	.43	.34	79.1	79.4	.0775	647197
57	17259	20888	-1.8896A	.0203	1.06	4.8	.98	-.6	.35	.31	83.5	84.7	.1545	647212
58	12200	20888	-.1764A	.0154	1.09	9.9	1.10	9.9	.30	.39	64.2	68.7	-.1139	647214
59	8556	20902	.5750	.0156	1.01	.8	1.03	3.6	.37	.38	69.8	69.5	.0007	647216
60	17866	20902	-1.7842A	.0198	.79	-9.9	.64	-9.9	.43	.31	86.3	83.5	-.2053	647221
61	557	4556	2.4165	.0483	1.08	2.3	1.83	9.9	.13	.27	88.3	88.1	.0005	647168
62	2864	4067	-.8921	.0376	1.00	.1	.99	-.2	.37	.37	73.7	74.2	.0006	647174
63	2771	4092	-.7358	.0367	.92	-5.3	.85	-5.5	.46	.38	75.3	72.6	.0006	647183
64	706	4088	2.0488	.0446	1.06	2.3	1.50	9.2	.19	.30	83.3	83.5	.0007	647186
65	912	4511	1.7275	.0404	1.22	9.3	2.02	9.9	.04	.33	79.9	81.3	.0008	647188
66	2410	4090	-.2718	.0351	1.14	9.9	1.20	8.7	.25	.39	62.8	69.0	.0007	647196
67	2531	4090	-.4500	.0354	1.08	5.4	1.07	3.0	.30	.38	65.5	69.8	.0006	647201
68	1790	4045	.4131	.0350	1.16	9.9	1.26	9.9	.21	.38	62.9	68.6	.0008	647202
69	3470	4019	-2.0345	.0486	.93	-2.2	.81	-3.4	.37	.29	86.9	86.5	.0007	647207
70	777	4116	1.8887	.0431	1.12	4.6	1.46	9.4	.16	.31	81.5	82.2	.0007	647218
71	2376	4527	-.1023	.0333	.90	-7.7	.89	-6.1	.49	.41	74.1	69.0	.0006	661326
72	414	4091	2.7031	.0546	1.31	7.3	3.39	9.9	-.20	.23	89.2	90.0	.0004	661327
73	994	4047	1.5194	.0397	1.16	7.6	1.51	9.9	.14	.33	75.4	77.7	.0008	661328

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ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT		OUTFIT		PTBISERL-EX		EXACT OBS%	MATCH EXP%	DISPLACE	ITEM
					MNSQ	ZSTD	MNSQ	ZSTD	CORR.	EXP.				
74	3489	4529	-1.4405	.0384	.94	-3.0	.92	-2.2	.42	.36	79.9	78.6	.0005	661329
75	3715	4140	-2.3866	.0536	.87	-3.6	.61	-6.5	.41	.26	89.8	89.7	.0008	661331
76	3621	4010	-2.4526	.0558	1.06	1.5	1.42	5.0	.15	.25	90.3	90.3	.0008	661332
77	2033	4058	.1513	.0348	1.03	2.0	1.04	1.9	.36	.39	67.7	68.0	.0007	661333
78	3082	4131	-1.1259	.0387	1.00	.1	1.10	2.7	.34	.35	77.4	76.7	.0006	661334
79	915	4084	1.6555	.0410	1.17	7.4	1.47	9.9	.16	.33	76.3	79.5	.0008	661335
80	1818	4162	.4374	.0344	1.23	9.9	1.33	9.9	.14	.38	58.6	68.3	.0008	661336
81	1597	4087	.7167	.0354	1.02	1.7	1.07	3.3	.34	.38	69.6	69.8	.0008	661337
82	2422	4092	-.2972	.0351	1.01	1.0	1.02	.9	.37	.39	69.5	69.2	.0007	661339
83	1298	4110	1.0852	.0369	1.06	3.7	1.18	6.4	.28	.36	72.5	73.3	.0008	661340
84	1775	4112	-.4920	.0348	1.12	8.4	1.19	9.3	.25	.38	65.6	68.8	.0008	661341
85	3497	4605	-1.3872	.0376	1.17	8.4	1.16	4.2	.21	.37	73.5	77.9	.0005	661345
86	2804	4150	-.7366	.0364	1.01	.6	1.00	-.1	.37	.38	72.3	72.6	.0006	661346
87	3779	4134	-2.5577	.0579	.87	-3.1	.67	-4.7	.40	.25	91.5	91.4	.0008	661348
88	2311	4111	-.1547	.0347	1.07	5.1	1.08	3.7	.32	.39	64.7	68.5	.0007	661349
89	1655	4586	.7230	.0342	1.18	9.9	1.38	9.9	.21	.39	66.9	71.7	.0008	661350
90	3117	3944	-1.4434	.0422	.83	-8.1	.69	-8.1	.53	.34	83.0	80.0	.0006	661351
91	2166	4085	-.0071	.0347	.99	-.6	1.01	.3	.39	.39	69.6	68.2	.0007	661352
92	2918	4595	-.6629	.0341	1.04	3.1	1.12	4.9	.36	.40	70.1	71.4	.0005	661354
93	1641	4089	.6426	.0353	.97	-1.9	1.02	.8	.39	.38	71.8	69.6	.0008	661355
94	2287	4054	-.1560	.0350	.99	-.6	.96	-2.2	.39	.39	67.4	68.5	.0007	661357
95	2189	4543	.1097	.0330	1.40	9.9	1.52	9.9	.03	.40	51.1	68.6	.0007	661358
96	3490	4075	-1.9720	.0474	.97	-1.1	.95	-.8	.32	.29	86.5	85.8	.0007	661359
97	3583	4119	-2.0909	.0489	.96	-1.4	.88	-2.1	.33	.28	87.4	87.1	.0007	661361
98	3319	4565	-1.1620	.0365	.97	-1.8	.97	-1.0	.41	.38	76.6	75.8	.0005	661362
99	2281	4121	-.1015	.0347	1.09	6.5	1.09	4.5	.30	.39	64.2	68.5	.0007	661363
100	2602	4122	-.5100	.0355	1.14	9.3	1.17	6.9	.24	.38	63.5	70.5	.0006	661364
101	1714	4166	.5798	.0348	1.10	7.4	1.17	7.9	.27	.38	65.5	69.2	.0008	661365
102	1417	4066	.9314	.0363	1.29	9.9	1.47	9.9	.10	.37	62.8	71.7	.0008	661366
103	3693	4503	-1.8048	.0418	.88	-5.3	.68	-7.8	.47	.33	83.5	82.5	.0005	661367
104	1819	4037	.3761	.0351	.99	-.6	1.03	1.4	.38	.39	70.0	68.6	.0008	661368
105	1251	4005	1.0850	.0374	1.18	9.9	1.34	9.9	.18	.36	68.3	73.5	.0008	661369
106	1752	4060	.4749	.0351	1.08	5.6	1.17	8.2	.28	.39	67.3	69.1	.0007	661370
107	384	4181	2.8186	.0564	1.17	4.0	2.28	9.9	.02	.23	90.3	90.9	.0003	661372
108	1495	4027	.7924	.0360	1.22	9.9	1.37	9.9	.16	.38	63.4	70.7	.0008	661373
109	1482	4033	.8005	.0360	1.12	7.9	1.28	9.9	.22	.37	68.2	70.8	.0008	661374
110	2496	4120	-.3824	.0350	1.12	8.1	1.26	9.9	.26	.38	66.4	69.4	.0007	661375
MEAN	8517.8	13297	-.4276	.0274	1.02	.7	1.07	.9			74.1	74.8		
S.D.	6191.2	8324.4	1.1601	.0123	.12	7.1	.35	7.2			8.7	7.1		

Appendix N: Reading Pre- and Post-Equating Summary

The Pre- values were taken from the calibrated item and used to create the Raw-to-Scale Conversion Tables. The Post- values were taken directly from unanchored calibration runs.

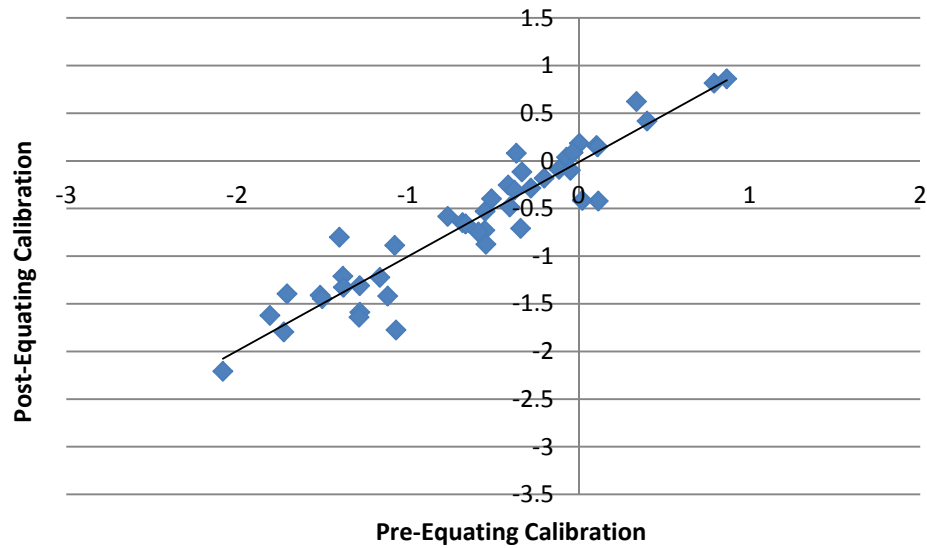
Item	3			4			5			6			7			8			11		
	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z
1	-1.51	-1.41	-0.85	-1.58	-1.27	-2.22	-0.36	0.08	-1.67	-1.97	-2.19	0.88	-0.89	-0.84	-0.41	-0.28	0.23	-2.10	-1.12	-0.99	-0.62
2	-0.41	-0.25	-1.22	-0.86	-0.67	-1.29	0.58	0.23	1.47	-0.69	-0.35	-1.38	0.26	-0.26	2.82	-0.43	-0.27	-0.52	-0.92	-0.95	0.18
3	-0.55	-0.73	1.05	-1.41	-1.43	0.21	-0.30	0.32	-2.41	-0.90	-0.63	-1.10	-0.14	-0.70	3.10	-0.51	-0.16	-1.36	-0.53	-0.46	-0.34
4	0.34	0.62	-2.07	-1.53	-1.59	0.53	-0.68	-0.19	-1.88	-1.75	-1.39	-1.44	-0.99	-0.71	-1.70	-2.10	-2.17	0.51	-2.14	-1.44	-3.41
5	-1.81	-1.62	-1.40	-0.54	-0.22	-2.23	-1.14	-1.50	1.54	-1.52	-0.70	-3.31	-0.84	-0.82	-0.23	-1.11	-0.66	-1.83	-1.05	-1.17	0.62
6	-1.16	-1.22	0.25	-2.81	-3.04	1.80	-0.55	-0.45	-0.31	-0.64	-0.07	-2.28	-0.23	-0.59	1.95	0.16	-0.40	2.74	-2.39	-1.88	-2.45
7	-0.77	-0.58	-1.39	-0.22	0.09	-2.18	-1.11	-1.06	-0.13	-1.57	-1.18	-1.59	0.50	0.65	-0.97	-0.92	-0.80	-0.36	-0.18	-0.01	-0.80
8	-1.71	-1.40	-2.26	-1.45	-1.31	-0.95	0.19	0.35	-0.58	-1.07	-0.82	-1.00	-1.75	-1.75	-0.15	-0.90	-0.79	-0.30	-1.03	-0.95	-0.32
9	-1.40	-0.80	-4.20	-1.42	-1.35	-0.44	-0.75	-0.46	-1.06	-2.09	-2.47	1.52	1.03	1.16	-0.82	-1.53	-1.49	-0.01	-1.18	-1.10	-0.37
10	-0.54	-0.87	2.08	-1.09	-1.07	-0.03	-0.61	-0.48	-0.43	0.47	0.58	-0.42	-1.14	-1.22	0.30	-1.43	-1.59	0.96	-1.66	-1.59	-0.29
11	-0.33	-0.12	-1.62	-1.37	-1.34	-0.14	-1.19	-1.23	0.25	-1.43	-1.65	0.85	-0.31	-0.07	-1.53	-1.55	-2.02	2.34	-0.73	-0.77	0.25
12	-1.28	-1.59	1.92	-1.79	-1.82	0.31	-1.12	-1.02	-0.33	-1.67	-1.61	-0.24	0.02	0.30	-1.71	-0.17	-0.04	-0.39	0.53	0.85	-1.56
13	-0.37	0.08	-3.16	-0.06	-0.04	-0.01	0.25	0.55	-1.12	0.21	-0.04	0.96	-0.79	-1.02	1.21	-2.72	-2.15	-2.40	-1.69	-1.84	0.79
14	-1.73	-1.79	0.30	-0.64	-0.84	1.61	-0.08	0.15	-0.85	-0.70	-0.65	-0.20	-0.16	-0.17	-0.03	-0.28	-0.63	1.81	-1.21	-1.25	0.21
15	-0.51	-0.40	-0.91	-0.61	-0.62	0.11	-1.11	-0.86	-0.91	0.37	0.44	-0.28	0.13	0.02	0.50	0.16	0.33	-0.55	-2.05	-1.30	-3.65
16	-0.68	-0.65	-0.37	-0.29	-0.22	-0.36	-0.52	-0.70	0.81	-1.31	-1.31	-0.01	-0.57	-0.40	-1.10	-0.76	-1.04	1.46	-1.66	-1.58	-0.37
17	0.00	0.18	-1.37	-0.25	-0.12	-0.82	-1.66	-2.12	1.91	0.11	0.30	-0.76	-1.94	-1.80	-0.94	-0.91	-1.03	0.74	-0.53	-0.38	-0.70
18	-0.07	0.04	-0.90	0.09	-0.11	1.62	-1.06	-1.18	0.58	-0.27	-0.25	-0.08	-1.26	-1.22	-0.36	-0.74	-0.79	0.47	-0.09	-0.11	0.13
19	-1.08	-0.89	-1.43	-1.69	-1.41	-1.95	-0.79	-1.52	3.01	-0.16	-0.26	0.38	-1.01	-0.97	-0.32	-0.96	-0.92	0.03	-0.73	-0.82	0.48
20	-2.08	-2.21	0.69	0.03	-0.06	0.74	-0.32	-0.35	0.19	-1.78	-1.57	-0.83	-1.39	-1.15	-1.49	-0.58	-0.37	-0.74	-0.05	0.01	-0.28
21	-0.38	-0.31	-0.61	-1.99	-1.92	-0.44	-0.17	0.28	-1.69	0.04	0.10	-0.26	0.39	0.56	-1.13	0.37	0.28	0.61	-0.17	-0.40	1.19
22	0.10	0.16	-0.54	-1.00	-0.89	-0.72	-1.41	-1.43	0.17	-0.80	-0.84	0.16	-0.78	-1.05	1.47	-0.64	-0.61	0.06	-1.40	-1.85	2.24
23	-0.34	-0.71	2.33	-1.48	-1.52	0.42	-0.48	-0.13	-1.29	0.08	-0.20	1.11	-0.77	-0.55	-1.36	-0.40	-0.13	-1.02	-1.32	-1.22	-0.47

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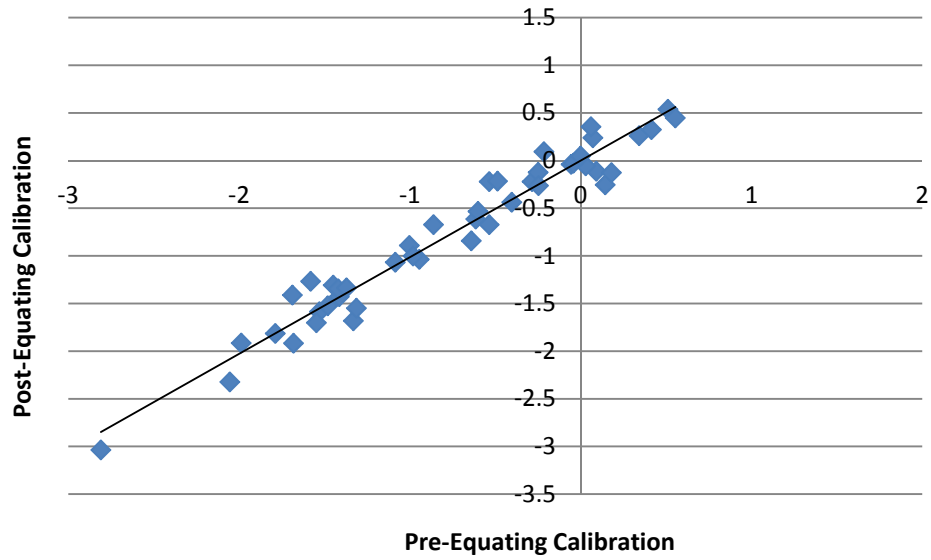
Item	3			4			5			6			7			8			11		
	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z
24	-1.38	-1.21	-1.30	0.14	-0.26	3.07	-1.82	-1.73	-0.30	1.03	1.18	-0.58	-1.24	-1.25	-0.10	-0.67	-0.28	-1.53	-1.27	-0.86	-1.96
25	0.11	-0.42	3.46	0.34	0.26	0.71	-0.73	-0.58	-0.55	-1.21	-1.47	1.03	-0.79	-0.89	0.40	-0.82	-0.61	-0.76	0.16	0.11	0.29
26	-1.50	-1.45	-0.53	0.07	0.24	-1.13	-0.34	-0.51	0.75	-1.54	-1.81	1.09	-0.58	-0.64	0.22	-1.50	-1.74	1.29	-0.85	-1.04	0.98
27	-0.55	-0.53	-0.28	-0.04	-0.03	0.00	-1.08	-1.18	0.49	-1.06	-1.45	1.57	-0.20	-0.41	1.08	-0.16	-0.34	1.03	0.63	0.64	0.01
28	-0.40	-0.48	0.38	0.18	-0.13	2.39	-0.45	-0.30	-0.49	0.55	0.57	-0.11	-0.16	-0.18	0.03	-1.03	-1.03	0.22	-1.24	-1.24	0.03
29	0.02	-0.42	2.79	-1.33	-1.68	2.72	-0.98	-0.78	-0.73	0.74	0.61	0.52	-0.18	0.13	-1.91	-0.66	-0.58	-0.13	-0.93	-1.37	2.20
30	-1.12	-1.42	1.87	0.00	0.05	-0.25	-1.56	-1.66	0.52	0.67	0.49	0.74	0.44	0.59	-0.95	-0.23	-0.42	1.07	-1.47	-1.72	1.27
31	-1.07	-1.78	4.59	-1.55	-1.70	1.27	0.57	0.60	-0.02	-1.43	-1.37	-0.22	-0.77	-0.68	-0.65	-1.24	-1.33	0.63	-1.68	-2.28	2.99
32	0.11	0.15	-0.40	-0.95	-1.04	0.80	-1.36	-1.91	2.30	-1.61	-1.61	-0.02	-1.73	-1.86	0.62	-1.13	-1.04	-0.19	-1.21	-1.42	1.12
33	0.79	0.82	-0.31	-2.05	-2.32	2.11	-0.16	-0.38	0.95	-1.69	-1.87	0.71	-0.07	0.06	-0.83	-0.70	-0.55	-0.48	-0.75	-1.04	1.45
34	-0.12	-0.09	-0.33	-0.60	-0.53	-0.39	-0.20	-0.27	0.36	0.93	0.91	0.08	0.85	0.47	2.08	-1.67	-1.54	-0.41	-0.93	-1.12	0.95
35	-0.03	0.09	-0.97	0.06	0.36	-2.09	-0.43	-0.63	0.87	0.49	0.13	1.41	-1.59	-1.48	-0.74	-2.09	-2.15	0.49	-1.09	-1.07	-0.04
36	-1.38	-1.33	-0.51	-0.49	-0.22	-1.91	-0.67	-0.79	0.59	-0.32	-0.48	0.64	-2.04	-2.60	3.13	-0.34	-0.46	0.75	-1.03	-1.30	1.36
37	-0.28	-0.29	-0.12	-1.68	-1.92	1.86	-0.96	-1.42	1.93	-1.74	-1.95	0.84	-1.18	-1.29	0.53	-0.90	-0.96	0.49	-1.09	-1.34	1.29
38	-0.20	-0.18	-0.29	-1.31	-1.55	1.87	-1.71	-2.30	2.48	-0.63	-0.93	1.19	-0.78	-0.73	-0.39	-0.68	-0.58	-0.25	-0.16	-0.38	1.11
39	-0.66	-0.66	-0.16	-0.25	-0.26	0.23	0.65	0.73	-0.21	0.48	0.64	-0.67	-1.51	-1.55	0.10	-1.66	-1.85	1.10	-1.93	-2.16	1.20
40	0.87	0.86	-0.11	0.51	0.54	-0.09	-0.57	-0.56	0.07	0.09	0.09	-0.02	-0.26	-0.24	-0.19	-0.91	-1.18	1.42	-0.89	-1.06	0.87
41	-0.59	-0.75	0.92	-0.40	-0.44	0.36	-0.76	-0.94	0.85	-1.09	-1.30	0.85	-0.59	-0.29	-1.85	0.97	1.06	-0.21	-1.08	-1.00	-0.32
42	0.40	0.42	-0.27	0.55	0.45	0.92	-0.24	-0.37	0.64	-1.43	-1.45	0.08	-0.80	-0.90	0.42	-1.03	-1.17	0.83	-0.28	0.29	-2.75
43	-1.28	-1.31	0.04	-0.54	-0.67	1.13	-0.78	-0.67	-0.36	-1.64	-1.63	-0.05	-0.89	-0.97	0.32	-0.64	-0.78	0.83	-0.36	-0.36	0.05
44	-1.29	-1.64	2.23	-0.98	-1.00	0.26	-0.22	-0.22	0.07	-2.24	-2.57	1.32	0.03	0.12	-0.65	-0.90	-0.94	0.39	-0.80	-0.75	-0.20
45	-0.05	-0.10	0.18	0.41	0.32	0.78	-0.03	-0.17	0.65	-0.08	0.17	-1.03	-0.01	0.01	-0.25	-0.59	-0.64	0.44	0.75	0.85	-0.48
46							-0.08	-0.16	0.44	-0.11	-0.17	0.23	-1.01	-0.83	-1.10	-0.58	-0.79	1.17	-0.36	-0.22	-0.62
47							0.37	0.17	0.90	-0.73	-1.28	2.22	-0.48	-0.57	0.40	-1.07	-1.16	0.63	-1.34	-1.30	-0.17
48							-0.44	-0.87	1.83	-1.24	-1.18	-0.25	-0.26	-0.19	-0.55	-1.10	-1.02	-0.17	-0.89	-1.09	1.03
49																0.40	0.17	1.28	0.41	0.32	0.49
50																-1.14	-1.35	1.19	-1.30	-1.32	0.17
Mean	-0.62	-0.63		-0.75	-0.76		-0.59	-0.62		-0.71	-0.72		-0.59	-0.60		-0.81	-0.81		-0.89	-0.89	
Shift	0.01			0.01			0.03			0.01			0.01			0.00			0.00		
Corr	0.94			0.98			0.92			0.96			0.96			0.94			0.93		

	3			4			5			6			7			8			11		
Item	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z
SD	0.71	0.74		0.81	0.84		0.60	0.73		0.91	0.95		0.71	0.74		0.67	0.68		0.71	0.74	
Ratio	0.95			0.96			0.83			0.96			0.95			0.97			0.96		

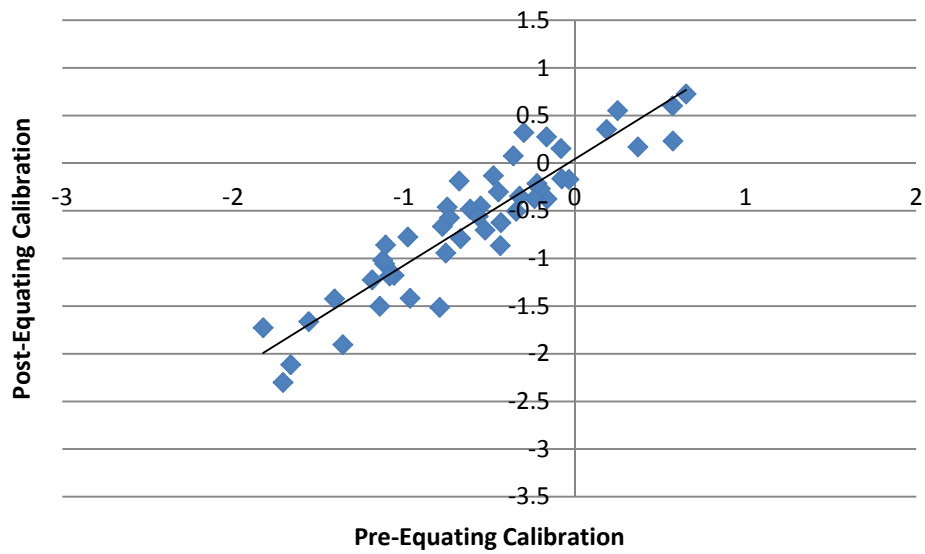
NeSA-R Grade 3 Pre- and Post-Equating Calibrations



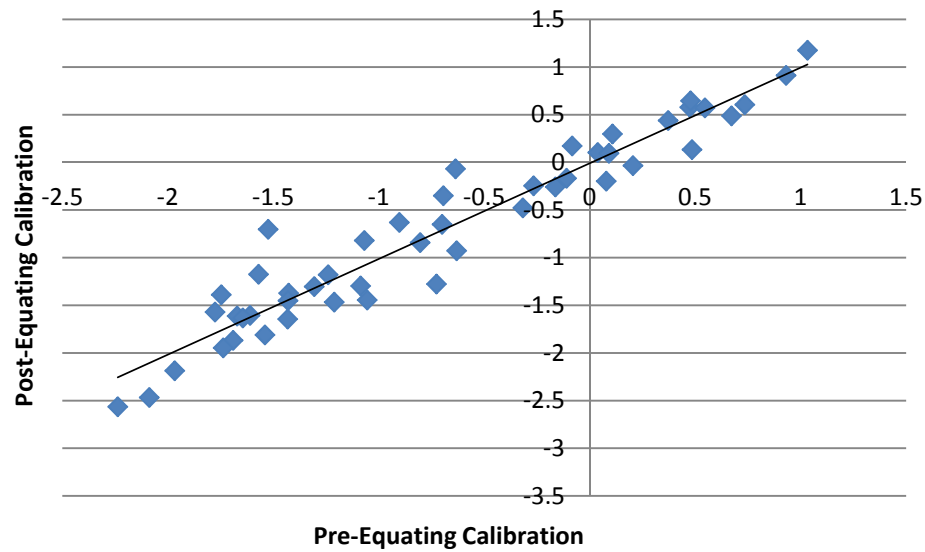
NeSA-R Grade 4 Pre- and Post-Equating Calibrations



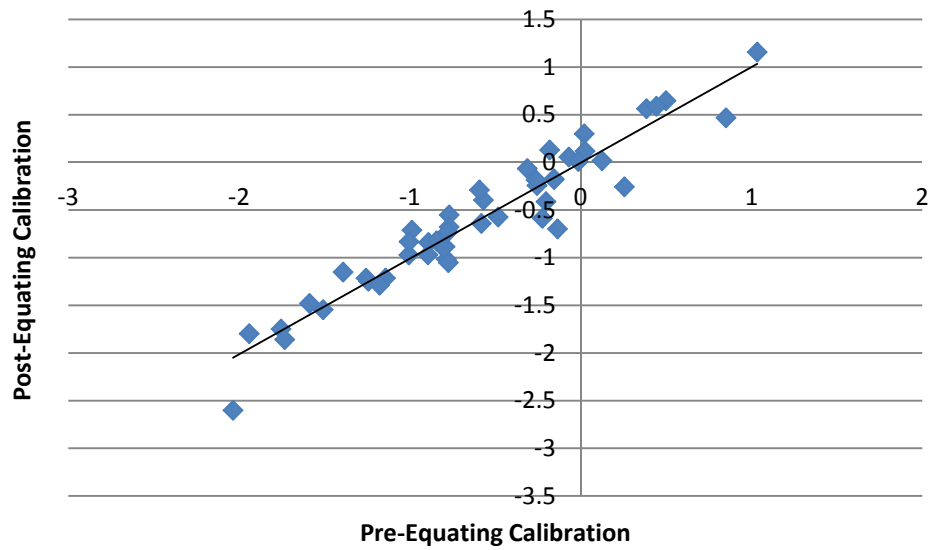
NeSA-R Grade 5 Pre- and Post-Equating Calibrations



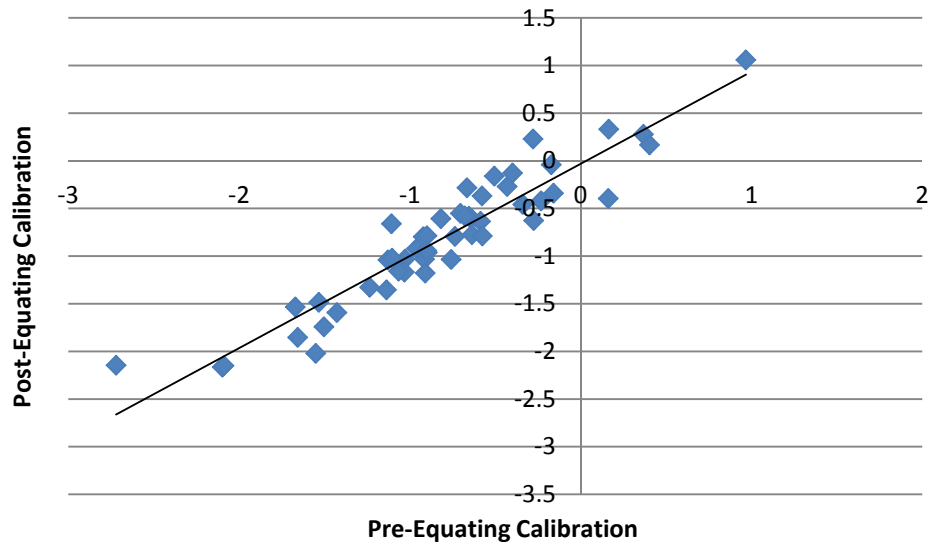
NeSA-R Grade 6 Pre- and Post-Equating Calibrations



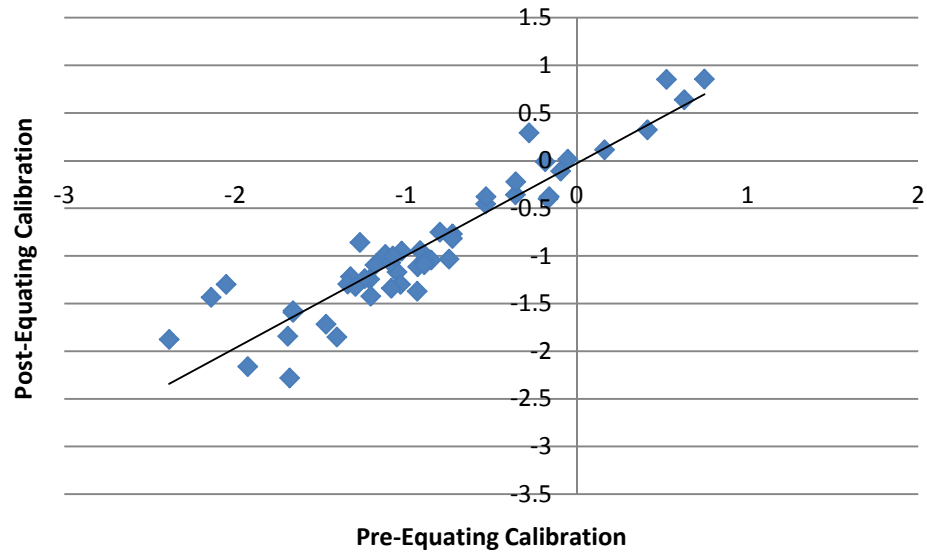
NeSA-R Grade 7 Pre- and Post-Equating Calibrations



NeSA-R Grade 8 Pre- and Post-Equating Calibrations



NeSA-R Grade 11 Pre- and Post-Equating Calibrations



Appendix O: Mathematics Pre- and Post-Equating Summary

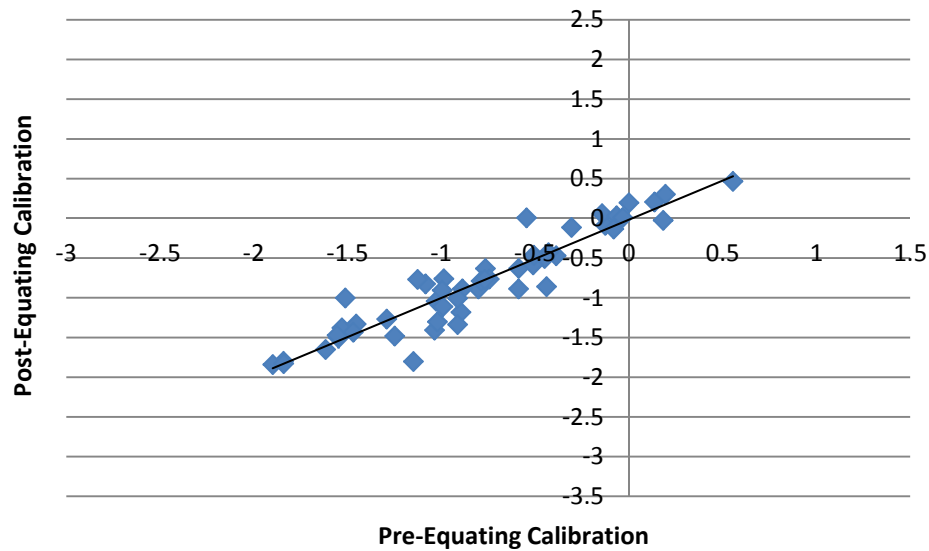
The Pre- values were taken from the calibrated item and used to create the Raw-to-Scale Conversion Tables. The Post- values were taken directly from unanchored calibration runs.

Item	3			4			5			6			7			8			11		
	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z
1	-1.03	-1.04	0.06	-1.64	-1.18	-2.98	1.02	1.96	-4.84	-1.51	-0.98	-2.11	-0.65	-0.48	-1.10	-0.88	-0.87	-0.11	-0.61	-0.72	0.68
2	-0.55	0.01	-4.07	-0.46	-1.02	3.34	-1.95	-2.11	0.76	-0.94	-1.30	1.40	-2.03	-2.03	0.03	-1.59	-1.46	-1.05	-0.91	-1.01	0.59
3	-1.62	-1.65	0.20	-1.55	-1.60	0.19	-0.95	-0.92	-0.20	-0.37	-0.22	-0.61	0.21	0.15	0.45	-1.91	-1.90	-0.11	-0.27	-0.15	-0.85
4	-1.08	-0.83	-1.93	-0.25	0.04	-1.85	-0.77	-0.78	0.00	0.67	-0.91	6.18	-1.15	-1.06	-0.57	-1.06	-0.97	-0.77	-0.86	-0.80	-0.46
5	-0.39	-0.47	0.55	0.07	0.18	-0.82	-0.77	-0.32	-2.34	-0.73	-0.55	-0.75	-0.48	-0.62	0.95	-1.14	-1.06	-0.74	-0.89	-0.78	-0.77
6	-0.89	-1.18	2.05	-0.09	-0.17	0.42	-0.78	-1.23	2.27	-1.52	-1.14	-1.54	-0.88	-1.06	1.19	-2.17	-2.41	1.85	-1.72	-2.14	2.66
7	0.55	0.47	0.59	-1.37	-1.38	-0.06	-0.56	-0.01	-2.88	-0.92	-0.79	-0.53	-0.19	-0.21	0.17	-2.33	-2.66	2.52	-0.80	-0.90	0.57
8	-1.15	-1.80	4.71	0.20	0.35	-1.03	-0.56	-0.38	-1.00	-1.77	-1.36	-1.67	-0.30	-0.18	-0.77	-1.46	-1.68	1.68	-0.90	-0.92	0.07
9	-0.76	-0.63	-1.01	-1.97	-1.78	-1.29	-1.71	-1.73	0.07	-0.42	-0.39	-0.14	-2.05	-1.95	-0.65	-0.46	-0.50	0.28	-0.58	-0.86	1.74
10	-1.13	-0.77	-2.66	-0.65	-0.62	-0.25	-0.45	-0.72	1.34	-2.03	-2.37	1.33	-1.26	-0.74	-3.39	-0.80	-1.16	2.83	-0.44	-0.49	0.25
11	-0.43	-0.43	-0.03	-0.23	-0.14	-0.70	0.02	-0.90	4.65	-1.45	-1.50	0.17	-2.17	-2.33	1.05	-0.94	-0.69	-2.06	-0.72	-0.75	0.13
12	-0.13	-0.09	-0.33	-1.19	-1.39	1.12	-2.40	-2.27	-0.72	0.24	-0.13	1.42	-1.32	-1.49	1.14	-0.08	0.26	-2.69	-0.72	-0.87	0.93
13	-0.99	-0.76	-1.70	-0.05	0.12	-1.18	-0.36	-0.30	-0.38	-0.32	-0.12	-0.82	-0.46	-0.24	-1.43	-0.70	-0.80	0.76	-1.00	-0.98	-0.19
14	-1.53	-1.38	-1.15	-1.54	-1.60	0.27	-0.44	-0.76	1.56	-1.67	-1.74	0.23	-0.83	-0.47	-2.39	-1.37	-1.42	0.33	-1.86	-2.28	2.64
15	-0.91	-1.34	3.03	-0.32	-0.12	-1.35	-0.24	-0.14	-0.54	-1.21	-0.70	-2.04	-0.76	-0.34	-2.74	-0.78	-1.02	1.83	-0.60	-0.59	-0.17
16	-0.44	-0.86	3.01	-0.20	-0.27	0.37	-0.08	-0.02	-0.34	-0.21	0.00	-0.88	-2.22	-2.20	-0.16	-1.07	-1.15	0.64	-0.69	-0.75	0.33
17	-0.99	-0.91	-0.69	-2.03	-1.89	-1.01	-2.51	-2.90	1.93	-1.20	-0.77	-1.72	-1.49	-1.45	-0.27	-1.12	-0.98	-1.22	-0.80	-0.81	-0.05
18	-1.55	-1.51	-0.36	-0.41	-0.26	-1.01	-1.28	-1.68	2.03	-1.05	-1.02	-0.14	-2.23	-2.42	1.23	-0.72	-0.50	-1.80	-1.40	-1.36	-0.32
19	-0.80	-0.89	0.58	-0.89	-1.20	1.83	-0.49	-0.62	0.64	-1.15	-0.78	-1.51	-0.72	-0.88	1.04	-0.24	-0.24	-0.09	-0.51	-0.49	-0.16
20	-1.84	-1.80	-0.35	0.05	0.08	-0.30	-0.73	-0.80	0.37	-1.32	-0.98	-1.36	-0.74	-0.66	-0.49	0.31	0.43	-1.02	-0.35	-0.56	1.29
21	-1.90	-1.84	-0.48	0.06	-0.15	1.18	-1.29	-1.35	0.30	-0.92	-0.67	-1.03	-0.66	-0.56	-0.64	-2.13	-2.05	-0.65	-1.25	-1.54	1.80
22	-0.31	-0.11	-1.46	-0.96	-0.97	-0.10	-0.25	-0.27	0.09	-0.51	-0.99	1.85	-1.52	-1.57	0.40	-1.19	-1.32	0.94	-0.54	-0.65	0.63
23	-1.04	-1.41	2.66	-0.91	-0.76	-1.00	-1.45	-1.51	0.27	-0.37	-0.16	-0.90	-0.82	-0.95	0.84	-0.43	-0.76	2.54	1.07	0.89	1.15
24	-0.79	-0.79	-0.04	-0.35	-0.30	-0.42	-1.50	-1.04	-2.36	0.31	0.35	-0.19	-1.53	-1.59	0.40	-1.56	-1.33	-1.87	-0.53	-0.55	0.03
25	-0.99	-1.11	0.82	0.54	0.27	1.59	-0.67	-0.84	0.85	-0.46	-0.02	-1.75	0.14	0.30	-1.04	-0.56	-0.55	-0.14	-0.43	-0.69	1.62
26	-0.89	-0.89	-0.06	-0.05	-0.19	0.74	-1.82	-1.68	-0.71	-0.23	-0.28	0.17	-1.22	-1.29	0.50	-1.70	-1.31	-3.15	-0.50	-0.43	-0.48

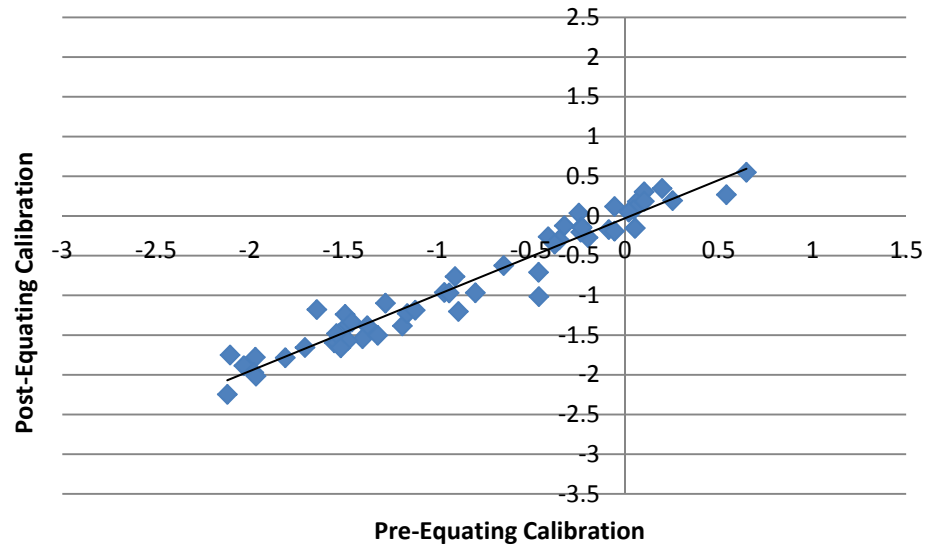
Item	3			4			5			6			7			8			11		
	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z
27	-0.59	-0.89	2.14	-1.40	-1.55	0.80	-1.13	-0.88	-1.35	-2.24	-1.99	-1.02	-0.79	-0.73	-0.32	-0.93	-0.99	0.40	-0.27	-0.34	0.35
28	-1.84	-1.83	-0.14	-1.81	-1.79	-0.27	-0.85	-0.57	-1.51	-0.82	-0.80	-0.10	-0.10	-0.08	-0.11	0.04	-0.56	4.74	-1.24	-0.98	-1.73
29	0.14	0.21	-0.56	0.10	0.30	-1.36	0.24	0.13	0.55	-0.17	-0.10	-0.31	-0.65	-0.61	-0.25	-0.76	-1.15	2.97	-0.92	-0.81	-0.79
30	-0.14	0.06	-1.52	-1.48	-1.37	-0.79	-0.72	-0.80	0.36	-0.68	-0.74	0.18	0.10	0.10	0.00	-1.88	-1.98	0.75	-2.09	-2.06	-0.19
31	-1.51	-1.00	-3.77	-1.16	-1.23	0.31	-0.49	-0.40	-0.50	-0.44	-0.45	0.01	-2.36	-2.48	0.81	0.34	0.15	1.51	-0.65	-0.39	-1.71
32	-0.45	-0.50	0.36	-1.98	-1.97	-0.16	0.47	0.31	0.74	-0.43	-0.62	0.72	-1.10	-1.38	1.82	-0.06	-0.11	0.36	-1.80	-1.91	0.63
33	0.00	0.20	-1.48	-2.12	-2.25	0.68	-0.71	-0.69	-0.12	0.16	-0.02	0.65	0.76	0.67	0.59	-0.40	-0.43	0.20	-1.32	-1.02	-1.94
34	-1.02	-1.30	2.01	-1.48	-1.57	0.46	-0.88	-0.83	-0.31	-1.50	-1.77	1.03	-0.07	-0.49	2.78	-1.15	-1.15	-0.06	-0.52	-0.40	-0.81
35	-0.59	-0.63	0.26	0.65	0.55	0.50	-0.53	-0.49	-0.20	-0.95	-1.15	0.75	-0.72	-0.76	0.29	-0.70	-0.75	0.34	0.31	0.35	-0.29
36	0.20	0.30	-0.84	-1.54	-1.48	-0.47	-0.73	-0.56	-0.90	-0.55	-0.61	0.20	-1.17	-1.27	0.71	-0.59	-0.51	-0.65	-0.71	-0.66	-0.37
37	-0.51	-0.59	0.49	-1.97	-2.02	0.20	-0.79	-0.79	-0.07	-0.86	-0.66	-0.81	-0.67	-0.68	0.05	-0.10	-0.11	-0.01	-1.19	-1.24	0.29
38	-0.91	-1.01	0.62	-1.12	-1.19	0.32	-0.87	-0.72	-0.78	-1.48	-1.43	-0.20	-0.07	-0.05	-0.10	-1.26	-1.17	-0.72	0.60	0.71	-0.75
39	-0.74	-0.76	0.10	0.02	0.05	-0.28	-0.61	-0.58	-0.14	-1.49	-1.68	0.73	0.00	-0.15	1.01	0.00	0.02	-0.26	-0.42	-0.59	1.07
40	-1.45	-1.33	-0.95	0.05	-0.16	1.19	-0.52	-0.38	-0.73	0.59	0.59	-0.04	0.10	0.10	0.02	-1.60	-1.52	-0.69	-0.11	-0.25	0.89
41	-0.07	0.03	-0.77	-1.71	-1.66	-0.41	0.46	0.64	-0.94	-0.15	-0.08	-0.28	-1.24	-1.45	1.38	-2.17	-2.08	-0.72	-0.25	-0.17	-0.56
42	-1.56	-1.47	-0.66	-0.80	-0.97	0.94	0.58	0.33	1.28	-2.12	-2.29	0.66	-2.32	-2.10	-1.41	-0.39	-0.46	0.56	-0.79	-1.19	2.56
43	-0.08	-0.13	0.34	-1.28	-1.10	-1.21	-0.67	-0.70	0.16	-1.75	-1.80	0.16	-0.74	-0.65	-0.56	-0.73	-0.57	-1.32	-1.71	-1.66	-0.36
44	0.18	-0.03	1.47	-0.37	-0.36	-0.23	0.04	0.14	-0.50	-0.82	-0.61	-0.85	-1.78	-1.75	-0.16	-1.28	-1.19	-0.73	0.11	0.31	-1.39
45	-1.47	-1.43	-0.31	-1.49	-1.24	-1.68	-1.30	-1.49	0.91	-0.56	-0.49	-0.31	0.02	-0.01	0.20	0.22	0.22	-0.04	-0.23	0.08	-2.06
46	-0.51	-0.47	-0.35	-1.32	-1.50	1.04	-0.95	-1.04	0.42	-0.74	-0.89	0.55	0.69	0.79	-0.62	-0.82	-0.77	-0.41	0.42	0.40	0.05
47	-0.77	-0.77	-0.06	0.26	0.19	0.28	-1.15	-1.45	1.52	0.40	0.26	0.51	0.21	0.00	1.43	-1.68	-1.57	-0.92	-0.58	-0.42	-1.09
48	-1.29	-1.27	-0.22	0.10	0.18	-0.61	-1.85	-1.84	-0.08	-1.45	-1.26	-0.77	0.37	0.43	-0.39	-1.21	-1.11	-0.82	0.29	0.62	-2.12
49	-1.25	-1.48	1.65	-0.46	-0.71	1.44	0.54	0.44	0.50	-2.34	-2.44	0.36	-0.30	-0.22	-0.54	-0.21	-0.28	0.49	-0.93	-1.00	0.38
50	-0.03	0.01	-0.37	-0.24	-0.21	-0.30	-1.08	-0.94	-0.75	-0.67	-0.80	0.47	-0.27	-0.21	-0.38	-1.67	-1.71	0.33	-0.18	-0.02	-1.10
51				-0.94	-0.97	0.09	-1.74	-1.67	-0.37	-0.17	-0.33	0.58	-1.88	-1.95	0.53	-0.55	-0.58	0.22	-0.31	-0.22	-0.63
52				-1.46	-1.34	-0.85	0.54	0.43	0.57	-0.31	-0.47	0.61	-1.40	-1.60	1.38	-0.17	-0.30	0.93	-0.67	-0.46	-1.36
53				-0.23	-0.15	-0.61	-0.39	-0.27	-0.64	-0.52	-0.86	1.27	-0.67	-0.70	0.20	0.19	-0.05	1.79	-0.39	-0.16	-1.48
54				-2.11	-1.75	-2.30	-0.09	-0.28	0.90	-1.41	-1.55	0.50	0.60	0.65	-0.29	0.44	0.41	0.17	-1.28	-1.32	0.23
55				-1.52	-1.66	0.79	0.32	0.19	0.61	-1.08	-0.94	-0.59	-0.56	-0.60	0.23	-0.85	-0.83	-0.17	0.52	0.33	1.20
56										-0.79	-0.91	0.44	0.16	-0.04	1.29	0.41	0.48	-0.57	0.41	0.40	0.06

	3			4			5			6			7			8			11		
Item	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z
57										-1.44	-1.55	0.38	-0.35	-0.43	0.57	-0.80	-0.36	-3.47	0.13	0.24	-0.73
58										-0.84	-0.70	-0.57	0.16	0.26	-0.62	0.14	0.42	-2.26	-1.25	-1.35	0.54
59																-0.48	-0.46	-0.24	-0.52	-0.45	-0.45
60																0.35	0.58	-1.90	-1.29	-1.26	-0.22
Mean	-0.80	-0.80		-0.82	-0.82		-0.69	-0.69		-0.84	-0.84		-0.75	-0.75		-0.81	-0.81		-0.63	-0.63	
Shift	0.01			0.00			0.00			0.00			0.01			0.00			0.01		
Corr	0.94			0.97			0.94			0.89			0.98			0.97			0.97		
SD	0.59	0.62		0.78	0.77		0.75	0.81		0.69	0.67		0.81	0.83		0.73	0.74		0.63	0.69	
Ratio	0.95			1.01			0.92			1.04			0.98			0.98			0.92		

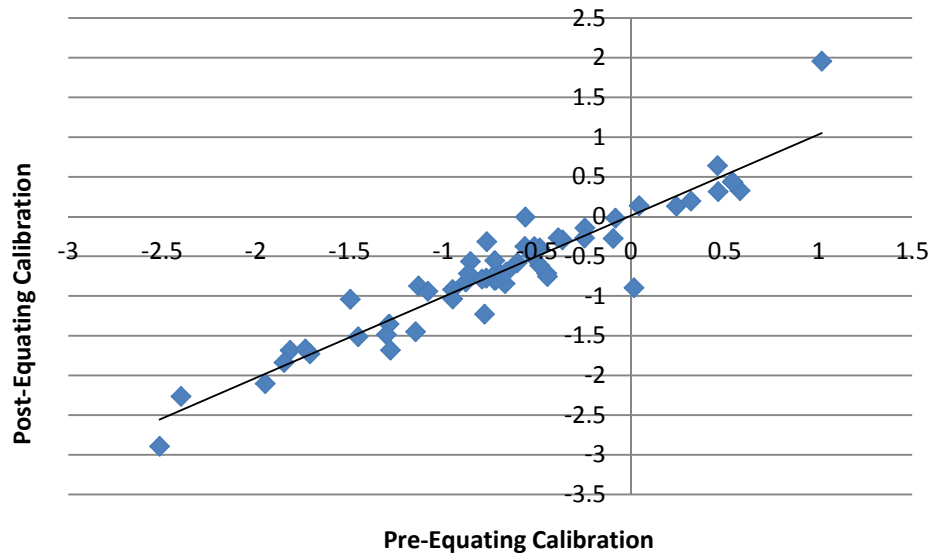
NeSA-M Grade 3 Pre- and Post-Equating Calibrations



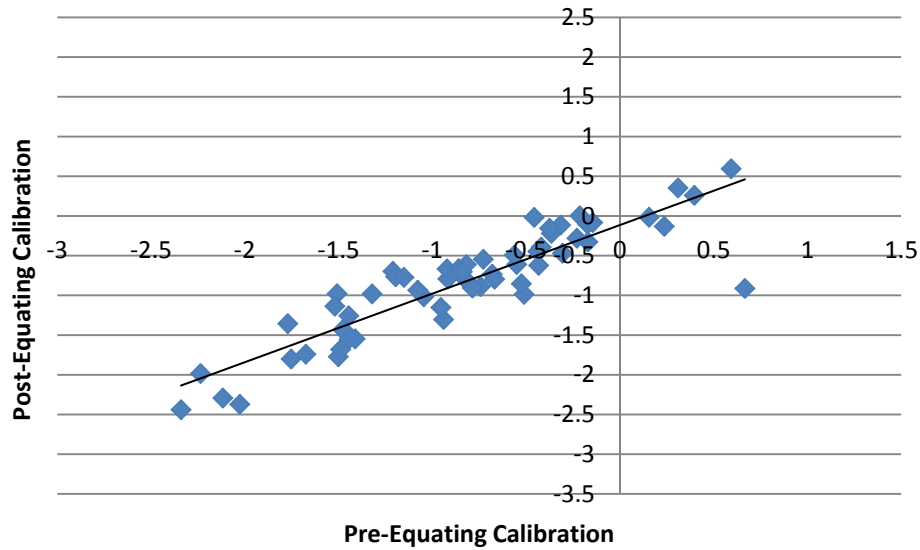
NeSA-M Grade 4 Pre- and Post-Equating Calibrations



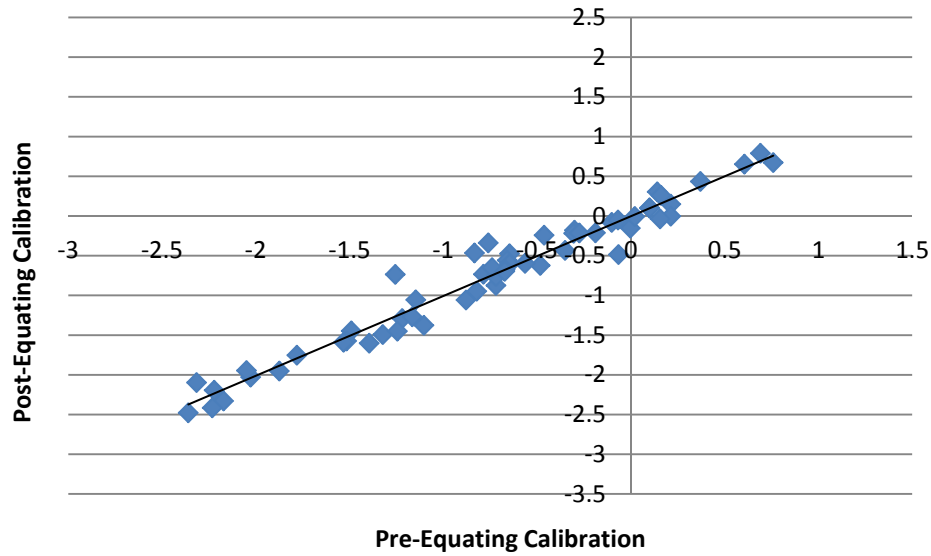
NeSA-M Grade 5 Pre- and Post-Equating Calibrations



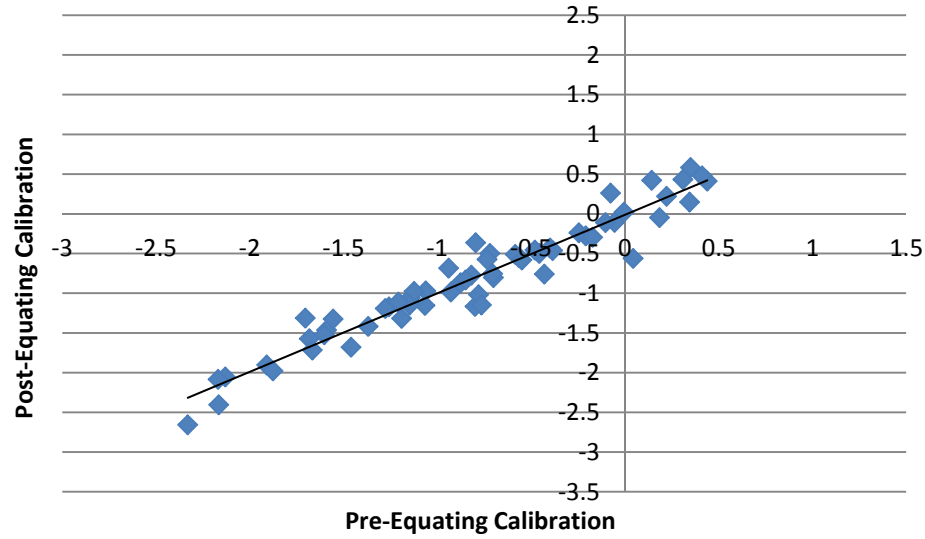
NeSA-M Grade 6 Pre- and Post-Equating Calibrations



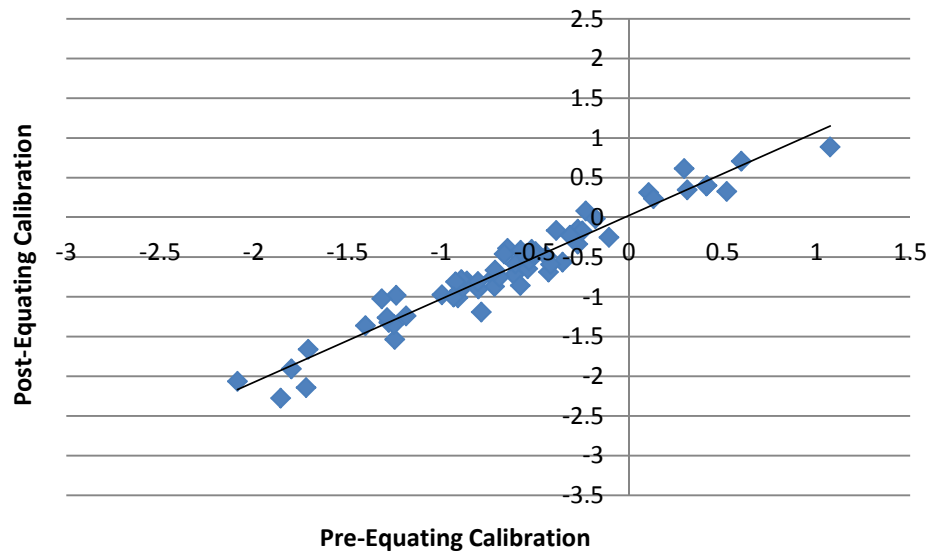
NeSA-M Grade 7 Pre- and Post-Equating Calibrations



NeSA-M Grade 8 Pre- and Post-Equating Calibrations



NeSA-M Grade 11 Pre- and Post-Equating Calibrations



Appendix P: Science Pre- and Post-Equating Summary

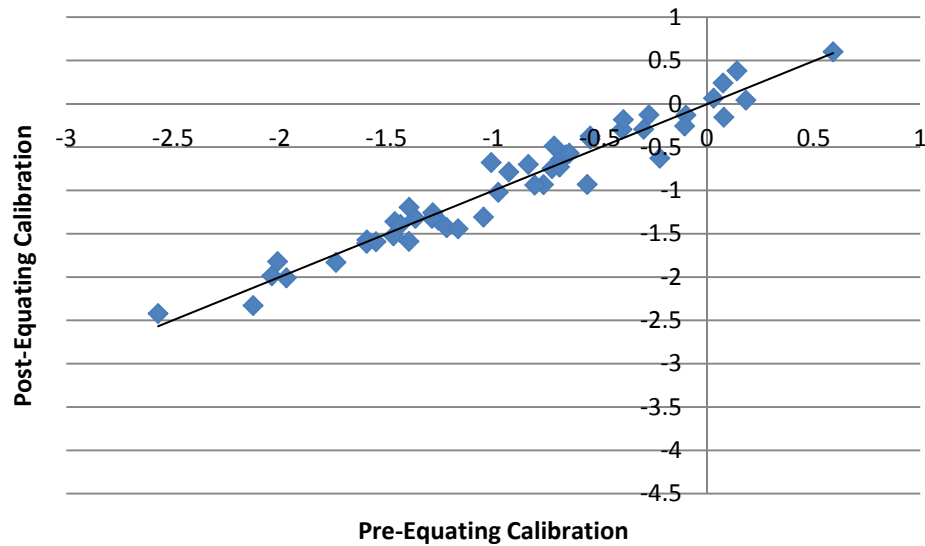
The Pre- values were taken from the calibrated item and used to create the Raw-to-Scale Conversion Tables. The Post- values were taken directly from unanchored calibration runs.

Item	5			8			11		
	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z
1	-1.59	-1.57	-0.22	-1.23	-1.28	0.20	-0.46	-0.77	2.09
2	-0.67	-0.63	-0.35	0.26	0.10	0.97	-0.39	-0.52	0.99
3	-1.97	-2.01	0.14	-0.40	-0.25	-1.20	-0.35	-0.29	-0.27
4	-0.72	-0.75	0.04	-0.62	-0.59	-0.37	-0.95	-0.75	-1.18
5	-0.27	-0.13	-0.94	-0.32	-0.26	-0.53	-0.38	-0.20	-1.02
6	-2.04	-1.98	-0.40	0.08	0.14	-0.57	-0.90	-0.97	0.54
7	-0.66	-0.59	-0.51	-0.17	-0.12	-0.44	-0.43	-0.46	0.27
8	-1.39	-1.19	-1.27	-0.64	-0.67	0.05	-0.83	-0.93	0.75
9	-0.69	-0.65	-0.33	-0.63	-0.65	-0.02	-0.05	-0.05	0.10
10	-1.47	-1.52	0.24	-1.01	-1.03	-0.02	-1.09	-1.31	1.53
11	-2.57	-2.42	-0.97	-0.71	-0.61	-0.85	-0.30	-0.47	1.24
12	-1.01	-0.68	-2.05	-0.79	-0.58	-1.63	-0.49	-0.57	0.59
13	-1.26	-1.34	0.40	-1.35	-1.41	0.28	-0.38	0.01	-2.39
14	-1.46	-1.36	-0.69	-0.48	-0.68	1.24	-0.94	-0.84	-0.55
15	-2.01	-1.82	-1.21	-0.94	-1.33	2.60	-1.07	-1.18	0.84
16	-1.40	-1.59	1.05	-0.88	-0.58	-2.24	-0.72	-0.78	0.53
17	-1.22	-1.43	1.15	-0.83	-1.14	1.98	-1.61	-1.44	-1.03
18	-0.72	-0.49	-1.43	-0.41	-0.18	-1.77	-1.91	-2.29	2.55
19	-0.69	-0.73	0.14	-1.54	-1.89	2.26	-1.40	-1.55	1.07
20	-1.05	-1.31	1.44	-0.83	-1.11	1.83	-1.01	-1.16	1.06
21	-0.40	-0.29	-0.70	-0.67	-0.87	1.21	0.28	0.27	0.12
22	-0.77	-0.93	0.89	-1.61	-1.48	-1.03	-0.60	-0.70	0.72
23	-1.74	-1.83	0.46	-1.19	-1.31	0.70	-0.16	-0.09	-0.36
24	-0.30	-0.29	-0.11	-0.59	-0.42	-1.26	-0.68	-0.42	-1.62
25	-0.81	-0.94	0.69	-2.03	-1.96	-0.57	-1.34	-1.30	-0.21
26	-0.10	-0.13	0.10	-1.25	-1.17	-0.69	-0.92	-1.10	1.28

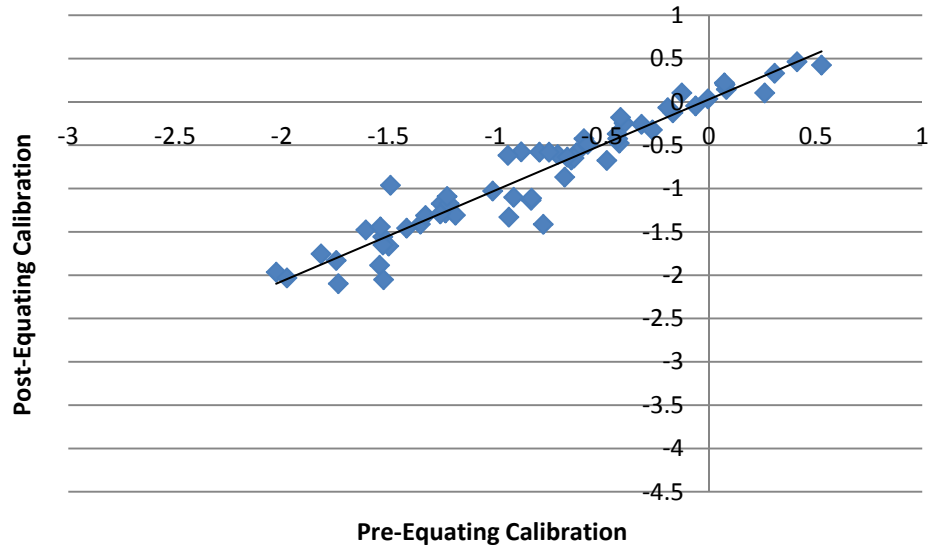
Item	5			8			11		
	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z
27	-0.55	-0.41	-0.91	-1.53	-1.56	0.07	-0.56	-0.61	0.44
28	-1.59	-1.61	0.01	-0.94	-0.62	-2.40	0.68	0.77	-0.51
29	-0.56	-0.93	2.09	-0.75	-0.58	-1.32	-0.36	-0.29	-0.40
30	-1.55	-1.59	0.16	-0.19	-0.07	-1.02	0.13	0.19	-0.28
31	0.18	0.04	0.73	-1.74	-2.10	2.39	-1.77	-1.85	0.59
32	-0.84	-0.70	-0.90	0.08	0.20	-1.01	-2.35	-4.24	12.33
33	-0.64	-0.57	-0.52	0.00	0.04	-0.41	-1.32	-1.32	0.11
34	-0.22	-0.63	2.30	-0.57	-0.49	-0.68	-2.16	-2.41	1.68
35	-1.43	-1.39	-0.34	-0.78	-1.41	4.31	-0.49	-0.47	-0.05
36	-1.28	-1.26	-0.25	-0.06	-0.05	-0.24	-0.54	-0.57	0.25
37	0.08	-0.16	1.29	0.41	0.46	-0.49	-0.53	-0.45	-0.39
38	-1.36	-1.32	-0.34	-0.42	-0.48	0.27	-0.98	-1.07	0.67
39	0.08	0.24	-1.06	-1.54	-1.44	-0.81	-0.28	-0.38	0.70
40	-1.16	-1.44	1.54	-1.33	-1.31	-0.25	-2.00	-2.23	1.64
41	0.14	0.38	-1.50	0.53	0.42	0.59	0.21	0.36	-0.86
42	-0.39	-0.18	-1.32	-0.13	0.10	-1.75	-1.27	-1.36	0.67
43	-1.29	-1.32	0.12	0.31	0.33	-0.30	-1.82	-1.76	-0.30
44	-0.98	-1.02	0.17	-0.43	-0.37	-0.54	-0.43	-0.72	2.02
45	-0.10	-0.26	0.80	-0.43	-0.43	-0.15	0.11	0.15	-0.15
46	0.59	0.60	-0.15	-1.49	-0.96	-3.82	-1.53	-1.71	1.26
47	0.03	0.07	-0.29	-1.52	-2.05	3.55	-0.66	-0.63	-0.10
48	-0.93	-0.79	-0.92	-1.26	-1.29	0.10	0.37	0.30	0.60
49	-2.12	-2.33	1.11	-1.22	-1.17	-0.43	-0.43	-0.33	-0.52
50	-0.55	-0.37	-1.11	-1.23	-1.09	-1.07	0.40	0.12	1.91
51				-1.42	-1.46	0.15	0.21	0.35	-0.84
52				-1.50	-1.66	1.01	-0.16	0.07	-1.39
53				-1.82	-1.76	-0.56	-1.26	-1.26	0.08
54				0.07	0.22	-1.16	0.38	0.47	-0.53
55				-1.98	-2.03	0.25	-2.40	-2.41	0.14
56				-0.91	-1.10	1.16	-1.42	-1.37	-0.25

	5			8			11		
Item	Pre	Post	Z	Pre	Post	Z	Pre	Post	Z
57				-0.66	-0.64	-0.32	-1.89	-1.76	-0.72
58				-0.26	-0.32	0.27	-0.18	-0.30	0.92
59				-1.53	-1.65	0.74	-0.63	0.58	-7.75
60				-1.75	-1.83	0.45	-1.78	-2.02	1.63
Mean	-0.91	-0.91		-0.81	-0.82		-0.76	-0.80	
Shift	0.00			0.01			0.04		
Corr	0.97			0.96			0.94		
SD	0.69	0.71		0.64	0.70		0.74	0.90	
Ratio	0.98			0.91			0.82		

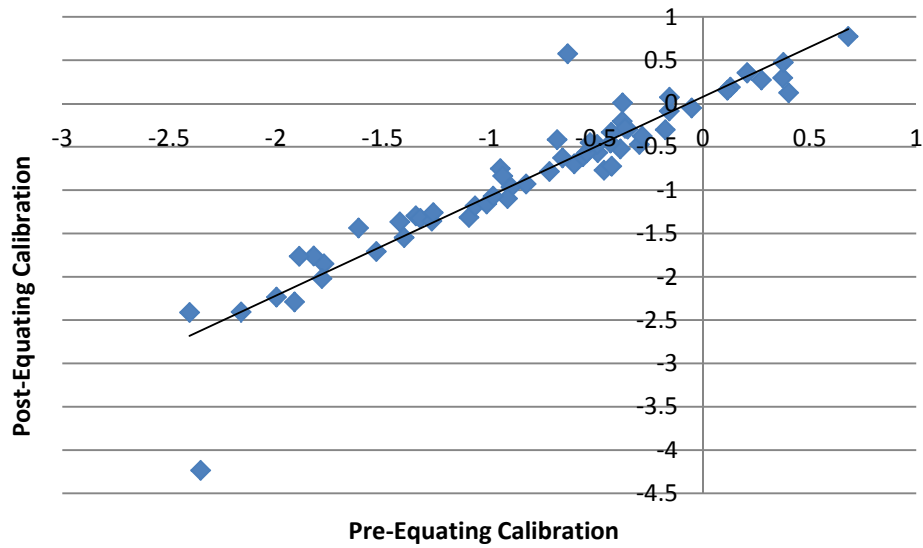
NeSA-S Grade 5 Pre- and Post-Equating Calibrations



NeSA-S Grade 8 Pre- and Post-Equating Calibrations



NeSA-S Grade 11 Pre- and Post-Equating Calibrations



Appendix Q: Reading Raw-to-Scale Conversion Tables and Distributions of Ability

The charts are simple displays of Scale Score, Raw Score, and percentile rank. The raw score and percentile rank for any Scale Score can be read directly from chart.

The performance levels *Meets Standards* begins at a Scale Score of 85 and *Exceeds Standards* begins at 135. *Below Standards* is a Scale Score of 84 and below.

The table is a traditional table that was used to create the chart. This table would be used to retrieve the Scale Score or percentile rank for a given raw score. It also includes counts and percentages at each score.

Grade 3

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	3	Read	0	1	0.0	1	0.0	1	1	52
Spr 2013	3	Read	1	0	0.0	1	0.0	1	1	29
Spr 2013	3	Read	2	3	0.0	4	0.0	1	1	21
Spr 2013	3	Read	3	4	0.0	8	0.0	1	1	17
Spr 2013	3	Read	4	1	0.0	9	0.0	1	10	15
Spr 2013	3	Read	5	7	0.0	16	0.1	1	17	14
Spr 2013	3	Read	6	19	0.1	35	0.2	1	23	13
Spr 2013	3	Read	7	21	0.1	56	0.2	1	29	12
Spr 2013	3	Read	8	40	0.2	96	0.4	1	34	12
Spr 2013	3	Read	9	79	0.3	175	0.8	1	38	11
Spr 2013	3	Read	10	81	0.4	256	1.1	1	42	11
Spr 2013	3	Read	11	146	0.6	402	1.8	1	46	10
Spr 2013	3	Read	12	207	0.9	609	2.7	2	50	10
Spr 2013	3	Read	13	264	1.2	873	3.8	3	53	10
Spr 2013	3	Read	14	265	1.2	1138	5.0	4	56	10
Spr 2013	3	Read	15	291	1.3	1429	6.3	6	60	9
Spr 2013	3	Read	16	334	1.5	1763	7.8	7	63	9
Spr 2013	3	Read	17	403	1.8	2166	9.5	9	66	9
Spr 2013	3	Read	18	436	1.9	2602	11.5	10	69	9
Spr 2013	3	Read	19	411	1.8	3013	13.3	12	72	9
Spr 2013	3	Read	20	488	2.1	3501	15.4	14	75	9
Spr 2013	3	Read	21	486	2.1	3987	17.6	16	77	9
Spr 2013	3	Read	22	549	2.4	4536	20.0	19	80	9
Spr 2013	3	Read	23	556	2.4	5092	22.4	21	83	9
Spr 2013	3	Read	24	596	2.6	5688	25.0	24	86	9
Spr 2013	3	Read	25	669	2.9	6357	28.0	27	89	9
Spr 2013	3	Read	26	678	3.0	7035	31.0	29	92	9

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	3	Read	27	690	3.0	7725	34.0	32	95	9
Spr 2013	3	Read	28	741	3.3	8466	37.3	36	98	9
Spr 2013	3	Read	29	831	3.7	9297	40.9	39	101	9
Spr 2013	3	Read	30	842	3.7	10139	44.6	43	104	9
Spr 2013	3	Read	31	876	3.9	11015	48.5	47	107	10
Spr 2013	3	Read	32	899	4.0	11914	52.4	50	110	10
Spr 2013	3	Read	33	971	4.3	12885	56.7	55	114	10
Spr 2013	3	Read	34	997	4.4	13882	61.1	59	117	10
Spr 2013	3	Read	35	998	4.4	14880	65.5	63	121	11
Spr 2013	3	Read	36	1007	4.4	15887	69.9	68	125	11
Spr 2013	3	Read	37	1058	4.7	16945	74.6	72	130	12
Spr 2013	3	Read	38	998	4.4	17943	79.0	77	134	12
Spr 2013	3	Read	39	939	4.1	18882	83.1	81	140	13
Spr 2013	3	Read	40	957	4.2	19839	87.3	85	146	14
Spr 2013	3	Read	41	905	4.0	20744	91.3	89	154	15
Spr 2013	3	Read	42	762	3.4	21506	94.7	93	163	17
Spr 2013	3	Read	43	596	2.6	22102	97.3	96	175	21
Spr 2013	3	Read	44	408	1.8	22510	99.1	98	196	29
Spr 2013	3	Read	45	207	0.9	22717	100.0	99	200	52

Grade 4

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	4	Read	0	0	0.0	0	0.0	0	1	67
Spr 2013	4	Read	1	1	0.0	1	0.0	1	1	37
Spr 2013	4	Read	2	0	0.0	1	0.0	1	1	27
Spr 2013	4	Read	3	1	0.0	2	0.0	1	1	22
Spr 2013	4	Read	4	3	0.0	5	0.0	1	1	20
Spr 2013	4	Read	5	3	0.0	8	0.0	1	1	18
Spr 2013	4	Read	6	3	0.0	11	0.0	1	1	17
Spr 2013	4	Read	7	7	0.0	18	0.1	1	6	16
Spr 2013	4	Read	8	30	0.1	48	0.2	1	13	15
Spr 2013	4	Read	9	37	0.2	85	0.4	1	19	14
Spr 2013	4	Read	10	72	0.3	157	0.7	1	24	14
Spr 2013	4	Read	11	88	0.4	245	1.1	1	29	13
Spr 2013	4	Read	12	123	0.6	368	1.7	1	34	13
Spr 2013	4	Read	13	147	0.7	515	2.3	2	38	13
Spr 2013	4	Read	14	226	1.0	741	3.3	3	43	13
Spr 2013	4	Read	15	218	1.0	959	4.3	4	47	12
Spr 2013	4	Read	16	261	1.2	1220	5.5	5	51	12

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	4	Read	17	288	1.3	1508	6.8	6	55	12
Spr 2013	4	Read	18	307	1.4	1815	8.2	7	59	12
Spr 2013	4	Read	19	359	1.6	2174	9.8	9	63	12
Spr 2013	4	Read	20	414	1.9	2588	11.7	11	67	12
Spr 2013	4	Read	21	465	2.1	3053	13.7	13	70	12
Spr 2013	4	Read	22	503	2.3	3556	16.0	15	74	12
Spr 2013	4	Read	23	541	2.4	4097	18.4	17	78	12
Spr 2013	4	Read	24	567	2.6	4664	21.0	20	82	12
Spr 2013	4	Read	25	708	3.2	5372	24.2	23	85	12
Spr 2013	4	Read	26	708	3.2	6080	27.4	26	89	12
Spr 2013	4	Read	27	802	3.6	6882	31.0	29	93	12
Spr 2013	4	Read	28	834	3.8	7716	34.7	33	97	12
Spr 2013	4	Read	29	908	4.1	8624	38.8	37	101	12
Spr 2013	4	Read	30	937	4.2	9561	43.0	41	105	12
Spr 2013	4	Read	31	922	4.2	10483	47.2	45	109	12
Spr 2013	4	Read	32	1023	4.6	11506	51.8	50	113	13
Spr 2013	4	Read	33	1031	4.6	12537	56.4	54	118	13
Spr 2013	4	Read	34	1023	4.6	13560	61.1	59	123	13
Spr 2013	4	Read	35	1070	4.8	14630	65.9	63	128	14
Spr 2013	4	Read	36	1093	4.9	15723	70.8	68	133	14
Spr 2013	4	Read	37	1117	5.0	16840	75.8	73	139	15
Spr 2013	4	Read	38	1084	4.9	17924	80.7	78	145	16
Spr 2013	4	Read	39	1044	4.7	18968	85.4	83	152	16
Spr 2013	4	Read	40	887	4.0	19855	89.4	87	160	18
Spr 2013	4	Read	41	856	3.9	20711	93.3	91	169	20
Spr 2013	4	Read	42	663	3.0	21374	96.2	95	181	22
Spr 2013	4	Read	43	470	2.1	21844	98.4	97	197	27
Spr 2013	4	Read	44	276	1.2	22120	99.6	99	200	37
Spr 2013	4	Read	45	90	0.4	22210	100.0	99	200	67

Grade 5

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	5	Read	0	0	0.0	0	0.0	0	1	72
Spr 2013	5	Read	1	1	0.0	1	0.0	1	1	40
Spr 2013	5	Read	2	0	0.0	1	0.0	1	1	29
Spr 2013	5	Read	3	0	0.0	1	0.0	1	1	24
Spr 2013	5	Read	4	3	0.0	4	0.0	1	1	21
Spr 2013	5	Read	5	2	0.0	6	0.0	1	1	19
Spr 2013	5	Read	6	3	0.0	9	0.0	1	1	18
Spr 2013	5	Read	7	16	0.1	25	0.1	1	3	16

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	5	Read	8	31	0.1	56	0.3	1	10	16
Spr 2013	5	Read	9	47	0.2	103	0.5	1	15	15
Spr 2013	5	Read	10	81	0.4	184	0.8	1	21	14
Spr 2013	5	Read	11	113	0.5	297	1.4	1	26	14
Spr 2013	5	Read	12	131	0.6	428	1.9	2	31	14
Spr 2013	5	Read	13	147	0.7	575	2.6	2	35	13
Spr 2013	5	Read	14	195	0.9	770	3.5	3	40	13
Spr 2013	5	Read	15	220	1.0	990	4.5	4	44	13
Spr 2013	5	Read	16	256	1.2	1246	5.7	5	48	13
Spr 2013	5	Read	17	276	1.3	1522	6.9	6	52	12
Spr 2013	5	Read	18	325	1.5	1847	8.4	8	56	12
Spr 2013	5	Read	19	323	1.5	2170	9.9	9	59	12
Spr 2013	5	Read	20	347	1.6	2517	11.4	11	63	12
Spr 2013	5	Read	21	386	1.8	2903	13.2	12	67	12
Spr 2013	5	Read	22	397	1.8	3300	15.0	14	70	12
Spr 2013	5	Read	23	453	2.1	3753	17.1	16	74	12
Spr 2013	5	Read	24	458	2.1	4211	19.2	18	77	12
Spr 2013	5	Read	25	499	2.3	4710	21.4	20	81	12
Spr 2013	5	Read	26	533	2.4	5243	23.8	23	85	12
Spr 2013	5	Read	27	590	2.7	5833	26.5	25	88	12
Spr 2013	5	Read	28	618	2.8	6451	29.3	28	92	12
Spr 2013	5	Read	29	667	3.0	7118	32.4	31	96	12
Spr 2013	5	Read	30	646	2.9	7764	35.3	34	99	12
Spr 2013	5	Read	31	664	3.0	8428	38.3	37	103	12
Spr 2013	5	Read	32	773	3.5	9201	41.8	40	107	13
Spr 2013	5	Read	33	837	3.8	10038	45.7	44	111	13
Spr 2013	5	Read	34	836	3.8	10874	49.5	48	115	13
Spr 2013	5	Read	35	835	3.8	11709	53.3	51	120	13
Spr 2013	5	Read	36	917	4.2	12626	57.4	55	124	14
Spr 2013	5	Read	37	930	4.2	13556	61.7	60	129	14
Spr 2013	5	Read	38	964	4.4	14520	66.0	64	134	14
Spr 2013	5	Read	39	946	4.3	15466	70.3	68	139	15
Spr 2013	5	Read	40	954	4.3	16420	74.7	73	145	16
Spr 2013	5	Read	41	1039	4.7	17459	79.4	77	152	16
Spr 2013	5	Read	42	1014	4.6	18473	84.0	82	159	18
Spr 2013	5	Read	43	911	4.1	19384	88.2	86	168	19
Spr 2013	5	Read	44	859	3.9	20243	92.1	90	178	21
Spr 2013	5	Read	45	770	3.5	21013	95.6	94	190	24
Spr 2013	5	Read	46	571	2.6	21584	98.2	97	200	29
Spr 2013	5	Read	47	297	1.4	21881	99.5	99	200	40
Spr 2013	5	Read	48	107	0.5	21988	100.0	99	200	72

Grade 6

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	6	Read	0	1	0.0	1	0.0	1	1	69
Spr 2013	6	Read	1	1	0.0	2	0.0	1	1	38
Spr 2013	6	Read	2	1	0.0	3	0.0	1	1	28
Spr 2013	6	Read	3	2	0.0	5	0.0	1	1	23
Spr 2013	6	Read	4	0	0.0	5	0.0	1	1	20
Spr 2013	6	Read	5	7	0.0	12	0.1	1	1	18
Spr 2013	6	Read	6	4	0.0	16	0.1	1	1	17
Spr 2013	6	Read	7	12	0.1	28	0.1	1	1	16
Spr 2013	6	Read	8	18	0.1	46	0.2	1	4	15
Spr 2013	6	Read	9	51	0.2	97	0.4	1	10	15
Spr 2013	6	Read	10	63	0.3	160	0.7	1	15	14
Spr 2013	6	Read	11	87	0.4	247	1.1	1	21	14
Spr 2013	6	Read	12	101	0.5	348	1.6	1	25	13
Spr 2013	6	Read	13	154	0.7	502	2.3	2	30	13
Spr 2013	6	Read	14	175	0.8	677	3.1	3	34	13
Spr 2013	6	Read	15	226	1.0	903	4.2	4	39	13
Spr 2013	6	Read	16	218	1.0	1121	5.2	5	43	12
Spr 2013	6	Read	17	257	1.2	1378	6.4	6	47	12
Spr 2013	6	Read	18	262	1.2	1640	7.6	7	51	12
Spr 2013	6	Read	19	350	1.6	1990	9.2	8	55	12
Spr 2013	6	Read	20	317	1.5	2307	10.7	10	59	12
Spr 2013	6	Read	21	352	1.6	2659	12.3	11	62	12
Spr 2013	6	Read	22	379	1.8	3038	14.0	13	66	12
Spr 2013	6	Read	23	388	1.8	3426	15.8	15	70	12
Spr 2013	6	Read	24	431	2.0	3857	17.8	17	74	12
Spr 2013	6	Read	25	520	2.4	4377	20.2	19	78	12
Spr 2013	6	Read	26	552	2.5	4929	22.8	21	81	12
Spr 2013	6	Read	27	576	2.7	5505	25.4	24	85	12
Spr 2013	6	Read	28	661	3.1	6166	28.5	27	89	12
Spr 2013	6	Read	29	703	3.2	6869	31.7	30	93	12
Spr 2013	6	Read	30	778	3.6	7647	35.3	34	97	12
Spr 2013	6	Read	31	766	3.5	8413	38.9	37	101	12
Spr 2013	6	Read	32	820	3.8	9233	42.6	41	105	13
Spr 2013	6	Read	33	859	4.0	10092	46.6	45	109	13
Spr 2013	6	Read	34	907	4.2	10999	50.8	49	114	13
Spr 2013	6	Read	35	907	4.2	11906	55.0	53	118	13
Spr 2013	6	Read	36	946	4.4	12852	59.3	57	123	14
Spr 2013	6	Read	37	1024	4.7	13876	64.1	62	128	14
Spr 2013	6	Read	38	1026	4.7	14902	68.8	66	133	14
Spr 2013	6	Read	39	1032	4.8	15934	73.6	71	139	15

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	6	Read	40	968	4.5	16902	78.1	76	145	15
Spr 2013	6	Read	41	861	4.0	17763	82.0	80	151	16
Spr 2013	6	Read	42	899	4.2	18662	86.2	84	159	17
Spr 2013	6	Read	43	853	3.9	19515	90.1	88	167	19
Spr 2013	6	Read	44	725	3.3	20240	93.5	92	177	20
Spr 2013	6	Read	45	590	2.7	20830	96.2	95	190	23
Spr 2013	6	Read	46	426	2.0	21256	98.2	97	200	28
Spr 2013	6	Read	47	277	1.3	21533	99.4	99	200	38
Spr 2013	6	Read	48	122	0.6	21655	100.0	99	200	69

Grade 7

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	7	Read	0	1	0.0	1	0.0	1	1	71
Spr 2013	7	Read	1	2	0.0	3	0.0	1	1	39
Spr 2013	7	Read	2	0	0.0	3	0.0	1	1	28
Spr 2013	7	Read	3	0	0.0	3	0.0	1	1	23
Spr 2013	7	Read	4	2	0.0	5	0.0	1	1	21
Spr 2013	7	Read	5	1	0.0	6	0.0	1	1	19
Spr 2013	7	Read	6	6	0.0	12	0.1	1	1	17
Spr 2013	7	Read	7	19	0.1	31	0.1	1	7	16
Spr 2013	7	Read	8	27	0.1	58	0.3	1	13	15
Spr 2013	7	Read	9	54	0.3	112	0.5	1	19	15
Spr 2013	7	Read	10	72	0.3	184	0.9	1	25	14
Spr 2013	7	Read	11	115	0.5	299	1.4	1	30	14
Spr 2013	7	Read	12	126	0.6	425	2.0	2	35	13
Spr 2013	7	Read	13	159	0.7	584	2.7	2	39	13
Spr 2013	7	Read	14	185	0.9	769	3.6	3	43	13
Spr 2013	7	Read	15	247	1.2	1016	4.7	4	48	13
Spr 2013	7	Read	16	244	1.1	1260	5.9	5	52	12
Spr 2013	7	Read	17	285	1.3	1545	7.2	7	56	12
Spr 2013	7	Read	18	307	1.4	1852	8.6	8	59	12
Spr 2013	7	Read	19	349	1.6	2201	10.3	9	63	12
Spr 2013	7	Read	20	346	1.6	2547	11.9	11	67	12
Spr 2013	7	Read	21	368	1.7	2915	13.6	13	71	12
Spr 2013	7	Read	22	398	1.9	3313	15.5	15	74	12
Spr 2013	7	Read	23	452	2.1	3765	17.6	17	78	12
Spr 2013	7	Read	24	449	2.1	4214	19.7	19	81	12
Spr 2013	7	Read	25	482	2.2	4696	21.9	21	85	12
Spr 2013	7	Read	26	495	2.3	5191	24.2	23	88	12
Spr 2013	7	Read	27	579	2.7	5770	26.9	26	92	12

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	7	Read	28	601	2.8	6371	29.7	28	96	12
Spr 2013	7	Read	29	610	2.8	6981	32.6	31	99	12
Spr 2013	7	Read	30	624	2.9	7605	35.5	34	103	12
Spr 2013	7	Read	31	698	3.3	8303	38.7	37	107	12
Spr 2013	7	Read	32	671	3.1	8974	41.9	40	111	12
Spr 2013	7	Read	33	745	3.5	9719	45.3	44	115	13
Spr 2013	7	Read	34	791	3.7	10510	49.0	47	119	13
Spr 2013	7	Read	35	855	4.0	11365	53.0	51	124	13
Spr 2013	7	Read	36	867	4.0	12232	57.1	55	128	13
Spr 2013	7	Read	37	936	4.4	13168	61.4	59	133	14
Spr 2013	7	Read	38	845	3.9	14013	65.4	63	138	14
Spr 2013	7	Read	39	941	4.4	14954	69.8	68	143	15
Spr 2013	7	Read	40	946	4.4	15900	74.2	72	149	15
Spr 2013	7	Read	41	947	4.4	16847	78.6	76	156	16
Spr 2013	7	Read	42	932	4.3	17779	82.9	81	163	17
Spr 2013	7	Read	43	909	4.2	18688	87.2	85	172	19
Spr 2013	7	Read	44	857	4.0	19545	91.2	89	181	21
Spr 2013	7	Read	45	782	3.6	20327	94.8	93	194	23
Spr 2013	7	Read	46	579	2.7	20906	97.5	96	200	28
Spr 2013	7	Read	47	398	1.9	21304	99.4	98	200	39
Spr 2013	7	Read	48	135	0.6	21439	100.0	99	200	71

Grade 8

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	8	Read	0	1	0.0	1	0.0	1	1	68
Spr 2013	8	Read	1	2	0.0	3	0.0	1	1	38
Spr 2013	8	Read	2	0	0.0	3	0.0	1	1	27
Spr 2013	8	Read	3	2	0.0	5	0.0	1	1	22
Spr 2013	8	Read	4	3	0.0	8	0.0	1	1	20
Spr 2013	8	Read	5	5	0.0	13	0.1	1	1	18
Spr 2013	8	Read	6	7	0.0	20	0.1	1	1	17
Spr 2013	8	Read	7	10	0.0	30	0.1	1	1	16
Spr 2013	8	Read	8	19	0.1	49	0.2	1	6	15
Spr 2013	8	Read	9	33	0.2	82	0.4	1	12	14
Spr 2013	8	Read	10	42	0.2	124	0.6	1	17	14
Spr 2013	8	Read	11	60	0.3	184	0.9	1	22	13
Spr 2013	8	Read	12	93	0.4	277	1.3	1	26	13
Spr 2013	8	Read	13	113	0.5	390	1.9	2	30	12
Spr 2013	8	Read	14	150	0.7	540	2.6	2	35	12

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	8	Read	15	181	0.9	721	3.4	3	38	12
Spr 2013	8	Read	16	198	0.9	919	4.4	4	42	12
Spr 2013	8	Read	17	224	1.1	1143	5.4	5	46	12
Spr 2013	8	Read	18	183	0.9	1326	6.3	6	49	11
Spr 2013	8	Read	19	237	1.1	1563	7.4	7	53	11
Spr 2013	8	Read	20	242	1.2	1805	8.6	8	56	11
Spr 2013	8	Read	21	281	1.3	2086	9.9	9	60	11
Spr 2013	8	Read	22	273	1.3	2359	11.2	11	63	11
Spr 2013	8	Read	23	321	1.5	2680	12.8	12	66	11
Spr 2013	8	Read	24	343	1.6	3023	14.4	14	69	11
Spr 2013	8	Read	25	337	1.6	3360	16.0	15	73	11
Spr 2013	8	Read	26	364	1.7	3724	17.7	17	76	11
Spr 2013	8	Read	27	412	2.0	4136	19.7	19	79	11
Spr 2013	8	Read	28	416	2.0	4552	21.7	21	82	11
Spr 2013	8	Read	29	559	2.7	5111	24.3	23	86	11
Spr 2013	8	Read	30	533	2.5	5644	26.9	26	89	11
Spr 2013	8	Read	31	548	2.6	6192	29.5	28	92	11
Spr 2013	8	Read	32	628	3.0	6820	32.5	31	96	11
Spr 2013	8	Read	33	641	3.1	7461	35.5	34	99	12
Spr 2013	8	Read	34	694	3.3	8155	38.8	37	103	12
Spr 2013	8	Read	35	731	3.5	8886	42.3	41	107	12
Spr 2013	8	Read	36	792	3.8	9678	46.1	44	111	12
Spr 2013	8	Read	37	818	3.9	10496	50.0	48	115	12
Spr 2013	8	Read	38	870	4.1	11366	54.1	52	119	13
Spr 2013	8	Read	39	981	4.7	12347	58.8	56	123	13
Spr 2013	8	Read	40	993	4.7	13340	63.5	61	128	14
Spr 2013	8	Read	41	1010	4.8	14350	68.3	66	133	14
Spr 2013	8	Read	42	1129	5.4	15479	73.7	71	139	15
Spr 2013	8	Read	43	1089	5.2	16568	78.9	76	145	15
Spr 2013	8	Read	44	1029	4.9	17597	83.8	81	152	16
Spr 2013	8	Read	45	1003	4.8	18600	88.6	86	160	18
Spr 2013	8	Read	46	851	4.1	19451	92.6	91	169	20
Spr 2013	8	Read	47	725	3.5	20176	96.1	94	181	22
Spr 2013	8	Read	48	489	2.3	20665	98.4	97	197	27
Spr 2013	8	Read	49	244	1.2	20909	99.6	99	200	38
Spr 2013	8	Read	50	87	0.4	20996	100.0	99	200	68

Grade 11

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	11	Read	0	0	0.0	0	0.0	0	1	73
Spr 2013	11	Read	1	0	0.0	0	0.0	0	1	40
Spr 2013	11	Read	2	1	0.0	1	0.0	1	1	29
Spr 2013	11	Read	3	1	0.0	2	0.0	1	1	24
Spr 2013	11	Read	4	1	0.0	3	0.0	1	1	21
Spr 2013	11	Read	5	3	0.0	6	0.0	1	1	19
Spr 2013	11	Read	6	3	0.0	9	0.0	1	1	18
Spr 2013	11	Read	7	13	0.1	22	0.1	1	1	17
Spr 2013	11	Read	8	25	0.1	47	0.2	1	1	16
Spr 2013	11	Read	9	37	0.2	84	0.4	1	1	15
Spr 2013	11	Read	10	55	0.3	139	0.7	1	5	14
Spr 2013	11	Read	11	107	0.5	246	1.2	1	10	14
Spr 2013	11	Read	12	130	0.6	376	1.8	1	15	14
Spr 2013	11	Read	13	165	0.8	541	2.6	2	20	13
Spr 2013	11	Read	14	216	1.0	757	3.6	3	24	13
Spr 2013	11	Read	15	257	1.2	1014	4.8	4	28	13
Spr 2013	11	Read	16	283	1.4	1297	6.2	6	32	13
Spr 2013	11	Read	17	316	1.5	1613	7.7	7	36	12
Spr 2013	11	Read	18	312	1.5	1925	9.2	8	40	12
Spr 2013	11	Read	19	298	1.4	2223	10.6	10	44	12
Spr 2013	11	Read	20	354	1.7	2577	12.3	11	48	12
Spr 2013	11	Read	21	351	1.7	2928	14.0	13	51	12
Spr 2013	11	Read	22	377	1.8	3305	15.8	15	55	12
Spr 2013	11	Read	23	356	1.7	3661	17.5	17	58	12
Spr 2013	11	Read	24	374	1.8	4035	19.3	18	62	12
Spr 2013	11	Read	25	407	1.9	4442	21.2	20	65	12
Spr 2013	11	Read	26	413	2.0	4855	23.2	22	69	12
Spr 2013	11	Read	27	422	2.0	5277	25.2	24	72	12
Spr 2013	11	Read	28	507	2.4	5784	27.6	26	76	12
Spr 2013	11	Read	29	511	2.4	6295	30.1	29	80	12
Spr 2013	11	Read	30	515	2.5	6810	32.6	31	83	12
Spr 2013	11	Read	31	567	2.7	7377	35.3	34	87	12
Spr 2013	11	Read	32	593	2.8	7970	38.1	37	91	12
Spr 2013	11	Read	33	660	3.2	8630	41.3	40	95	12
Spr 2013	11	Read	34	697	3.3	9327	44.6	43	99	13
Spr 2013	11	Read	35	731	3.5	10058	48.1	46	103	13
Spr 2013	11	Read	36	769	3.7	10827	51.8	50	107	13
Spr 2013	11	Read	37	829	4.0	11656	55.7	54	111	13
Spr 2013	11	Read	38	861	4.1	12517	59.8	58	116	14
Spr 2013	11	Read	39	905	4.3	13422	64.2	62	121	14

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	11	Read	40	931	4.5	14353	68.6	66	126	15
Spr 2013	11	Read	41	887	4.2	15240	72.8	71	132	15
Spr 2013	11	Read	42	987	4.7	16227	77.6	75	138	16
Spr 2013	11	Read	43	934	4.5	17161	82.0	80	144	17
Spr 2013	11	Read	44	904	4.3	18065	86.4	84	152	18
Spr 2013	11	Read	45	831	4.0	18896	90.3	88	161	19
Spr 2013	11	Read	46	696	3.3	19592	93.7	92	171	21
Spr 2013	11	Read	47	576	2.8	20168	96.4	95	184	24
Spr 2013	11	Read	48	443	2.1	20611	98.5	97	200	29
Spr 2013	11	Read	49	237	1.1	20848	99.7	99	200	40
Spr 2013	11	Read	50	72	0.3	20920	100.0	99	200	73

Appendix R: Mathematics Raw-to-Scale Conversion Tables and Distributions of Ability

The charts are simple displays of Scale Score, Raw Score, and percentile rank. The raw score and percentile rank for any Scale Score can be read directly from chart.

The performance levels *Meets Standards* begins at a Scale Score of 85 and *Exceeds Standards* begins at 135. *Below Standards* is a Scale Score of 84 and below.

The table is a traditional table that was used to create the chart. This table would be used to retrieve the Scale Score or percentile rank for a given raw score. It also includes counts and percentages at each score.

Grade 3

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	3	Math	0	0	0.0	0	0.0	0	1	54
Spr 2013	3	Math	1	0	0.0	0	0.0	0	1	30
Spr 2013	3	Math	2	0	0.0	0	0.0	0	1	21
Spr 2013	3	Math	3	1	0.0	1	0.0	1	1	18
Spr 2013	3	Math	4	2	0.0	3	0.0	1	3	16
Spr 2013	3	Math	5	1	0.0	4	0.0	1	10	14
Spr 2013	3	Math	6	13	0.1	17	0.1	1	16	13
Spr 2013	3	Math	7	19	0.1	36	0.2	1	22	12
Spr 2013	3	Math	8	50	0.2	86	0.4	1	27	12
Spr 2013	3	Math	9	58	0.3	144	0.6	1	31	11
Spr 2013	3	Math	10	85	0.4	229	1.0	1	35	11
Spr 2013	3	Math	11	141	0.6	370	1.6	1	39	10
Spr 2013	3	Math	12	166	0.7	536	2.4	2	42	10
Spr 2013	3	Math	13	181	0.8	717	3.2	3	46	10
Spr 2013	3	Math	14	216	0.9	933	4.1	4	49	10
Spr 2013	3	Math	15	252	1.1	1185	5.2	5	52	9
Spr 2013	3	Math	16	305	1.3	1490	6.5	6	55	9
Spr 2013	3	Math	17	324	1.4	1814	8.0	7	58	9
Spr 2013	3	Math	18	302	1.3	2116	9.3	9	60	9
Spr 2013	3	Math	19	346	1.5	2462	10.8	10	63	9
Spr 2013	3	Math	20	366	1.6	2828	12.4	12	66	9
Spr 2013	3	Math	21	346	1.5	3174	13.9	13	68	9
Spr 2013	3	Math	22	380	1.7	3554	15.6	15	71	9
Spr 2013	3	Math	23	436	1.9	3990	17.5	17	74	9
Spr 2013	3	Math	24	469	2.1	4459	19.6	19	76	9
Spr 2013	3	Math	25	416	1.8	4875	21.4	21	79	9
Spr 2013	3	Math	26	453	2.0	5328	23.4	22	81	9
Spr 2013	3	Math	27	494	2.2	5822	25.6	24	84	9

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	3	Math	28	530	2.3	6352	27.9	27	86	9
Spr 2013	3	Math	29	551	2.4	6903	30.3	29	89	9
Spr 2013	3	Math	30	574	2.5	7477	32.9	32	92	9
Spr 2013	3	Math	31	632	2.8	8109	35.6	34	94	9
Spr 2013	3	Math	32	687	3.0	8796	38.7	37	97	9
Spr 2013	3	Math	33	650	2.9	9446	41.5	40	100	9
Spr 2013	3	Math	34	709	3.1	10155	44.6	43	103	9
Spr 2013	3	Math	35	741	3.3	10896	47.9	46	106	9
Spr 2013	3	Math	36	778	3.4	11674	51.3	50	109	10
Spr 2013	3	Math	37	743	3.3	12417	54.6	53	112	10
Spr 2013	3	Math	38	884	3.9	13301	58.5	57	115	10
Spr 2013	3	Math	39	892	3.9	14193	62.4	60	119	10
Spr 2013	3	Math	40	866	3.8	15059	66.2	64	122	11
Spr 2013	3	Math	41	900	4.0	15959	70.1	68	126	11
Spr 2013	3	Math	42	985	4.3	16944	74.5	72	131	12
Spr 2013	3	Math	43	954	4.2	17898	78.7	77	136	12
Spr 2013	3	Math	44	946	4.2	18844	82.8	81	141	13
Spr 2013	3	Math	45	937	4.1	19781	86.9	85	147	14
Spr 2013	3	Math	46	856	3.8	20637	90.7	89	155	16
Spr 2013	3	Math	47	767	3.4	21404	94.1	92	164	18
Spr 2013	3	Math	48	646	2.8	22050	96.9	95	177	21
Spr 2013	3	Math	49	464	2.0	22514	98.9	98	198	30
Spr 2013	3	Math	50	242	1.1	22756	100.0	99	200	54

Grade 4

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	4	Math	0	0	0.0	0	0.0	0	1	51
Spr 2013	4	Math	1	1	0.0	1	0.0	1	1	28
Spr 2013	4	Math	2	0	0.0	1	0.0	1	1	20
Spr 2013	4	Math	3	0	0.0	1	0.0	1	1	17
Spr 2013	4	Math	4	0	0.0	1	0.0	1	1	15
Spr 2013	4	Math	5	1	0.0	2	0.0	1	8	13
Spr 2013	4	Math	6	2	0.0	4	0.0	1	14	12
Spr 2013	4	Math	7	10	0.0	14	0.1	1	19	12
Spr 2013	4	Math	8	21	0.1	35	0.2	1	24	11
Spr 2013	4	Math	9	33	0.1	68	0.3	1	28	11
Spr 2013	4	Math	10	65	0.3	133	0.6	1	32	10
Spr 2013	4	Math	11	69	0.3	202	0.9	1	35	10
Spr 2013	4	Math	12	103	0.5	305	1.4	1	39	10

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	4	Math	13	145	0.7	450	2.0	2	42	9
Spr 2013	4	Math	14	174	0.8	624	2.8	2	45	9
Spr 2013	4	Math	15	197	0.9	821	3.7	3	48	9
Spr 2013	4	Math	16	221	1.0	1042	4.7	4	50	9
Spr 2013	4	Math	17	238	1.1	1280	5.8	5	53	9
Spr 2013	4	Math	18	281	1.3	1561	7.0	6	56	8
Spr 2013	4	Math	19	293	1.3	1854	8.3	8	58	8
Spr 2013	4	Math	20	279	1.3	2133	9.6	9	61	8
Spr 2013	4	Math	21	324	1.5	2457	11.0	10	63	8
Spr 2013	4	Math	22	326	1.5	2783	12.5	12	66	8
Spr 2013	4	Math	23	332	1.5	3115	14.0	13	68	8
Spr 2013	4	Math	24	375	1.7	3490	15.7	15	70	8
Spr 2013	4	Math	25	389	1.7	3879	17.4	17	73	8
Spr 2013	4	Math	26	389	1.7	4268	19.2	18	75	8
Spr 2013	4	Math	27	409	1.8	4677	21.0	20	77	8
Spr 2013	4	Math	28	432	1.9	5109	23.0	22	80	8
Spr 2013	4	Math	29	437	2.0	5546	24.9	24	82	8
Spr 2013	4	Math	30	489	2.2	6035	27.1	26	84	8
Spr 2013	4	Math	31	507	2.3	6542	29.4	28	87	8
Spr 2013	4	Math	32	528	2.4	7070	31.8	31	89	8
Spr 2013	4	Math	33	577	2.6	7647	34.4	33	91	8
Spr 2013	4	Math	34	534	2.4	8181	36.8	36	94	8
Spr 2013	4	Math	35	564	2.5	8745	39.3	38	96	8
Spr 2013	4	Math	36	597	2.7	9342	42.0	41	99	8
Spr 2013	4	Math	37	641	2.9	9983	44.9	43	101	8
Spr 2013	4	Math	38	660	3.0	10643	47.9	46	104	9
Spr 2013	4	Math	39	702	3.2	11345	51.0	49	107	9
Spr 2013	4	Math	40	705	3.2	12050	54.2	53	109	9
Spr 2013	4	Math	41	723	3.3	12773	57.4	56	112	9
Spr 2013	4	Math	42	744	3.3	13517	60.8	59	115	9
Spr 2013	4	Math	43	710	3.2	14227	64.0	62	118	9
Spr 2013	4	Math	44	796	3.6	15023	67.5	66	122	10
Spr 2013	4	Math	45	758	3.4	15781	71.0	69	125	10
Spr 2013	4	Math	46	742	3.3	16523	74.3	73	129	10
Spr 2013	4	Math	47	792	3.6	17315	77.9	76	133	11
Spr 2013	4	Math	48	801	3.6	18116	81.5	80	138	12
Spr 2013	4	Math	49	757	3.4	18873	84.9	83	143	12
Spr 2013	4	Math	50	749	3.4	19622	88.2	87	149	13
Spr 2013	4	Math	51	732	3.3	20354	91.5	90	156	15
Spr 2013	4	Math	52	682	3.1	21036	94.6	93	165	17
Spr 2013	4	Math	53	574	2.6	21610	97.2	96	177	20

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	4	Math	54	423	1.9	22033	99.1	98	197	28
Spr 2013	4	Math	55	207	0.9	22240	100.0	99	200	51

Grade 5

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	5	Math	0	1	0.0	1	0.0	1	1	53
Spr 2013	5	Math	1	0	0.0	1	0.0	1	1	29
Spr 2013	5	Math	2	0	0.0	1	0.0	1	1	21
Spr 2013	5	Math	3	0	0.0	1	0.0	1	1	17
Spr 2013	5	Math	4	1	0.0	2	0.0	1	1	15
Spr 2013	5	Math	5	2	0.0	4	0.0	1	8	14
Spr 2013	5	Math	6	5	0.0	9	0.0	1	14	13
Spr 2013	5	Math	7	10	0.0	19	0.1	1	20	12
Spr 2013	5	Math	8	15	0.1	34	0.2	1	25	11
Spr 2013	5	Math	9	34	0.2	68	0.3	1	29	11
Spr 2013	5	Math	10	66	0.3	134	0.6	1	33	11
Spr 2013	5	Math	11	74	0.3	208	0.9	1	37	10
Spr 2013	5	Math	12	100	0.5	308	1.4	1	40	10
Spr 2013	5	Math	13	138	0.6	446	2.0	2	43	10
Spr 2013	5	Math	14	174	0.8	620	2.8	2	47	9
Spr 2013	5	Math	15	200	0.9	820	3.7	3	50	9
Spr 2013	5	Math	16	234	1.1	1054	4.8	4	52	9
Spr 2013	5	Math	17	274	1.2	1328	6.0	5	55	9
Spr 2013	5	Math	18	274	1.2	1602	7.3	7	58	9
Spr 2013	5	Math	19	289	1.3	1891	8.6	8	61	9
Spr 2013	5	Math	20	309	1.4	2200	10.0	9	63	9
Spr 2013	5	Math	21	324	1.5	2524	11.5	11	66	8
Spr 2013	5	Math	22	337	1.5	2861	13.0	12	68	8
Spr 2013	5	Math	23	390	1.8	3251	14.8	14	70	8
Spr 2013	5	Math	24	426	1.9	3677	16.7	16	73	8
Spr 2013	5	Math	25	397	1.8	4074	18.5	18	75	8
Spr 2013	5	Math	26	437	2.0	4511	20.5	19	78	8
Spr 2013	5	Math	27	509	2.3	5020	22.8	22	80	8
Spr 2013	5	Math	28	491	2.2	5511	25.0	24	82	8
Spr 2013	5	Math	29	531	2.4	6042	27.4	26	85	8
Spr 2013	5	Math	30	530	2.4	6572	29.8	29	87	8
Spr 2013	5	Math	31	566	2.6	7138	32.4	31	90	8
Spr 2013	5	Math	32	583	2.6	7721	35.1	34	92	8
Spr 2013	5	Math	33	558	2.5	8279	37.6	36	94	8
Spr 2013	5	Math	34	587	2.7	8866	40.2	39	97	8

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	5	Math	35	612	2.8	9478	43.0	42	99	9
Spr 2013	5	Math	36	601	2.7	10079	45.8	44	102	9
Spr 2013	5	Math	37	685	3.1	10764	48.9	47	104	9
Spr 2013	5	Math	38	653	3.0	11417	51.8	50	107	9
Spr 2013	5	Math	39	640	2.9	12057	54.7	53	110	9
Spr 2013	5	Math	40	660	3.0	12717	57.7	56	113	9
Spr 2013	5	Math	41	702	3.2	13419	60.9	59	116	9
Spr 2013	5	Math	42	694	3.2	14113	64.1	62	119	10
Spr 2013	5	Math	43	692	3.1	14805	67.2	66	122	10
Spr 2013	5	Math	44	717	3.3	15522	70.5	69	126	10
Spr 2013	5	Math	45	801	3.6	16323	74.1	72	129	10
Spr 2013	5	Math	46	759	3.4	17082	77.5	76	133	11
Spr 2013	5	Math	47	765	3.5	17847	81.0	79	138	11
Spr 2013	5	Math	48	745	3.4	18592	84.4	83	142	12
Spr 2013	5	Math	49	741	3.4	19333	87.8	86	148	13
Spr 2013	5	Math	50	666	3.0	19999	90.8	89	154	14
Spr 2013	5	Math	51	620	2.8	20619	93.6	92	161	15
Spr 2013	5	Math	52	516	2.3	21135	95.9	95	170	17
Spr 2013	5	Math	53	443	2.0	21578	98.0	97	183	21
Spr 2013	5	Math	54	311	1.4	21889	99.4	99	200	29
Spr 2013	5	Math	55	139	0.6	22028	100.0	99	200	53

Grade 6

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	6	Math	0	2	0.0	2	0.0	1	1	55
Spr 2013	6	Math	1	3	0.0	5	0.0	1	1	31
Spr 2013	6	Math	2	0	0.0	5	0.0	1	1	22
Spr 2013	6	Math	3	1	0.0	6	0.0	1	1	18
Spr 2013	6	Math	4	1	0.0	7	0.0	1	1	16
Spr 2013	6	Math	5	1	0.0	8	0.0	1	1	14
Spr 2013	6	Math	6	3	0.0	11	0.1	1	2	13
Spr 2013	6	Math	7	13	0.1	24	0.1	1	8	12
Spr 2013	6	Math	8	27	0.1	51	0.2	1	12	12
Spr 2013	6	Math	9	27	0.1	78	0.4	1	17	11
Spr 2013	6	Math	10	57	0.3	135	0.6	1	21	11
Spr 2013	6	Math	11	64	0.3	199	0.9	1	25	10
Spr 2013	6	Math	12	110	0.5	309	1.4	1	28	10
Spr 2013	6	Math	13	148	0.7	457	2.1	2	31	10
Spr 2013	6	Math	14	148	0.7	605	2.8	2	35	10
Spr 2013	6	Math	15	172	0.8	777	3.6	3	38	9

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	6	Math	16	224	1.0	1001	4.6	4	41	9
Spr 2013	6	Math	17	217	1.0	1218	5.6	5	43	9
Spr 2013	6	Math	18	226	1.0	1444	6.7	6	46	9
Spr 2013	6	Math	19	240	1.1	1684	7.8	7	49	9
Spr 2013	6	Math	20	298	1.4	1982	9.1	8	51	9
Spr 2013	6	Math	21	280	1.3	2262	10.4	10	54	9
Spr 2013	6	Math	22	286	1.3	2548	11.7	11	56	9
Spr 2013	6	Math	23	319	1.5	2867	13.2	12	59	9
Spr 2013	6	Math	24	320	1.5	3187	14.7	14	61	8
Spr 2013	6	Math	25	348	1.6	3535	16.3	15	63	8
Spr 2013	6	Math	26	323	1.5	3858	17.8	17	66	8
Spr 2013	6	Math	27	346	1.6	4204	19.4	19	68	8
Spr 2013	6	Math	28	398	1.8	4602	21.2	20	70	8
Spr 2013	6	Math	29	396	1.8	4998	23.0	22	73	8
Spr 2013	6	Math	30	399	1.8	5397	24.9	24	75	8
Spr 2013	6	Math	31	407	1.9	5804	26.7	26	77	8
Spr 2013	6	Math	32	410	1.9	6214	28.6	28	79	8
Spr 2013	6	Math	33	399	1.8	6613	30.5	30	82	8
Spr 2013	6	Math	34	477	2.2	7090	32.7	32	84	8
Spr 2013	6	Math	35	494	2.3	7584	34.9	34	87	9
Spr 2013	6	Math	36	472	2.2	8056	37.1	36	89	9
Spr 2013	6	Math	37	489	2.3	8545	39.4	38	91	9
Spr 2013	6	Math	38	502	2.3	9047	41.7	41	94	9
Spr 2013	6	Math	39	522	2.4	9569	44.1	43	96	9
Spr 2013	6	Math	40	543	2.5	10112	46.6	45	99	9
Spr 2013	6	Math	41	525	2.4	10637	49.0	48	102	9
Spr 2013	6	Math	42	599	2.8	11236	51.8	50	105	9
Spr 2013	6	Math	43	608	2.8	11844	54.6	53	107	9
Spr 2013	6	Math	44	541	2.5	12385	57.1	56	110	10
Spr 2013	6	Math	45	649	3.0	13034	60.0	59	114	10
Spr 2013	6	Math	46	660	3.0	13694	63.1	62	117	10
Spr 2013	6	Math	47	665	3.1	14359	66.1	65	120	10
Spr 2013	6	Math	48	683	3.1	15042	69.3	68	124	11
Spr 2013	6	Math	49	688	3.2	15730	72.5	71	128	11
Spr 2013	6	Math	50	706	3.3	16436	75.7	74	133	12
Spr 2013	6	Math	51	712	3.3	17148	79.0	77	137	12
Spr 2013	6	Math	52	772	3.6	17920	82.6	81	143	13
Spr 2013	6	Math	53	754	3.5	18674	86.0	84	149	14
Spr 2013	6	Math	54	764	3.5	19438	89.5	88	157	16
Spr 2013	6	Math	55	802	3.7	20240	93.2	91	166	18
Spr 2013	6	Math	56	642	3.0	20882	96.2	95	179	22

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	6	Math	57	516	2.4	21398	98.6	97	200	31
Spr 2013	6	Math	58	310	1.4	21708	100.0	99	200	55

Grade 7

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	7	Math	0	0	0.0	0	0.0	0	1	54
Spr 2013	7	Math	1	1	0.0	1	0.0	1	1	30
Spr 2013	7	Math	2	1	0.0	2	0.0	1	1	21
Spr 2013	7	Math	3	0	0.0	2	0.0	1	1	18
Spr 2013	7	Math	4	1	0.0	3	0.0	1	1	16
Spr 2013	7	Math	5	5	0.0	8	0.0	1	1	14
Spr 2013	7	Math	6	3	0.0	11	0.1	1	5	13
Spr 2013	7	Math	7	7	0.0	18	0.1	1	10	12
Spr 2013	7	Math	8	17	0.1	35	0.2	1	15	12
Spr 2013	7	Math	9	32	0.1	67	0.3	1	20	11
Spr 2013	7	Math	10	54	0.3	121	0.6	1	24	11
Spr 2013	7	Math	11	70	0.3	191	0.9	1	27	10
Spr 2013	7	Math	12	116	0.5	307	1.4	1	31	10
Spr 2013	7	Math	13	135	0.6	442	2.1	2	34	10
Spr 2013	7	Math	14	165	0.8	607	2.8	2	37	10
Spr 2013	7	Math	15	191	0.9	798	3.7	3	41	9
Spr 2013	7	Math	16	228	1.1	1026	4.8	4	43	9
Spr 2013	7	Math	17	241	1.1	1267	5.9	5	46	9
Spr 2013	7	Math	18	244	1.1	1511	7.0	6	49	9
Spr 2013	7	Math	19	279	1.3	1790	8.3	8	52	9
Spr 2013	7	Math	20	304	1.4	2094	9.8	9	54	9
Spr 2013	7	Math	21	294	1.4	2388	11.1	10	57	9
Spr 2013	7	Math	22	270	1.3	2658	12.4	12	59	9
Spr 2013	7	Math	23	305	1.4	2963	13.8	13	62	8
Spr 2013	7	Math	24	309	1.4	3272	15.2	15	64	8
Spr 2013	7	Math	25	344	1.6	3616	16.8	16	67	8
Spr 2013	7	Math	26	375	1.7	3991	18.6	18	69	8
Spr 2013	7	Math	27	388	1.8	4379	20.4	19	71	8
Spr 2013	7	Math	28	376	1.8	4755	22.1	21	74	8
Spr 2013	7	Math	29	385	1.8	5140	23.9	23	76	8
Spr 2013	7	Math	30	429	2.0	5569	25.9	25	78	8
Spr 2013	7	Math	31	396	1.8	5965	27.8	27	81	8
Spr 2013	7	Math	32	436	2.0	6401	29.8	29	83	8
Spr 2013	7	Math	33	471	2.2	6872	32.0	31	85	8

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	7	Math	34	488	2.3	7360	34.3	33	88	8
Spr 2013	7	Math	35	510	2.4	7870	36.7	35	90	8
Spr 2013	7	Math	36	549	2.6	8419	39.2	38	93	8
Spr 2013	7	Math	37	517	2.4	8936	41.6	40	95	9
Spr 2013	7	Math	38	551	2.6	9487	44.2	43	98	9
Spr 2013	7	Math	39	551	2.6	10038	46.8	45	100	9
Spr 2013	7	Math	40	594	2.8	10632	49.5	48	103	9
Spr 2013	7	Math	41	653	3.0	11285	52.6	51	105	9
Spr 2013	7	Math	42	625	2.9	11910	55.5	54	108	9
Spr 2013	7	Math	43	662	3.1	12572	58.6	57	111	9
Spr 2013	7	Math	44	648	3.0	13220	61.6	60	114	9
Spr 2013	7	Math	45	620	2.9	13840	64.5	63	117	10
Spr 2013	7	Math	46	649	3.0	14489	67.5	66	121	10
Spr 2013	7	Math	47	636	3.0	15125	70.4	69	124	10
Spr 2013	7	Math	48	727	3.4	15852	73.8	72	128	11
Spr 2013	7	Math	49	721	3.4	16573	77.2	76	132	11
Spr 2013	7	Math	50	671	3.1	17244	80.3	79	136	12
Spr 2013	7	Math	51	675	3.1	17919	83.5	82	141	12
Spr 2013	7	Math	52	624	2.9	18543	86.4	85	146	13
Spr 2013	7	Math	53	600	2.8	19143	89.2	88	152	14
Spr 2013	7	Math	54	645	3.0	19788	92.2	91	160	16
Spr 2013	7	Math	55	573	2.7	20361	94.8	94	169	18
Spr 2013	7	Math	56	522	2.4	20883	97.3	96	182	21
Spr 2013	7	Math	57	370	1.7	21253	99.0	98	200	30
Spr 2013	7	Math	58	217	1.0	21470	100.0	99	200	54

Grade 8

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	8	Math	0	1	0.0	1	0.0	1	1	54
Spr 2013	8	Math	1	0	0.0	1	0.0	1	1	30
Spr 2013	8	Math	2	1	0.0	2	0.0	1	1	21
Spr 2013	8	Math	3	0	0.0	2	0.0	1	1	18
Spr 2013	8	Math	4	1	0.0	3	0.0	1	1	15
Spr 2013	8	Math	5	1	0.0	4	0.0	1	1	14
Spr 2013	8	Math	6	2	0.0	6	0.0	1	2	13
Spr 2013	8	Math	7	1	0.0	7	0.0	1	7	12
Spr 2013	8	Math	8	13	0.1	20	0.1	1	12	12
Spr 2013	8	Math	9	21	0.1	41	0.2	1	16	11
Spr 2013	8	Math	10	43	0.2	84	0.4	1	20	11

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	8	Math	11	55	0.3	139	0.7	1	24	10
Spr 2013	8	Math	12	74	0.4	213	1.0	1	27	10
Spr 2013	8	Math	13	109	0.5	322	1.5	1	31	10
Spr 2013	8	Math	14	143	0.7	465	2.2	2	34	9
Spr 2013	8	Math	15	169	0.8	634	3.0	3	37	9
Spr 2013	8	Math	16	213	1.0	847	4.0	4	39	9
Spr 2013	8	Math	17	218	1.0	1065	5.1	5	42	9
Spr 2013	8	Math	18	209	1.0	1274	6.1	6	45	9
Spr 2013	8	Math	19	239	1.1	1513	7.2	7	47	9
Spr 2013	8	Math	20	247	1.2	1760	8.4	8	50	8
Spr 2013	8	Math	21	257	1.2	2017	9.6	9	52	8
Spr 2013	8	Math	22	267	1.3	2284	10.9	10	55	8
Spr 2013	8	Math	23	284	1.4	2568	12.2	12	57	8
Spr 2013	8	Math	24	295	1.4	2863	13.6	13	59	8
Spr 2013	8	Math	25	303	1.4	3166	15.1	14	62	8
Spr 2013	8	Math	26	296	1.4	3462	16.5	16	64	8
Spr 2013	8	Math	27	318	1.5	3780	18.0	17	66	8
Spr 2013	8	Math	28	340	1.6	4120	19.6	19	68	8
Spr 2013	8	Math	29	361	1.7	4481	21.3	20	70	8
Spr 2013	8	Math	30	398	1.9	4879	23.2	22	73	8
Spr 2013	8	Math	31	402	1.9	5281	25.1	24	75	8
Spr 2013	8	Math	32	439	2.1	5720	27.2	26	77	8
Spr 2013	8	Math	33	427	2.0	6147	29.2	28	79	8
Spr 2013	8	Math	34	451	2.1	6598	31.4	30	82	8
Spr 2013	8	Math	35	464	2.2	7062	33.6	32	84	8
Spr 2013	8	Math	36	477	2.3	7539	35.9	35	86	8
Spr 2013	8	Math	37	520	2.5	8059	38.3	37	88	8
Spr 2013	8	Math	38	527	2.5	8586	40.8	40	91	8
Spr 2013	8	Math	39	503	2.4	9089	43.2	42	93	8
Spr 2013	8	Math	40	573	2.7	9662	46.0	45	95	8
Spr 2013	8	Math	41	587	2.8	10249	48.8	47	98	9
Spr 2013	8	Math	42	605	2.9	10854	51.6	50	100	9
Spr 2013	8	Math	43	619	2.9	11473	54.6	53	103	9
Spr 2013	8	Math	44	567	2.7	12040	57.3	56	106	9
Spr 2013	8	Math	45	605	2.9	12645	60.2	59	109	9
Spr 2013	8	Math	46	642	3.1	13287	63.2	62	111	9
Spr 2013	8	Math	47	659	3.1	13946	66.3	65	114	10
Spr 2013	8	Math	48	645	3.1	14591	69.4	68	118	10
Spr 2013	8	Math	49	634	3.0	15225	72.4	71	121	10
Spr 2013	8	Math	50	582	2.8	15807	75.2	74	125	11
Spr 2013	8	Math	51	596	2.8	16403	78.0	77	129	11

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	8	Math	52	634	3.0	17037	81.1	80	133	11
Spr 2013	8	Math	53	654	3.1	17691	84.2	83	138	12
Spr 2013	8	Math	54	594	2.8	18285	87.0	86	143	13
Spr 2013	8	Math	55	606	2.9	18891	89.9	88	149	14
Spr 2013	8	Math	56	587	2.8	19478	92.7	91	156	15
Spr 2013	8	Math	57	528	2.5	20006	95.2	94	166	18
Spr 2013	8	Math	58	456	2.2	20462	97.3	96	178	21
Spr 2013	8	Math	59	345	1.6	20807	99.0	98	199	30
Spr 2013	8	Math	60	213	1.0	21020	100.0	99	200	54

Grade 11

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	11	Math	0	0	0.0	0	0.0	0	1	66
Spr 2013	11	Math	1	1	0.0	1	0.0	1	1	36
Spr 2013	11	Math	2	0	0.0	1	0.0	1	1	26
Spr 2013	11	Math	3	0	0.0	1	0.0	1	1	22
Spr 2013	11	Math	4	1	0.0	2	0.0	1	1	19
Spr 2013	11	Math	5	1	0.0	3	0.0	1	1	17
Spr 2013	11	Math	6	7	0.0	10	0.0	1	1	16
Spr 2013	11	Math	7	6	0.0	16	0.1	1	1	15
Spr 2013	11	Math	8	19	0.1	35	0.2	1	1	14
Spr 2013	11	Math	9	34	0.2	69	0.3	1	5	13
Spr 2013	11	Math	10	49	0.2	118	0.6	1	10	13
Spr 2013	11	Math	11	84	0.4	202	1.0	1	14	12
Spr 2013	11	Math	12	152	0.7	354	1.7	1	19	12
Spr 2013	11	Math	13	194	0.9	548	2.6	2	22	12
Spr 2013	11	Math	14	248	1.2	796	3.8	3	26	11
Spr 2013	11	Math	15	310	1.5	1106	5.3	5	30	11
Spr 2013	11	Math	16	373	1.8	1479	7.1	6	33	11
Spr 2013	11	Math	17	409	2.0	1888	9.0	8	36	11
Spr 2013	11	Math	18	383	1.8	2271	10.9	10	39	11
Spr 2013	11	Math	19	410	2.0	2681	12.8	12	42	10
Spr 2013	11	Math	20	402	1.9	3083	14.7	14	45	10
Spr 2013	11	Math	21	374	1.8	3457	16.5	16	48	10
Spr 2013	11	Math	22	399	1.9	3856	18.4	17	51	10
Spr 2013	11	Math	23	342	1.6	4198	20.1	19	54	10
Spr 2013	11	Math	24	415	2.0	4613	22.1	21	56	10
Spr 2013	11	Math	25	366	1.7	4979	23.8	23	59	10
Spr 2013	11	Math	26	422	2.0	5401	25.8	25	62	10

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	11	Math	27	423	2.0	5824	27.8	27	64	10
Spr 2013	11	Math	28	393	1.9	6217	29.7	29	67	10
Spr 2013	11	Math	29	412	2.0	6629	31.7	31	70	10
Spr 2013	11	Math	30	409	2.0	7038	33.7	33	72	10
Spr 2013	11	Math	31	412	2.0	7450	35.6	35	75	10
Spr 2013	11	Math	32	395	1.9	7845	37.5	37	78	10
Spr 2013	11	Math	33	433	2.1	8278	39.6	39	80	10
Spr 2013	11	Math	34	415	2.0	8693	41.6	41	83	10
Spr 2013	11	Math	35	375	1.8	9068	43.4	42	85	10
Spr 2013	11	Math	36	417	2.0	9485	45.4	44	88	10
Spr 2013	11	Math	37	399	1.9	9884	47.3	46	91	10
Spr 2013	11	Math	38	438	2.1	10322	49.4	48	94	10
Spr 2013	11	Math	39	429	2.1	10751	51.4	50	97	10
Spr 2013	11	Math	40	442	2.1	11193	53.5	52	99	10
Spr 2013	11	Math	41	446	2.1	11639	55.6	55	102	10
Spr 2013	11	Math	42	478	2.3	12117	57.9	57	105	11
Spr 2013	11	Math	43	440	2.1	12557	60.0	59	109	11
Spr 2013	11	Math	44	427	2.0	12984	62.1	61	112	11
Spr 2013	11	Math	45	481	2.3	13465	64.4	63	115	11
Spr 2013	11	Math	46	508	2.4	13973	66.8	66	119	11
Spr 2013	11	Math	47	515	2.5	14488	69.3	68	122	12
Spr 2013	11	Math	48	503	2.4	14991	71.7	70	126	12
Spr 2013	11	Math	49	493	2.4	15484	74.0	73	130	12
Spr 2013	11	Math	50	537	2.6	16021	76.6	75	135	13
Spr 2013	11	Math	51	510	2.4	16531	79.0	78	140	13
Spr 2013	11	Math	52	527	2.5	17058	81.6	80	145	14
Spr 2013	11	Math	53	528	2.5	17586	84.1	83	150	15
Spr 2013	11	Math	54	467	2.2	18053	86.3	85	157	16
Spr 2013	11	Math	55	548	2.6	18601	88.9	88	164	17
Spr 2013	11	Math	56	564	2.7	19165	91.6	90	173	19
Spr 2013	11	Math	57	561	2.7	19726	94.3	93	185	22
Spr 2013	11	Math	58	523	2.5	20249	96.8	96	200	26
Spr 2013	11	Math	59	440	2.1	20689	98.9	98	200	36
Spr 2013	11	Math	60	226	1.1	20915	100.0	99	200	66

Appendix S: Science Raw-to-Scale Conversion Tables and Distributions of Ability

The charts are simple displays of Scale Score, Raw Score, and percentile rank. The raw score and percentile rank for any Scale Score can be read directly from chart.

The performance levels *Meets Standards* begins at a Scale Score of 85 and *Exceeds Standards* begins at 135. *Below Standards* is a Scale Score of 84 and below.

The table is a traditional table that was used to create the chart. This table would be used to retrieve the Scale Score or percentile rank for a given raw score. It also includes counts and percentages at each score.

Grade 5

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	5	Science	0	1	0.0	1	0.0	1	1	59
Spr 2013	5	Science	1	0	0.0	1	0.0	1	1	33
Spr 2013	5	Science	2	0	0.0	1	0.0	1	1	23
Spr 2013	5	Science	3	1	0.0	2	0.0	1	1	19
Spr 2013	5	Science	4	0	0.0	2	0.0	1	1	17
Spr 2013	5	Science	5	2	0.0	4	0.0	1	1	15
Spr 2013	5	Science	6	3	0.0	7	0.0	1	2	14
Spr 2013	5	Science	7	6	0.0	13	0.1	1	8	13
Spr 2013	5	Science	8	11	0.0	24	0.1	1	13	13
Spr 2013	5	Science	9	13	0.1	37	0.2	1	18	12
Spr 2013	5	Science	10	48	0.2	85	0.4	1	22	12
Spr 2013	5	Science	11	73	0.3	158	0.7	1	27	11
Spr 2013	5	Science	12	87	0.4	245	1.1	1	31	11
Spr 2013	5	Science	13	128	0.6	373	1.7	1	34	11
Spr 2013	5	Science	14	136	0.6	509	2.3	2	38	11
Spr 2013	5	Science	15	223	1.0	732	3.3	3	41	10
Spr 2013	5	Science	16	241	1.1	973	4.4	4	45	10
Spr 2013	5	Science	17	248	1.1	1221	5.5	5	48	10
Spr 2013	5	Science	18	311	1.4	1532	7.0	6	51	10
Spr 2013	5	Science	19	349	1.6	1881	8.5	8	54	10
Spr 2013	5	Science	20	413	1.9	2294	10.4	9	57	10
Spr 2013	5	Science	21	404	1.8	2698	12.2	11	60	10
Spr 2013	5	Science	22	445	2.0	3143	14.3	13	63	10
Spr 2013	5	Science	23	462	2.1	3605	16.4	15	66	10
Spr 2013	5	Science	24	487	2.2	4092	18.6	17	69	10

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	5	Science	25	564	2.6	4656	21.1	20	71	10
Spr 2013	5	Science	26	537	2.4	5193	23.6	22	74	10
Spr 2013	5	Science	27	578	2.6	5771	26.2	25	77	10
Spr 2013	5	Science	28	597	2.7	6368	28.9	28	80	10
Spr 2013	5	Science	29	649	2.9	7017	31.8	30	83	10
Spr 2013	5	Science	30	621	2.8	7638	34.7	33	86	10
Spr 2013	5	Science	31	683	3.1	8321	37.7	36	89	10
Spr 2013	5	Science	32	695	3.2	9016	40.9	39	92	10
Spr 2013	5	Science	33	714	3.2	9730	44.1	43	95	10
Spr 2013	5	Science	34	727	3.3	10457	47.4	46	98	10
Spr 2013	5	Science	35	782	3.5	11239	51.0	49	101	10
Spr 2013	5	Science	36	787	3.6	12026	54.6	53	105	11
Spr 2013	5	Science	37	830	3.8	12856	58.3	56	108	11
Spr 2013	5	Science	38	827	3.8	13683	62.1	60	112	11
Spr 2013	5	Science	39	841	3.8	14524	65.9	64	116	11
Spr 2013	5	Science	40	908	4.1	15432	70.0	68	120	12
Spr 2013	5	Science	41	902	4.1	16334	74.1	72	125	12
Spr 2013	5	Science	42	876	4.0	17210	78.1	76	129	13
Spr 2013	5	Science	43	844	3.8	18054	81.9	80	135	13
Spr 2013	5	Science	44	810	3.7	18864	85.6	84	141	14
Spr 2013	5	Science	45	848	3.8	19712	89.4	88	148	15
Spr 2013	5	Science	46	747	3.4	20459	92.8	91	156	17
Spr 2013	5	Science	47	653	3.0	21112	95.8	94	166	19
Spr 2013	5	Science	48	478	2.2	21590	97.9	97	180	23
Spr 2013	5	Science	49	320	1.5	21910	99.4	99	200	33
Spr 2013	5	Science	50	133	0.6	22043	100.0	99	200	59

Grade 8

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	8	Science	0	0	0.0	0	0.0	0	1	61
Spr 2013	8	Science	1	1	0.0	1	0.0	1	1	34
Spr 2013	8	Science	2	0	0.0	1	0.0	1	1	24
Spr 2013	8	Science	3	0	0.0	1	0.0	1	1	20
Spr 2013	8	Science	4	0	0.0	1	0.0	1	1	18
Spr 2013	8	Science	5	3	0.0	4	0.0	1	1	16
Spr 2013	8	Science	6	0	0.0	4	0.0	1	1	15
Spr 2013	8	Science	7	2	0.0	6	0.0	1	1	14
Spr 2013	8	Science	8	0	0.0	6	0.0	1	5	13
Spr 2013	8	Science	9	3	0.0	9	0.0	1	10	12
Spr 2013	8	Science	10	6	0.0	15	0.1	1	14	12

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	8	Science	11	11	0.1	26	0.1	1	18	11
Spr 2013	8	Science	12	20	0.1	46	0.2	1	22	11
Spr 2013	8	Science	13	30	0.1	76	0.4	1	26	11
Spr 2013	8	Science	14	58	0.3	134	0.6	1	29	11
Spr 2013	8	Science	15	85	0.4	219	1.0	1	32	10
Spr 2013	8	Science	16	98	0.5	317	1.5	1	36	10
Spr 2013	8	Science	17	127	0.6	444	2.1	2	39	10
Spr 2013	8	Science	18	159	0.8	603	2.9	2	42	10
Spr 2013	8	Science	19	182	0.9	785	3.7	3	44	10
Spr 2013	8	Science	20	204	1.0	989	4.7	4	47	10
Spr 2013	8	Science	21	226	1.1	1215	5.8	5	50	9
Spr 2013	8	Science	22	252	1.2	1467	7.0	6	52	9
Spr 2013	8	Science	23	282	1.3	1749	8.3	8	55	9
Spr 2013	8	Science	24	283	1.3	2032	9.7	9	58	9
Spr 2013	8	Science	25	321	1.5	2353	11.2	10	60	9
Spr 2013	8	Science	26	359	1.7	2712	12.9	12	63	9
Spr 2013	8	Science	27	388	1.8	3100	14.7	14	65	9
Spr 2013	8	Science	28	386	1.8	3486	16.6	16	68	9
Spr 2013	8	Science	29	428	2.0	3914	18.6	18	70	9
Spr 2013	8	Science	30	449	2.1	4363	20.7	20	72	9
Spr 2013	8	Science	31	466	2.2	4829	23.0	22	75	9
Spr 2013	8	Science	32	495	2.4	5324	25.3	24	77	9
Spr 2013	8	Science	33	505	2.4	5829	27.7	27	80	9
Spr 2013	8	Science	34	539	2.6	6368	30.3	29	82	9
Spr 2013	8	Science	35	514	2.4	6882	32.7	31	85	9
Spr 2013	8	Science	36	608	2.9	7490	35.6	34	87	9
Spr 2013	8	Science	37	610	2.9	8100	38.5	37	90	9
Spr 2013	8	Science	38	595	2.8	8695	41.3	40	93	9
Spr 2013	8	Science	39	655	3.1	9350	44.4	43	95	9
Spr 2013	8	Science	40	670	3.2	10020	47.6	46	98	10
Spr 2013	8	Science	41	694	3.3	10714	50.9	49	101	10
Spr 2013	8	Science	42	676	3.2	11390	54.1	53	103	10
Spr 2013	8	Science	43	733	3.5	12123	57.6	56	106	10
Spr 2013	8	Science	44	712	3.4	12835	61.0	59	109	10
Spr 2013	8	Science	45	698	3.3	13533	64.3	63	113	10
Spr 2013	8	Science	46	769	3.7	14302	68.0	66	116	11
Spr 2013	8	Science	47	729	3.5	15031	71.4	70	119	11
Spr 2013	8	Science	48	709	3.4	15740	74.8	73	123	11
Spr 2013	8	Science	49	698	3.3	16438	78.1	76	127	12
Spr 2013	8	Science	50	731	3.5	17169	81.6	80	131	12
Spr 2013	8	Science	51	644	3.1	17813	84.7	83	135	12

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	8	Science	52	600	2.9	18413	87.5	86	140	13
Spr 2013	8	Science	53	590	2.8	19003	90.3	89	145	14
Spr 2013	8	Science	54	503	2.4	19506	92.7	92	151	15
Spr 2013	8	Science	55	463	2.2	19969	94.9	94	158	16
Spr 2013	8	Science	56	383	1.8	20352	96.7	96	167	18
Spr 2013	8	Science	57	296	1.4	20648	98.1	97	177	20
Spr 2013	8	Science	58	217	1.0	20865	99.2	99	192	24
Spr 2013	8	Science	59	135	0.6	21000	99.8	99	200	34
Spr 2013	8	Science	60	41	0.2	21041	100.0	99	200	61

Grade 11

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	11	Science	0	1	0.0	1	0.0	1	1	50
Spr 2013	11	Science	1	0	0.0	1	0.0	1	1	28
Spr 2013	11	Science	2	1	0.0	2	0.0	1	1	20
Spr 2013	11	Science	3	0	0.0	2	0.0	1	1	17
Spr 2013	11	Science	4	0	0.0	2	0.0	1	1	15
Spr 2013	11	Science	5	1	0.0	3	0.0	1	5	13
Spr 2013	11	Science	6	0	0.0	3	0.0	1	11	12
Spr 2013	11	Science	7	1	0.0	4	0.0	1	17	12
Spr 2013	11	Science	8	3	0.0	7	0.0	1	21	11
Spr 2013	11	Science	9	12	0.1	19	0.1	1	26	10
Spr 2013	11	Science	10	20	0.1	39	0.2	1	29	10
Spr 2013	11	Science	11	32	0.2	71	0.3	1	33	10
Spr 2013	11	Science	12	67	0.3	138	0.7	1	36	9
Spr 2013	11	Science	13	78	0.4	216	1.0	1	39	9
Spr 2013	11	Science	14	104	0.5	320	1.5	1	42	9
Spr 2013	11	Science	15	136	0.7	456	2.2	2	45	9
Spr 2013	11	Science	16	141	0.7	597	2.9	3	48	8
Spr 2013	11	Science	17	181	0.9	778	3.7	3	50	8
Spr 2013	11	Science	18	184	0.9	962	4.6	4	53	8
Spr 2013	11	Science	19	218	1.0	1180	5.6	5	55	8
Spr 2013	11	Science	20	239	1.1	1419	6.8	6	58	8
Spr 2013	11	Science	21	256	1.2	1675	8.0	7	60	8
Spr 2013	11	Science	22	264	1.3	1939	9.3	9	62	8
Spr 2013	11	Science	23	308	1.5	2247	10.7	10	64	8
Spr 2013	11	Science	24	300	1.4	2547	12.2	11	67	8
Spr 2013	11	Science	25	288	1.4	2835	13.6	13	69	8
Spr 2013	11	Science	26	351	1.7	3186	15.2	14	71	8
Spr 2013	11	Science	27	323	1.5	3509	16.8	16	73	7

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Admin	Grade	Content Area	Raw Score	Count	Percent	Cum Count	Cum Percent	Percentile	Scale Score	S.E.
Spr 2013	11	Science	28	377	1.8	3886	18.6	18	75	7
Spr 2013	11	Science	29	415	2.0	4301	20.6	20	77	7
Spr 2013	11	Science	30	392	1.9	4693	22.4	22	79	7
Spr 2013	11	Science	31	468	2.2	5161	24.7	24	81	7
Spr 2013	11	Science	32	435	2.1	5596	26.8	26	83	7
Spr 2013	11	Science	33	486	2.3	6082	29.1	28	85	7
Spr 2013	11	Science	34	497	2.4	6579	31.5	30	87	7
Spr 2013	11	Science	35	541	2.6	7120	34.1	33	89	8
Spr 2013	11	Science	36	548	2.6	7668	36.7	35	91	8
Spr 2013	11	Science	37	612	2.9	8280	39.6	38	94	8
Spr 2013	11	Science	38	550	2.6	8830	42.2	41	96	8
Spr 2013	11	Science	39	600	2.9	9430	45.1	44	98	8
Spr 2013	11	Science	40	650	3.1	10080	48.2	47	100	8
Spr 2013	11	Science	41	654	3.1	10734	51.3	50	102	8
Spr 2013	11	Science	42	692	3.3	11426	54.7	53	105	8
Spr 2013	11	Science	43	703	3.4	12129	58.0	56	107	8
Spr 2013	11	Science	44	658	3.1	12787	61.2	60	110	8
Spr 2013	11	Science	45	741	3.5	13528	64.7	63	112	8
Spr 2013	11	Science	46	662	3.2	14190	67.9	66	115	9
Spr 2013	11	Science	47	729	3.5	14919	71.4	70	118	9
Spr 2013	11	Science	48	698	3.3	15617	74.7	73	121	9
Spr 2013	11	Science	49	691	3.3	16308	78.0	76	124	9
Spr 2013	11	Science	50	673	3.2	16981	81.2	80	127	10
Spr 2013	11	Science	51	660	3.2	17641	84.4	83	131	10
Spr 2013	11	Science	52	622	3.0	18263	87.4	86	135	11
Spr 2013	11	Science	53	577	2.8	18840	90.1	89	139	11
Spr 2013	11	Science	54	488	2.3	19328	92.4	91	144	12
Spr 2013	11	Science	55	467	2.2	19795	94.7	94	150	13
Spr 2013	11	Science	56	398	1.9	20193	96.6	96	156	14
Spr 2013	11	Science	57	313	1.5	20506	98.1	97	165	16
Spr 2013	11	Science	58	221	1.1	20727	99.1	99	176	20
Spr 2013	11	Science	59	131	0.6	20858	99.8	99	196	27
Spr 2013	11	Science	60	49	0.2	20907	100.0	99	200	49

Appendix T: Reading Field Test Differential Item Functioning

*AM=American Indian, AS=Asian, BL=African American/Black, HI= Hispanic, MU=Multiple Ethnicities, WH=White
200 student minimum for reporting.

Grade 3 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658122	5853	2674	A+	432	A-	1237	A+	96		194		184	
FT	658123	5853	2674	A-	432	A-	1237	A-	96		194		184	
FT	658124	5853	2674	A+	432	A+	1237	A+	96		194		184	
FT	658125	5853	2674	A+	432	A-	1237	A-	96		194		184	
FT	658126	5853	2674	A+	432	A+	1237	A-	96		194		184	
FT	658128	5853	2674	A-	432	A-	1237	A-	96		194		184	
FT	658130	5853	2674	A-	432	A-	1237	A-	96		194		184	
FT	658131	5853	2674	A-	432	A-	1237	A+	96		194		184	
FT	658132	5853	2674	A-	432	A-	1237	A-	96		194		184	
FT	658134	5853	2674	A-	432	A-	1237	A-	96		194		184	
FT	658136	4247	2145	A-	278	A-	697	A-	64		86		146	
FT	658137	4247	2145	A-	278	B-	697	A-	64		86		146	
FT	658138	4247	2145	A+	278	A+	697	A-	64		86		146	
FT	658139	4247	2145	A+	278	A+	697	A-	64		86		146	
FT	658140	4247	2145	A+	278	A-	697	A-	64		86		146	
FT	658141	4247	2145	A+	278	A+	697	A+	64		86		146	
FT	658142	4247	2145	A+	278	A-	697	A+	64		86		146	
FT	658143	4247	2145	A+	278	A-	697	A-	64		86		146	
FT	658144	4247	2145	A-	278	A-	697	A-	64		86		146	
FT	658147	4247	2145	A-	278	A-	697	A-	64		86		146	

Grade 3 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658150	4224	2071	A+	272	A-	666	A-	54		70		161	
FT	658151	4224	2071	A-	272	A-	666	A-	54		70		161	
FT	658152	4224	2071	A+	272	B-	666	A+	54		70		161	
FT	658156	4224	2071	A+	272	A-	666	A+	54		70		161	
FT	658158	4224	2071	A+	272	A-	666	A-	54		70		161	
FT	658159	4224	2071	A+	272	A-	666	A-	54		70		161	
FT	658160	4224	2071	A-	272	A-	666	A+	54		70		161	
FT	658161	4224	2071	A+	272	A+	666	A+	54		70		161	
FT	658162	4224	2071	A+	272	A-	666	A+	54		70		161	
FT	658163	4224	2071	A+	272	A-	666	A+	54		70		161	
FT	658165	4167	2065	A-	269	A-	648	A-	60		69		146	
FT	658166	4167	2065	A-	269	A-	648	B-	60		69		146	
FT	658167	4167	2065	A+	269	A-	648	A+	60		69		146	
FT	658168	4167	2065	A-	269	A-	648	A-	60		69		146	
FT	658169	4167	2065	A+	269	A-	648	A-	60		69		146	
FT	658170	4167	2065	A-	269	B-	648	A-	60		69		146	
FT	658171	4167	2065	A+	269	A-	648	A+	60		69		146	
FT	658172	4167	2065	A+	269	A-	648	A-	60		69		146	
FT	658173	4167	2065	A+	269	B-	648	A+	60		69		146	
FT	658175	4167	2065	A-	269	A-	648	A-	60		69		146	
FT	658177	4224	2153	A+	254	B-	700	A-	51		71		154	
FT	658179	4224	2153	B+	254	A-	700	A-	51		71		154	
FT	658180	4224	2153	A+	254	A+	700	A-	51		71		154	
FT	658181	4224	2153	A+	254	A-	700	A-	51		71		154	
FT	658182	4224	2153	A+	254	A-	700	A-	51		71		154	
FT	658184	4224	2153	A+	254	A-	700	A+	51		71		154	
FT	658185	4224	2153	A+	254	A+	700	A-	51		71		154	

Grade 3 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658186	4224	2153	A+	254	A-	700	A-	51		71		154	
FT	658187	4224	2153	A+	254	A-	700	A-	51		71		154	
FT	658189	4224	2153	A-	254	A-	700	A+	51		71		154	

Grade 4 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658191	5500	2496	B+	406	A-	1122	A-	89		167		193	
FT	658192	5500	2496	A-	406	C-	1122	C-	89		167		193	
FT	658193	5500	2496	A+	406	A-	1122	A-	89		167		193	
FT	658195	5500	2496	A-	406	B-	1122	B-	89		167		193	
FT	658197	5500	2496	A+	406	A-	1122	A-	89		167		193	
FT	658198	5500	2496	A-	406	B-	1122	B-	89		167		193	
FT	658200	5500	2496	A-	406	A+	1122	A-	89		167		193	
FT	658201	5500	2496	A+	406	A-	1122	A-	89		167		193	
FT	658202	5500	2496	A-	406	A-	1122	A-	89		167		193	
FT	658203	5500	2496	A-	406	A-	1122	A-	89		167		193	
FT	658204	4164	2059	B-	241	A-	654	A-	48		100		141	
FT	658205	4164	2059	A+	241	A+	654	A+	48		100		141	
FT	658206	4164	2059	B-	241	B-	654	A-	48		100		141	
FT	658207	4164	2059	A+	241	B-	654	A-	48		100		141	
FT	658208	4164	2059	A-	241	A-	654	A+	48		100		141	
FT	658209	4164	2059	A+	241	A-	654	A-	48		100		141	
FT	658210	4164	2059	A-	241	A-	654	A-	48		100		141	

Grade 4 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658211	4164	2059	A+	241	A+	654	A-	48		100		141	
FT	658214	4164	2059	A+	241	A-	654	A-	48		100		141	
FT	658215	4164	2059	A-	241	B-	654	A-	48		100		141	
FT	658216	4110	1997	A+	270	A-	653	A+	63		77		131	
FT	658217	4110	1997	A-	270	A-	653	A-	63		77		131	
FT	658220	4110	1997	A+	270	A+	653	A+	63		77		131	
FT	658221	4110	1997	B+	270	B-	653	A+	63		77		131	
FT	658222	4110	1997	A+	270	A-	653	A+	63		77		131	
FT	658223	4110	1997	A+	270	A-	653	A+	63		77		131	
FT	658224	4110	1997	A-	270	A-	653	A+	63		77		131	
FT	658226	4110	1997	A+	270	A-	653	A+	63		77		131	
FT	658227	4110	1997	A-	270	A+	653	A+	63		77		131	
FT	658228	4110	1997	A-	270	A-	653	A-	63		77		131	
FT	658229	4211	2135	A+	259	A+	693	A+	54		86		156	
FT	658230	4211	2135	A+	259	A-	693	A-	54		86		156	
FT	658232	4211	2135	A-	259	A-	693	B-	54		86		156	
FT	658233	4211	2135	A+	259	A-	693	A+	54		86		156	
FT	658234	4211	2135	A-	259	A-	693	A+	54		86		156	
FT	658235	4211	2135	A-	259	A-	693	A+	54		86		156	
FT	658236	4211	2135	A-	259	A-	693	A+	54		86		156	
FT	658237	4211	2135	A+	259	A-	693	A+	54		86		156	
FT	658239	4211	2135	A+	259	A-	693	A-	54		86		156	
FT	658240	4211	2135	A+	259	A-	693	A+	54		86		156	
FT	658242	4224	2060	A+	258	A-	743	A-	57		77		147	
FT	658243	4224	2060	A-	258	A-	743	A-	57		77		147	
FT	658244	4224	2060	A-	258	B-	743	A-	57		77		147	
FT	658245	4224	2060	A+	258	A-	743	A-	57		77		147	

Grade 4 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658246	4224	2060	A+	258	A-	743	A+	57		77		147	
FT	658247	4224	2060	A+	258	A-	743	A-	57		77		147	
FT	658248	4224	2060	A+	258	A+	743	A-	57		77		147	
FT	658249	4224	2060	A+	258	A-	743	A+	57		77		147	
FT	658250	4224	2060	A+	258	A-	743	A+	57		77		147	
FT	658251	4224	2060	A+	258	A-	743	A-	57		77		147	

Grade 5 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658253	5388	2522	A-	377	A+	1010	A-	75		145		180	
FT	658256	5388	2522	A+	377	A+	1010	A-	75		145		180	
FT	658257	5388	2522	A+	377	A-	1010	A+	75		145		180	
FT	658258	5388	2522	A+	377	A-	1010	A-	75		145		180	
FT	658259	5388	2522	A-	377	A+	1010	A-	75		145		180	
FT	658260	5388	2522	A-	377	A-	1010	A-	75		145		180	
FT	658261	5388	2522	A-	377	B-	1010	A-	75		145		180	
FT	658262	5388	2522	A-	377	A-	1010	A-	75		145		180	
FT	658264	5388	2522	A-	377	A-	1010	A+	75		145		180	
FT	658265	5388	2522	A-	377	A-	1010	B-	75		145		180	
FT	658267	4253	2119	A-	243	B-	751	A-	53		83		127	
FT	658268	4253	2119	A+	243	C-	751	B-	53		83		127	
FT	658269	4253	2119	A-	243	B-	751	A-	53		83		127	
FT	658270	4253	2119	A+	243	A+	751	A+	53		83		127	

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Grade 5 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658271	4253	2119	A-	243	B-	751	A-	53		83		127	
FT	658272	4253	2119	A+	243	B-	751	A-	53		83		127	
FT	658273	4253	2119	A+	243	A-	751	A-	53		83		127	
FT	658274	4253	2119	A+	243	A-	751	A-	53		83		127	
FT	658275	4253	2119	A+	243	A-	751	A-	53		83		127	
FT	658276	4253	2119	A+	243	A-	751	A-	53		83		127	
FT	658278	4074	2050	B-	240	B-	663	B-	51		82		140	
FT	658279	4074	2050	A+	240	A-	663	A-	51		82		140	
FT	658280	4074	2050	A+	240	A-	663	A-	51		82		140	
FT	658281	4074	2050	A+	240	A-	663	A-	51		82		140	
FT	658282	4074	2050	A-	240	A-	663	A+	51		82		140	
FT	658283	4074	2050	A+	240	A+	663	A+	51		82		140	
FT	658284	4074	2050	A+	240	A-	663	A+	51		82		140	
FT	658285	4074	2050	A+	240	A-	663	A+	51		82		140	
FT	658286	4074	2050	A-	240	B-	663	A-	51		82		140	
FT	658287	4074	2050	A+	240	A-	663	A-	51		82		140	
FT	658288	4149	2102	A+	275	A+	701	A-	63		76		134	
FT	658289	4149	2102	A+	275	A-	701	A-	63		76		134	
FT	658290	4149	2102	A+	275	A+	701	A+	63		76		134	
FT	658291	4149	2102	A+	275	A-	701	A+	63		76		134	
FT	658292	4149	2102	A+	275	A-	701	A-	63		76		134	
FT	658293	4149	2102	A-	275	A-	701	A+	63		76		134	
FT	658294	4149	2102	A+	275	A+	701	A-	63		76		134	
FT	658295	4149	2102	A+	275	A+	701	A+	63		76		134	
FT	658296	4149	2102	A+	275	A+	701	A-	63		76		134	
FT	658297	4149	2102	A-	275	A+	701	A+	63		76		134	
FT	658300	4122	2070	A+	250	A-	701	A-	60		81		151	

Grade 5 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658301	4122	2070	A+	250	A-	701	A-	60		81		151	
FT	658302	4122	2070	A+	250	A-	701	A+	60		81		151	
FT	658303	4122	2070	A+	250	A-	701	A+	60		81		151	
FT	658304	4122	2070	B+	250	A-	701	A-	60		81		151	
FT	658305	4122	2070	A-	250	A+	701	A+	60		81		151	
FT	658306	4122	2070	A-	250	A-	701	B-	60		81		151	
FT	658307	4122	2070	A-	250	A-	701	A-	60		81		151	
FT	658308	4122	2070	A+	250	A-	701	A-	60		81		151	
FT	658984	4122	2070	A+	250	A-	701	A+	60		81		151	

Grade 6 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658310	4172	2059	A-	271	A+	667	A-	65		81		124	
FT	658311	4172	2059	A-	271	A-	667	A-	65		81		124	
FT	658312	4172	2059	A+	271	A-	667	A+	65		81		124	
FT	658314	4172	2059	A+	271	C-	667	A-	65		81		124	
FT	658315	4172	2059	A-	271	A-	667	A-	65		81		124	
FT	658316	4172	2059	A+	271	C-	667	A-	65		81		124	
FT	658317	4172	2059	A+	271	A+	667	A-	65		81		124	
FT	658318	4172	2059	A+	271	A+	667	A+	65		81		124	
FT	658319	4172	2059	A-	271	A-	667	A+	65		81		124	
FT	658320	4172	2059	A-	271	A+	667	A+	65		81		124	
FT	658322	5186	2505	A-	427	C-	938	C-	81		140		185	

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Grade 6 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658323	5186	2505	A+	427	A-	938	A-	81		140		185	
FT	658324	5186	2505	A+	427	A-	938	A+	81		140		185	
FT	658325	5186	2505	A+	427	A-	938	A-	81		140		185	
FT	658326	5186	2505	A+	427	B-	938	A-	81		140		185	
FT	658327	5186	2505	A-	427	A-	938	A-	81		140		185	
FT	658328	5186	2505	A+	427	A+	938	A+	81		140		185	
FT	658330	5186	2505	A+	427	A-	938	A-	81		140		185	
FT	658331	5186	2505	A+	427	A+	938	A+	81		140		185	
FT	658332	5186	2505	A+	427	A-	938	A-	81		140		185	
FT	658336	4087	1979	A+	226	A-	629	A+	59		87		118	
FT	658337	4087	1979	A-	226	B-	629	A-	59		87		118	
FT	658339	4087	1979	A-	226	C-	629	A-	59		87		118	
FT	658340	4087	1979	A-	226	B-	629	A-	59		87		118	
FT	658341	4087	1979	A+	226	A-	629	A+	59		87		118	
FT	658343	4087	1979	A+	226	A-	629	A-	59		87		118	
FT	658345	4087	1979	A-	226	A-	629	A+	59		87		118	
FT	658347	4087	1979	A-	226	A-	629	A-	59		87		118	
FT	658348	4087	1979	A-	226	A-	629	A+	59		87		118	
FT	658350	4087	1979	A-	226	A-	629	A+	59		87		118	
FT	658352	4129	2079	A+	281	A-	672	A-	72		92		126	
FT	658354	4129	2079	A-	281	A+	672	A+	72		92		126	
FT	658358	4129	2079	A+	281	A+	672	A+	72		92		126	
FT	658359	4129	2079	A+	281	A-	672	A-	72		92		126	
FT	658360	4129	2079	A+	281	A-	672	A+	72		92		126	
FT	658361	4129	2079	A+	281	A-	672	A-	72		92		126	
FT	658362	4129	2079	A+	281	B-	672	A-	72		92		126	
FT	658363	4129	2079	A-	281	A-	672	A+	72		92		126	

Grade 6 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658364	4129	2079	A-	281	A-	672	A+	72		92		126	
FT	658365	4129	2079	A+	281	A-	672	A-	72		92		126	
FT	658366	4078	2028	A-	248	A-	692	A-	58		68		121	
FT	658367	4078	2028	A+	248	A+	692	A-	58		68		121	
FT	658368	4078	2028	A+	248	A+	692	A-	58		68		121	
FT	658369	4078	2028	A-	248	A-	692	A-	58		68		121	
FT	658370	4078	2028	A+	248	A+	692	A-	58		68		121	
FT	658372	4078	2028	A+	248	A-	692	A-	58		68		121	
FT	658374	4078	2028	A-	248	A+	692	B+	58		68		121	
FT	658375	4078	2028	A-	248	B-	692	A-	58		68		121	
FT	658378	4078	2028	A-	248	A+	692	A-	58		68		121	
FT	658379	4078	2028	A-	248	A-	692	B-	58		68		121	

Grade 7 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658382	4145	2058	A-	252	A-	658	A-	54		61		121	
FT	658383	4145	2058	A-	252	A+	658	A-	54		61		121	
FT	658386	4145	2058	A+	252	A-	658	A-	54		61		121	
FT	658387	4145	2058	A+	252	A-	658	A-	54		61		121	
FT	658388	4145	2058	A-	252	A+	658	A+	54		61		121	
FT	658389	4145	2058	A+	252	A+	658	A+	54		61		121	
FT	658390	4145	2058	A-	252	A-	658	A+	54		61		121	
FT	658391	4145	2058	A-	252	A-	658	A-	54		61		121	

Grade 7 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658393	4145	2058	A-	252	A-	658	A+	54		61		121	
FT	658394	4145	2058	A-	252	A-	658	A-	54		61		121	
FT	658397	4142	1974	A-	244	A+	722	A-	53		75		116	
FT	658400	4142	1974	B-	244	A-	722	C-	53		75		116	
FT	658401	4142	1974	A+	244	A-	722	A-	53		75		116	
FT	658404	4142	1974	A-	244	A-	722	A-	53		75		116	
FT	658405	4142	1974	B+	244	B-	722	A-	53		75		116	
FT	658406	4142	1974	B+	244	A-	722	A-	53		75		116	
FT	658407	4142	1974	A+	244	A+	722	A-	53		75		116	
FT	658408	4142	1974	A+	244	A-	722	A+	53		75		116	
FT	658409	4142	1974	A+	244	A-	722	A+	53		75		116	
FT	658410	4142	1974	B+	244	A-	722	A-	53		75		116	
FT	658413	4840	2309	A-	321	A-	802	A-	82		93		173	
FT	658414	4840	2309	A-	321	A-	802	A-	82		93		173	
FT	658417	4840	2309	A-	321	A-	802	A-	82		93		173	
FT	658418	4840	2309	A-	321	A-	802	A+	82		93		173	
FT	658420	4840	2309	A-	321	B-	802	A-	82		93		173	
FT	658421	4840	2309	A+	321	A-	802	A+	82		93		173	
FT	658422	4840	2309	A+	321	A-	802	A-	82		93		173	
FT	658424	4840	2309	A+	321	A-	802	A-	82		93		173	
FT	658427	4840	2309	A-	321	A-	802	A-	82		93		173	
FT	658429	4840	2309	A-	321	A+	802	A+	82		93		173	
FT	658431	4127	2020	A+	265	A-	664	A-	61		80		126	
FT	658433	4127	2020	B-	265	B-	664	C-	61		80		126	
FT	658434	4127	2020	A-	265	B-	664	A-	61		80		126	
FT	658435	4127	2020	A-	265	A-	664	A-	61		80		126	
FT	658436	4127	2020	A-	265	A-	664	A+	61		80		126	

Grade 7 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658437	4127	2020	A-	265	A-	664	A-	61		80		126	
FT	658438	4127	2020	A+	265	A-	664	A+	61		80		126	
FT	658439	4127	2020	A-	265	A-	664	A-	61		80		126	
FT	658440	4127	2020	A+	265	A-	664	A+	61		80		126	
FT	658441	4127	2020	A+	265	A-	664	A-	61		80		126	
FT	658442	4184	2070	A-	299	A+	674	A-	52		67		131	
FT	658443	4184	2070	A+	299	C-	674	C-	52		67		131	
FT	658444	4184	2070	A-	299	A-	674	A-	52		67		131	
FT	658447	4184	2070	A+	299	A-	674	B-	52		67		131	
FT	658448	4184	2070	A-	299	A-	674	A-	52		67		131	
FT	658450	4184	2070	A+	299	A-	674	A-	52		67		131	
FT	658451	4184	2070	A+	299	A-	674	A-	52		67		131	
FT	658452	4184	2070	A+	299	A-	674	A+	52		67		131	
FT	658453	4184	2070	A-	299	A-	674	A-	52		67		131	
FT	658454	4184	2070	A-	299	A-	674	A-	52		67		131	

Grade 8 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658455	4128	2060	A-	251	B-	658	C-	63		76		129	
FT	658456	4128	2060	A+	251	B-	658	B-	63		76		129	
FT	658457	4128	2060	A+	251	A-	658	B-	63		76		129	
FT	658459	4128	2060	A-	251	A-	658	A-	63		76		129	
FT	658460	4128	2060	A-	251	A-	658	A-	63		76		129	

Grade 8 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658461	4128	2060	A+	251	A-	658	A+	63		76		129	
FT	658462	4128	2060	A+	251	C-	658	A-	63		76		129	
FT	658463	4128	2060	A+	251	A-	658	A-	63		76		129	
FT	658464	4128	2060	A+	251	A-	658	A-	63		76		129	
FT	658465	4128	2060	A+	251	A-	658	A-	63		76		129	
FT	658468	4038	1946	A+	257	A-	629	A-	65		81		118	
FT	658469	4038	1946	A+	257	B-	629	A-	65		81		118	
FT	658470	4038	1946	A+	257	A-	629	A-	65		81		118	
FT	658472	4038	1946	A+	257	A+	629	A-	65		81		118	
FT	658473	4038	1946	A-	257	A+	629	A-	65		81		118	
FT	658474	4038	1946	A+	257	A-	629	A-	65		81		118	
FT	658475	4038	1946	A+	257	A-	629	A-	65		81		118	
FT	658476	4038	1946	A+	257	B-	629	A-	65		81		118	
FT	658477	4038	1946	A+	257	A+	629	A+	65		81		118	
FT	658478	4038	1946	A+	257	A-	629	A+	65		81		118	
FT	658479	4082	1962	A+	240	A-	601	A-	72		67		115	
FT	658480	4082	1962	A-	240	A-	601	A-	72		67		115	
FT	658481	4082	1962	A-	240	B-	601	B-	72		67		115	
FT	658483	4082	1962	B+	240	B-	601	A-	72		67		115	
FT	658484	4082	1962	A+	240	A-	601	A-	72		67		115	
FT	658486	4082	1962	A+	240	B-	601	A-	72		67		115	
FT	658487	4082	1962	A-	240	A-	601	A-	72		67		115	
FT	658488	4082	1962	A+	240	B-	601	A-	72		67		115	
FT	658489	4082	1962	A+	240	B-	601	A-	72		67		115	
FT	658490	4082	1962	A+	240	A-	601	A-	72		67		115	
FT	658491	4049	2015	B-	246	B-	668	B-	47		87		136	
FT	658492	4049	2015	C-	246	A-	668	A-	47		87		136	

Grade 8 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658493	4049	2015	A-	246	C-	668	B-	47		87		136	
FT	658494	4049	2015	A-	246	B-	668	A-	47		87		136	
FT	658495	4049	2015	A-	246	A-	668	A-	47		87		136	
FT	658496	4049	2015	A-	246	A-	668	A+	47		87		136	
FT	658497	4049	2015	A-	246	A-	668	A-	47		87		136	
FT	658498	4049	2015	A-	246	A-	668	A-	47		87		136	
FT	658499	4049	2015	A+	246	B-	668	A-	47		87		136	
FT	658501	4049	2015	A-	246	A+	668	A+	47		87		136	
FT	658502	4695	2235	B-	268	A+	808	B-	75		102		153	
FT	658503	4695	2235	A-	268	A-	808	A-	75		102		153	
FT	658504	4695	2235	A+	268	A-	808	A-	75		102		153	
FT	658505	4695	2235	A-	268	C-	808	A-	75		102		153	
FT	658506	4695	2235	A+	268	A-	808	A-	75		102		153	
FT	658507	4695	2235	A+	268	A+	808	A-	75		102		153	
FT	658508	4695	2235	A+	268	A-	808	A+	75		102		153	
FT	658509	4695	2235	A+	268	A+	808	A+	75		102		153	
FT	658510	4695	2235	A+	268	A-	808	A-	75		102		153	
FT	658511	4695	2235	A-	268	A+	808	A-	75		102		153	

Grade 11 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658512	4109	2017	A+	246	B-	591	A-	46		94		116	
FT	658513	4109	2017	B-	246	A+	591	A-	46		94		116	
FT	658515	4109	2017	A-	246	A-	591	A+	46		94		116	

Grade 11 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658516	4109	2017	A-	246	A+	591	A+	46		94		116	
FT	658517	4109	2017	A+	246	A-	591	A+	46		94		116	
FT	658518	4109	2017	A-	246	B-	591	A-	46		94		116	
FT	658519	4109	2017	A-	246	A-	591	A+	46		94		116	
FT	658520	4109	2017	A-	246	A-	591	A-	46		94		116	
FT	658522	4109	2017	A+	246	A+	591	A+	46		94		116	
FT	658524	4109	2017	A+	246	B-	591	A-	46		94		116	
FT	658525	3977	1994	A+	253	B-	581	A-	49		82		120	
FT	658526	3977	1994	A-	253	A-	581	A-	49		82		120	
FT	658527	3977	1994	C-	253	C-	581	C-	49		82		120	
FT	658528	3977	1994	B+	253	A-	581	A-	49		82		120	
FT	658529	3977	1994	A+	253	A-	581	A-	49		82		120	
FT	658530	3977	1994	A+	253	A+	581	A+	49		82		120	
FT	658531	3977	1994	A+	253	A-	581	A+	49		82		120	
FT	658532	3977	1994	A+	253	A-	581	A-	49		82		120	
FT	658533	3977	1994	A+	253	A-	581	A-	49		82		120	
FT	658535	3977	1994	A-	253	A-	581	B-	49		82		120	
FT	658536	4090	2038	A+	246	A-	563	A+	40		107		132	
FT	658537	4090	2038	A-	246	C-	563	C-	40		107		132	
FT	658539	4090	2038	A-	246	A-	563	A-	40		107		132	
FT	658541	4090	2038	A-	246	B-	563	B-	40		107		132	
FT	658542	4090	2038	A+	246	A-	563	A+	40		107		132	
FT	658543	4090	2038	A+	246	A-	563	A-	40		107		132	
FT	658544	4090	2038	A-	246	A-	563	A-	40		107		132	
FT	658545	4090	2038	A+	246	B+	563	A+	40		107		132	
FT	658546	4090	2038	A-	246	A-	563	A-	40		107		132	
FT	658547	4090	2038	A+	246	A-	563	A-	40		107		132	
FT	658548	4107	2048	A-	217	A-	583	A-	56		72		106	

Grade 11 Reading			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	658549	4107	2048	A-	217	A+	583	A+	56		72		106	
FT	658550	4107	2048	A+	217	C-	583	A-	56		72		106	
FT	658551	4107	2048	A-	217	A-	583	A-	56		72		106	
FT	658552	4107	2048	A+	217	A-	583	A-	56		72		106	
FT	658553	4107	2048	A-	217	A-	583	A-	56		72		106	
FT	658554	4107	2048	A+	217	A+	583	A+	56		72		106	
FT	658555	4107	2048	A+	217	B-	583	A-	56		72		106	
FT	658556	4107	2048	A-	217	A+	583	A-	56		72		106	
FT	658558	4107	2048	A+	217	A+	583	A+	56		72		106	
FT	658559	4632	2236	A-	298	A+	746	A-	60		112		131	
FT	658560	4632	2236	A-	298	A-	746	A-	60		112		131	
FT	658561	4632	2236	A-	298	A-	746	A-	60		112		131	
FT	658562	4632	2236	A-	298	B-	746	A-	60		112		131	
FT	658563	4632	2236	A-	298	B-	746	A-	60		112		131	
FT	658564	4632	2236	A-	298	A-	746	A+	60		112		131	
FT	658566	4632	2236	A+	298	C-	746	B-	60		112		131	
FT	658567	4632	2236	A-	298	A-	746	A-	60		112		131	
FT	658568	4632	2236	A-	298	A-	746	A-	60		112		131	
FT	658570	4632	2236	A-	298	A-	746	A-	60		112		131	

Appendix U: Mathematics Field Test Differential Item Functioning

*M=Male, F=Female, AM=American Indian, AS=Asian, BL=African American/Black, HI= Hispanic, MU=Multiple Ethnicities, WH=White
200 student minimum for reporting

Grade 3 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	659838	5783	2742	A-	414	A-	1257	A-	88		194		215	A-
FT	659839	5708	2657	A-	435	B-	1180	A-	85		194		231	A-
FT	659841	4192	2080	B-	296	A-	630	A-	53		84		131	
FT	659843	4217	2080	A-	286	A-	665	A+	73		78		138	
FT	659844	5700	2571	A-	402	A-	1226	A+	77		190		193	
FT	659846	4378	2157	A+	292	A-	680	A-	67		72		153	
FT	659848	4290	2165	A-	291	B-	708	B-	53		74		163	
FT	659849	4240	2118	A-	256	A-	674	B-	65		71		150	
FT	659850	4224	2050	A-	258	B-	668	A-	64		78		165	
FT	659852	4225	2080	A-	279	A+	692	A+	57		83		153	
FT	659854	4265	2145	A-	301	A-	689	A-	56		90		137	
FT	659855	4306	2161	A-	258	B-	725	A-	65		90		145	
FT	659856	4357	2210	A+	272	B-	763	A-	55		73		160	
FT	659857	4230	2092	A-	265	A-	659	A-	64		75		152	
FT	659859	4142	1998	A-	272	A-	658	A+	50		75		126	
FT	659860	5848	2704	A+	411	A+	1266	A-	89		188		217	A-
FT	659861	4176	2072	A-	258	A-	641	A-	71		76		154	
FT	659862	4315	2092	A-	278	A-	637	A+	62		105		163	
FT	659863	5763	2717	A+	418	A+	1220	A+	65		187		215	A-
FT	659864	4276	2103	A-	278	A+	682	A+	57		91		133	
FT	659866	4179	2081	A-	255	A+	658	A+	63		83		134	
FT	659867	4249	2107	A+	266	B+	699	A+	56		93		152	
FT	659868	4215	2073	A+	236	A-	705	A+	64		95		115	

Grade 3 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	659870	5749	2700	A+	413	A-	1215	A+	87		178		216	A+
FT	659871	4239	2129	A-	288	A-	668	A+	63		83		152	
FT	659872	4248	2178	A+	268	A+	683	A+	61		75		150	
FT	659873	4242	2119	A-	279	A+	688	A+	54		79		159	
FT	659874	5657	2662	A-	417	A-	1202	A-	83		200	A-	199	
FT	659875	4260	2108	A-	287	A+	693	A-	57		93		145	
FT	659877	4273	2132	A-	254	C-	711	A-	64		83		146	
FT	659878	5727	2698	A-	437	C-	1188	C-	84		195		200	A+
FT	659879	4230	2078	A+	269	B-	711	B-	64		84		154	
FT	659880	4280	2140	A-	260	B-	669	A-	65		85		136	
FT	659882	4331	2171	A-	284	B-	676	A-	66		83		154	
FT	659883	4207	2085	A-	259	B-	643	A-	65		74		149	
FT	659885	4268	2085	A+	273	A+	698	B+	70		79		145	
FT	659886	4310	2110	A+	275	A+	711	A+	57		85		155	
FT	659887	5787	2758	A-	417	A-	1214	A-	90		193		219	A-
FT	659888	4230	2084	A-	281	A-	663	A-	71		86		152	
FT	659890	4204	2109	A+	293	A-	657	A+	62		79		129	
FT	659891	4328	2142	A+	284	A-	716	A+	48		78		150	
FT	659892	4210	2102	A+	260	A-	708	A+	53		81		141	
FT	659894	4262	2103	A+	266	B-	690	A-	63		80		160	
FT	659895	4172	2091	A+	277	A-	661	A+	59		71		166	
FT	659897	4350	2161	A-	281	A+	725	A+	56		75		114	
FT	659898	4311	2103	A+	285	A-	681	A+	60		81		136	
FT	659899	5723	2693	A+	414	A-	1227	A-	71		188		196	
FT	659900	4166	2098	A+	252	A-	678	A-	61		77		138	
FT	659902	4268	2089	A-	258	A-	732	A+	63		76		131	
FT	659903	4225	2067	A-	287	B-	700	B-	54		70		153	

Grade 4 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	659905	4195	1997	A-	249	A+	693	A-	60		87		149	
FT	659906	5552	2597	A+	408	A-	1166	A-	86		171		179	
FT	659911	4195	2040	A-	284	A-	715	A-	58		89		134	
FT	659915	4204	2078	A+	259	B-	707	A-	69		78		149	
FT	659916	5586	2604	B+	419	B-	1140	A-	103		176		165	
FT	659918	4145	2040	A+	238	A-	683	A-	52		92		160	
FT	659919	5506	2572	A+	400	A-	1091	A-	84		184		191	
FT	659921	4098	2006	A-	234	B-	665	A-	65		84		148	
FT	659922	4065	1976	A-	231	C-	690	B-	59		76		135	
FT	659923	4199	2079	A+	291	A-	665	A+	45		81		144	
FT	659924	5598	2608	A+	425	B-	1151	A-	84		168		201	A-
FT	659926	4263	2088	A+	275	A-	665	A-	58		110		130	
FT	659927	4211	2035	A+	259	A-	660	A-	61		87		128	
FT	659928	5535	2599	A+	419	A-	1167	A-	97		167		182	
FT	659932	4192	2062	A+	230	A-	704	A+	50		108		144	
FT	659935	4244	2094	A+	254	A-	699	A-	52		81		168	
FT	659937	4174	2053	A-	258	A-	685	A+	54		90		151	
FT	659939	5647	2665	A+	428	A+	1181	A+	86		158		202	A-
FT	659941	4111	1962	A-	233	A+	715	A+	51		67		139	
FT	659943	4144	2052	A+	239	A-	660	A-	54		82		151	
FT	659945	4165	1998	A-	252	A-	662	A-	60		85		154	
FT	659946	4216	2055	A+	264	A-	678	A+	52		105		139	
FT	659947	5584	2645	A-	395	A-	1189	A-	97		158		201	A+
FT	659949	4149	2074	A+	264	A-	728	A-	47		92		147	
FT	659950	4181	1989	A+	239	A-	674	A-	46		93		133	
FT	659951	5598	2614	A+	413	A+	1156	A-	87		171		189	
FT	659953	4143	2002	A-	251	A-	689	A+	58		70		147	

Grade 4 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	659955	4195	2097	A+	278	A-	673	A+	65		87		161	
FT	659957	4341	2104	A+	248	A-	707	A+	45		76		158	
FT	659960	4243	2080	A-	271	B-	698	C-	50		95		148	
FT	659961	4134	2024	A-	274	A-	684	A-	55		91		148	
FT	659963	4126	1993	A-	256	A+	659	A-	56		81		155	
FT	659965	4244	2099	A-	254	A-	732	A-	58		84		148	
FT	659966	4142	2036	A-	264	C-	703	B-	57		76		129	
FT	659967	4192	2027	A-	279	A-	693	A-	66		92		149	
FT	659969	4202	2070	A-	254	A-	674	A-	52		74		154	
FT	659970	4115	1996	A-	228	A-	680	A-	48		81		152	
FT	659971	5541	2611	A-	401	A-	1160	A-	100		183		185	
FT	659972	4052	2050	A+	253	A+	671	A+	56		79		140	
FT	659974	5603	2615	A-	402	A+	1156	A+	98		187		178	
FT	659976	4089	1986	A-	269	A+	682	A-	52		84		131	
FT	659977	4164	2001	A+	261	A-	711	A-	50		73		161	
FT	659978	4236	2036	A-	270	B-	698	A-	61		87		158	
FT	659979	4149	2031	A+	265	A+	675	A+	39		83		126	
FT	659980	4195	2057	A+	280	A-	655	A+	52		96		126	
FT	659982	4102	2029	A-	264	A-	652	A+	57		91		134	
FT	659983	4054	2014	A+	232	A+	650	A+	60		92		128	
FT	659984	4163	2066	A-	245	A+	668	A+	59		88		145	
FT	659985	4103	2005	A-	266	A-	670	A-	52		90		128	
FT	659987	4100	1984	A+	250	A-	661	A+	47		80		158	

Grade 5 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	659988	4224	2115	A-	245	A-	679	A-	62		91		154	
FT	659989	4065	2014	A+	253	A+	676	A+	53		76		121	
FT	659990	4071	2046	A+	257	A-	679	A-	55		74		127	
FT	659991	5424	2611	A+	379	A-	1118	A-	71		153		206	A-
FT	659992	4020	2036	A-	233	A-	710	A-	58		89		124	
FT	659993	4082	2009	A+	249	A-	680	A+	57		74		135	
FT	659994	4146	2078	A+	238	A+	701	A+	41		91		141	
FT	659995	4161	2074	A+	241	B-	711	A-	58		83		142	
FT	659997	4055	2040	A-	246	B-	615	A+	61		80		132	
FT	659998	4136	2071	A+	228	A-	704	A-	61		80		128	
FT	659999	5549	2650	A-	406	A-	1093	A-	83		159		195	
FT	660000	4159	2020	A-	236	A-	693	A-	55		87		128	
FT	660001	4259	2140	A-	242	A-	734	A+	55		86		134	
FT	660002	4054	1996	A-	233	A-	686	A-	67		66		134	
FT	660005	4085	2038	A-	258	A+	668	A+	45		86		139	
FT	660006	4154	2110	A+	240	A-	736	A+	56		90		128	
FT	660007	4147	2085	A+	240	A-	684	A+	48		78		129	
FT	660008	4187	2044	A+	237	A-	724	A-	60		79		139	
FT	660009	4195	2074	A-	244	A+	736	A-	53		78		145	
FT	660010	4176	2089	A+	262	A+	695	A+	55		81		132	
FT	660011	5496	2595	A+	407	A-	1086	A+	83		174		198	
FT	660012	4142	2063	A+	229	B-	684	A-	54		77		133	
FT	660013	4069	2008	A+	234	A+	690	A+	67		83		129	
FT	660014	5501	2631	A-	389	A-	1098	A-	86		156		196	
FT	660016	5544	2673	A+	403	A+	1060	A+	77		166		212	A-
FT	660017	4078	2043	A-	221	A+	692	A+	53		79		126	
FT	660018	4093	2086	A+	246	A-	694	A+	49		78		128	
FT	660019	4163	2074	A+	247	A-	669	A+	59		85		128	

Grade 5 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	660020	4137	2127	A+	253	B-	699	A-	54		91		140	
FT	660021	5494	2641	A+	421	A-	1128	A-	72		163		195	
FT	660022	4218	2112	A+	249	A-	717	A-	52		85		135	
FT	660023	5516	2605	A+	391	C-	1088	A-	85		162		209	A+
FT	660024	4095	2028	A+	270	B-	665	A-	52		68		110	
FT	660025	4136	2056	A-	245	A-	683	A-	66		73		129	
FT	660026	4215	2097	A+	280	A+	709	A+	59		73		133	
FT	660027	5375	2586	A-	383	A-	1062	A-	77		161		176	
FT	660028	4070	2026	A-	246	B-	668	C-	53		78		137	
FT	660029	5555	2616	A+	410	A-	1058	A+	83		162		190	
FT	660030	4193	2094	A+	266	A-	701	A+	49		66		143	
FT	660031	4111	2029	A-	269	C-	665	B-	61		77		123	
FT	660032	4217	2072	A+	267	A-	716	A-	57		86		146	
FT	660033	5516	2587	A+	387	A-	1078	A-	84		163		203	A-
FT	660034	4096	2059	A+	219	A-	703	A-	40		86		124	
FT	660035	4151	2093	A-	255	A-	690	A-	52		74		157	
FT	660036	4086	2072	A+	229	B-	668	A-	53		66		141	
FT	660037	4234	2102	A+	257	C-	709	B-	46		78		138	
FT	660038	4019	2007	A-	260	A+	667	A-	46		69		135	
FT	660039	4119	2089	A-	254	B-	687	A-	58		80		152	
FT	660040	4087	2033	A+	264	A-	672	A-	55		88		137	
FT	660041	4160	2056	A-	262	C-	707	C-	54		92		139	

Grade 6 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	660042	4053	2018	B-	233	B-	684	B-	65		77		127	
FT	660043	4111	2082	A-	232	C-	716	B-	55		90		108	
FT	660046	4163	2069	A+	274	A-	644	A-	54		86		116	
FT	660048	4109	1985	B+	256	A+	727	A+	58		74		112	
FT	660049	4130	2091	A+	248	A+	664	A+	59		91		107	
FT	660050	4041	1969	A-	239	A-	663	A-	67		73		107	
FT	660051	4058	2023	A+	246	A+	674	A+	64		81		114	
FT	660052	4163	2119	A+	277	A+	665	A+	66		59		129	
FT	660053	4062	1984	A-	253	A-	667	A-	55		80		105	
FT	660054	4025	2017	A+	276	A-	647	A-	63		73		123	
FT	660055	4044	2030	B+	254	A+	638	A+	58		82		120	
FT	660057	4121	2016	A+	266	A-	632	A-	66		79		122	
FT	660058	5330	2553	A+	432	A-	964	A+	91		188		189	
FT	660061	4090	2046	A-	258	A-	628	A+	67		82		124	
FT	660063	4246	2071	A-	276	A-	716	A-	65		82		131	
FT	660064	4084	2051	A-	274	A-	663	A-	72		75		100	
FT	660065	4097	2071	A+	237	A+	677	A-	60		55		114	
FT	660069	4092	2040	A-	259	A-	680	A+	66		73		114	
FT	660071	4070	1982	A+	254	A-	652	A+	62		94		115	
FT	660073	4126	2090	A-	270	A-	681	A+	54		76		115	
FT	660076	4076	2047	A+	251	A+	692	A+	57		70		108	
FT	660077	5363	2558	A-	436	A-	958	A+	84		183		196	
FT	660080	4081	1968	A+	242	B-	698	A-	68		88		137	
FT	660081	5210	2431	A+	422	A-	934	A-	73		180		186	
FT	660082	5219	2448	A-	419	A-	964	A-	86		170		168	
FT	660083	4061	2042	A+	247	A+	663	A+	66		94		121	
FT	660086	4027	2032	A-	279	A+	647	B+	59		69		113	
FT	660090	4159	2027	A+	265	A+	653	A+	70		82		133	

Grade 6 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	660091	4098	2062	A+	269	A+	659	A+	56		69		117	
FT	660092	4106	2044	A+	286	A-	646	A-	57		67		110	
FT	660093	4121	2077	A+	264	A+	680	A-	59		77		122	
FT	660094	4119	2023	A+	272	A-	647	A-	75		76		137	
FT	660095	5382	2557	A-	426	A+	1008	A+	84		164		180	
FT	660096	4180	2085	A-	244	A-	684	A-	70		78		147	
FT	660097	5271	2506	A+	419	A-	952	A+	98		157		197	
FT	660098	5273	2497	A+	405	A+	966	A+	95		166		203	A-
FT	660099	4056	2050	A+	250	A+	635	A+	66		86		138	
FT	660102	4157	2046	A+	265	A-	678	A-	60		95		126	
FT	660105	4110	2057	A+	245	A-	682	A-	55		70		109	
FT	660107	4125	2062	A+	245	A-	653	A-	58		74		129	
FT	660108	4037	1986	A+	264	A-	661	A+	66		76		124	
FT	660109	4081	2040	A+	267	A+	618	A+	68		88		122	
FT	660110	4083	2010	A-	247	A+	650	A-	61		80		125	
FT	660113	4143	2078	A+	269	A+	680	A-	64		63		125	
FT	660114	4045	2028	A+	260	A-	599	A+	63		69		133	
FT	660116	5342	2483	A+	431	A+	993	A-	83		177		212	A-
FT	660118	5333	2482	A-	427	C-	955	C-	81		172		191	
FT	660120	5350	2533	A+	434	A-	952	B-	87		170		200	A-
FT	660122	4095	2022	A-	251	B-	661	A-	56		64		134	
FT	660123	4137	2062	A+	260	A+	655	A-	58		76		135	

Grade 7 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	660125	4902	2278	A+	335	A-	868	A-	74		108		161	
FT	660127	4131	2096	A-	285	A-	676	A-	56		78		108	
FT	660128	4169	2040	A-	263	A-	632	A-	54		69		114	
FT	660130	4195	2079	A-	246	A-	679	A-	61		67		124	
FT	660132	4209	2087	A-	253	B-	726	A-	50		68		110	
FT	660133	4107	2014	A-	243	B-	702	A-	43		85		117	
FT	660134	4099	1926	A+	267	A-	654	A-	56		77		118	
FT	660135	4907	2265	A+	323	A+	847	A+	74		107		164	
FT	660136	4099	2040	A+	264	B-	672	A+	46		75		131	
FT	660138	4118	2013	A+	254	A+	655	A+	54		66		124	
FT	660143	4080	2021	A-	259	A-	676	A-	52		62		134	
FT	660144	4146	2040	A+	267	A-	684	A-	53		75		126	
FT	660145	4076	2035	A-	271	A-	632	B-	58		67		132	
FT	660146	4049	2013	A+	269	A-	639	A-	57		72		116	
FT	660147	4096	2029	A+	264	B-	651	A-	59		81		122	
FT	660149	4035	2002	A-	262	A-	660	A-	55		63		116	
FT	660150	5023	2396	A-	315	A-	887	A-	78		93		185	
FT	660151	4112	2031	C-	256	A-	698	A-	53		78		115	
FT	660152	4064	1972	A-	242	A-	648	A-	61		77		131	
FT	660154	4142	2010	A+	271	A-	705	A-	58		77		132	
FT	660156	4159	2033	A-	262	C-	703	A-	47		62		135	
FT	660157	4196	2079	B-	260	B-	633	A-	65		57		122	
FT	660158	4059	1992	A-	284	B-	667	A-	58		60		116	
FT	660161	4168	2042	A+	251	C-	661	A-	63		91		136	
FT	660162	4054	1995	A-	253	B-	690	A-	48		69		125	
FT	660163	4907	2320	A+	307	B-	914	A-	75		106		184	
FT	660165	4185	2047	A-	239	A-	650	A-	53		73		122	
FT	660167	4146	2064	A-	267	C-	688	A-	53		72		125	

Grade 7 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	660168	4116	1982	A-	261	A-	687	A-	57		62		111	
FT	660169	4055	1936	A-	256	A+	658	A-	58		74		119	
FT	660170	5087	2443	A+	334	A-	902	A-	86		88		164	
FT	660172	4167	2053	A+	267	A-	669	A-	66		78		116	
FT	660173	4091	2035	A-	253	A-	637	A-	55		85		144	
FT	660174	4092	2048	A+	244	A-	669	A-	65		67		131	
FT	660175	4141	2067	A+	279	A-	664	A-	48		69		117	
FT	660176	4984	2286	A+	348	A-	889	A+	72		91		178	
FT	660177	4998	2318	A-	338	B-	876	A-	69		85		169	
FT	660178	4166	2025	A+	266	B-	681	A-	47		67		119	
FT	660179	4013	1972	A-	267	B-	690	B-	51		76		115	
FT	660180	4171	2085	A-	241	B-	692	B-	56		59		122	
FT	660182	4949	2311	A+	338	B-	844	B-	96		83		165	
FT	660183	4105	2053	A-	248	A-	699	B-	49		65		125	
FT	660184	4200	2059	A+	276	A+	672	A-	65		67		119	
FT	660185	4245	2056	A-	267	A+	706	A-	63		73		125	
FT	660186	4983	2279	A+	356	A-	851	A-	76		85		182	
FT	660187	5061	2354	A-	320	A+	851	A-	75		94		158	
FT	660188	3999	1979	A-	260	B-	651	A-	50		84		121	
FT	660189	4092	2002	A-	273	B-	698	A-	55		72		142	
FT	660191	4097	2028	A-	255	B-	654	A-	53		67		135	
FT	660192	4185	2095	A-	246	A-	683	A-	69		84		123	

Grade 8 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	660193	4003	1913	A-	236	A+	638	A-	58		85		105	
FT	660195	4088	1968	A-	259	A-	655	A-	72		70		120	
FT	660197	4072	1953	B+	223	A+	683	A+	73		79		119	
FT	660198	4004	1961	A+	232	A-	636	A-	64		83		110	
FT	660201	4072	1984	A+	241	A+	645	A+	62		77		112	
FT	660202	3978	1902	A+	229	A+	609	A+	44		86		124	
FT	660203	4879	2313	A+	314	A-	798	A-	62		101		179	
FT	660204	4121	2008	A+	224	A-	684	A-	64		86		134	
FT	660207	4011	1994	A+	267	A-	634	A+	69		72		129	
FT	660208	4778	2318	A-	308	A-	816	A-	82		106		153	
FT	660209	3990	1952	A+	237	A-	600	A+	67		74		110	
FT	660210	4910	2345	A+	293	A+	853	A+	77		114		175	
FT	660211	3982	1962	A+	230	A+	656	A+	59		76		129	
FT	660213	4076	2018	A+	240	A-	657	A-	60		84		123	
FT	660214	4096	1994	A-	240	A-	687	A-	58		85		112	
FT	660215	4097	2043	A-	230	B-	679	A-	59		69		117	
FT	660216	4139	1993	A-	263	A+	645	A+	63		80		125	
FT	660217	4089	1981	A-	225	B-	649	A-	69		74		119	
FT	660219	4768	2242	A-	325	A-	786	A-	74		100		144	
FT	660220	4045	1990	A+	241	A-	641	A+	64		91		134	
FT	660221	4036	1983	A+	258	A+	648	A+	66		77		136	
FT	660222	4049	2002	A+	262	A-	654	A-	55		89		114	
FT	660223	3996	1992	A-	220	B-	610	A-	57		61		130	
FT	660224	4796	2325	A-	290	A-	801	A-	66		121		157	
FT	660225	4148	1985	A-	263	A-	641	A-	62		86		144	
FT	660227	4050	1975	A-	244	A-	640	A-	55		85		116	
FT	660228	4812	2268	A-	298	B-	833	A+	81		108		156	
FT	660229	4073	1967	A+	220	A-	644	A+	66		75		118	

Grade 8 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	660230	3934	1920	A-	259	B-	569	A-	65		65		119	
FT	660231	4116	1996	A-	259	A-	612	A-	60		95		123	
FT	660232	4773	2278	A-	311	A+	799	A-	84		95		170	
FT	660233	4004	1975	A+	236	A-	618	A+	70		86		113	
FT	660234	4090	2001	A+	225	A-	652	A+	74		70		131	
FT	660235	4090	1995	A+	229	C-	624	A-	62		76		119	
FT	660236	3987	1926	A+	261	A-	615	A-	70		88		112	
FT	660237	4051	2017	A+	261	A-	639	A+	63		66		130	
FT	660238	4051	1976	A+	252	A-	644	A-	55		77		143	
FT	660239	4833	2359	A+	313	A+	829	A-	72		95		166	
FT	660240	4007	2068	A+	220	A+	648	A-	50		77		129	
FT	660241	4143	2019	A-	250	A-	653	A-	75		80		124	
FT	660242	4145	2058	A+	269	C-	661	A-	54		95		109	
FT	660243	4012	1947	A+	235	A-	618	A-	66		76		119	
FT	660244	3954	1922	A-	244	A+	651	A-	51		76		116	
FT	660245	4864	2350	A+	295	A-	838	A-	68		104		160	
FT	660246	4025	1960	A+	222	A-	644	A-	59		72		101	
FT	660247	4046	1974	A+	254	A-	649	A-	52		81		125	
FT	660248	4799	2266	A-	305	A-	840	B-	88		109		176	
FT	660250	4005	1982	A-	252	A+	626	A+	52		79		119	
FT	660251	4058	2016	A-	227	A-	661	A+	40		80		132	
FT	660252	4005	1954	A-	219	B-	663	A-	62		84		120	

Grade 11 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	660258	4553	2162	A+	283	A-	728	A-	61		111		134	
FT	660262	4057	2010	A+	229	A+	589	A-	46		93		117	
FT	660266	4172	2126	A-	243	A+	648	A+	40		85		111	
FT	660271	4632	2265	B-	289	A-	735	A-	70		130		133	
FT	660273	3992	1938	A-	273	A-	549	A-	42		80		118	
FT	660275	4178	2081	A+	231	A-	580	A-	52		93		129	
FT	660276	4177	2076	A-	259	A-	604	A-	42		91		125	
FT	660278	4136	2019	A+	232	A-	558	A+	57		95		116	
FT	660281	4520	2131	A+	282	A-	740	A+	67		110		146	
FT	660283	4029	2030	A+	273	A-	560	A-	44		83		101	
FT	660285	4115	2057	A+	240	A-	592	A-	46		90		123	
FT	660286	3920	1945	A-	231	A+	571	A-	46		84		117	
FT	660288	4080	2033	A+	247	A-	563	A+	44		65		123	
FT	660290	4077	2017	A-	252	A-	543	A-	44		94		119	
FT	660291	4544	2181	A-	282	A-	760	A+	60		113		131	
FT	660292	4105	2045	A+	249	A-	600	A+	51		118		117	
FT	660293	4138	2065	A+	234	A-	604	A-	53		100		127	
FT	660297	4072	1983	A-	234	A-	569	A-	38		75		117	
FT	660299	4060	2024	A-	241	A+	605	A-	58		98		117	
FT	660302	4028	1964	A+	234	A-	598	A+	41		80		104	
FT	660304	4082	1996	A+	249	A-	590	A-	56		85		106	
FT	660306	4094	2019	A-	227	A-	558	A-	42		89		119	
FT	660307	4105	2027	A+	243	A-	596	A-	57		90		126	
FT	660310	4598	2285	A+	279	A-	747	A+	54		127		134	
FT	660313	4087	2023	A-	245	A-	600	A-	50		78		96	
FT	660316	4147	2099	A-	236	A-	599	A-	50		97		122	
FT	660318	4032	2069	A-	239	A-	569	A+	44		95		110	
FT	660322	4642	2287	A-	289	A+	743	A+	60		123		132	

Grade 11 Mathematics			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	660323	4097	2031	A+	276	A-	586	A-	40		94		120	
FT	660327	4159	2077	A-	249	A-	593	A-	49		84		110	
FT	660329	4030	2005	A-	268	A-	568	A-	43		86		116	
FT	660330	4009	2008	A+	233	A-	579	A+	55		102		128	
FT	660334	4484	2219	A-	263	A-	742	A-	61		119		131	
FT	660336	4117	2024	A+	267	A+	582	A-	43		91		134	
FT	660339	4549	2231	A+	282	A-	733	A-	53		108		126	
FT	660340	4110	2034	A+	237	A-	588	A+	45		92		125	
FT	660344	4072	1993	A+	236	A+	580	A-	47		87		126	
FT	660347	4110	2072	B+	262	A-	556	A-	46		84		127	
FT	660348	4088	2022	A+	265	A+	577	A+	55		100		115	
FT	660354	4117	2005	B+	243	B-	612	A-	43		79		119	
FT	660355	4088	1996	A+	228	B+	574	A+	44		69		100	
FT	660356	4663	2268	A+	263	A+	748	A-	63		121		129	
FT	660358	4068	2051	A-	258	A+	556	A-	49		105		113	
FT	660361	4010	2024	A+	247	A+	568	A+	42		96		121	
FT	660364	4110	2030	A+	241	A-	557	A-	42		101		120	
FT	660366	4050	2035	A-	230	B-	564	B-	54		91		113	
FT	660369	4006	1997	A-	228	A-	543	A-	43		78		116	
FT	660371	4493	2179	A+	275	A+	725	A-	55		122		118	
FT	660377	4132	2028	A-	252	A-	593	A+	47		90		123	
FT	660378	4106	2004	A-	252	A-	588	A-	46		79		130	

Appendix V: Science Field Test Differential Item Functioning

*M=Male, F=Female, AM=American Indian, AS=Asian, BL=African American/Black, HI= Hispanic, MU=Multiple Ethnicities, WH=White
200 student minimum for reporting

Grade 5 Science			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	661220	4081	2006	A+	253	C-	649	A-	69		81		126	
FT	661221	5437	2589	A+	371	A+	1043	A+	83		155		202	A+
FT	661222	4214	2094	B-	247	A-	697	B-	53		74		135	
FT	661223	4211	2103	A-	232	A-	723	A-	60		82		141	
FT	661224	4123	2039	A-	220	A-	690	A+	61		87		122	
FT	661225	4125	2107	A-	235	A-	690	A-	49		80		140	
FT	661226	5330	2545	A+	403	A+	1046	A+	85		152		193	
FT	661229	4099	2008	A+	256	A-	687	A+	58		89		124	
FT	661230	4136	2065	A+	245	A-	676	A-	58		81		160	
FT	661231	4156	2097	B-	252	A-	770	A-	49		75		112	
FT	661232	5456	2569	A-	385	A-	1071	A-	85		157		210	A-
FT	661233	4105	2043	A+	264	A-	667	A-	55		86		137	
FT	661234	4259	2152	A+	264	A-	744	A-	60		76		126	
FT	661235	4192	2112	A-	232	B-	695	A-	58		86		138	
FT	661236	4119	2041	A+	248	C-	692	A-	64		84		126	
FT	661239	5358	2535	A+	390	A+	1056	A-	74		145		181	
FT	661240	4072	2034	A+	255	C-	693	A-	51		73		137	
FT	661241	4176	2079	A-	242	A-	706	A+	57		91		124	
FT	661242	5464	2645	A+	401	A-	1049	A+	73		156		188	
FT	661243	4121	2068	A-	236	C-	728	A-	50		85		131	
FT	661244	4093	2027	A+	237	A-	682	A+	63		81		138	
FT	661245	4075	2044	A-	239	A-	675	A+	62		91		141	
FT	661246	4284	2141	A-	268	A+	749	A-	53		80		123	

Grade 5 Science			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	661247	5388	2490	A-	387	A-	1073	A-	92		154		198	
FT	661248	4167	2068	A-	256	A-	667	A-	46		73		131	
FT	661249	4217	2096	A-	249	A-	722	A-	54		75		135	
FT	661250	4160	2133	A+	268	A-	732	A-	58		78		127	
FT	661254	4177	2072	A+	250	A-	699	A-	58		78		142	
FT	661255	4287	2153	A+	253	A-	737	A-	53		73		134	
FT	661256	4205	2060	A+	255	A-	702	A-	45		86		128	
FT	661258	5497	2589	A-	391	B-	1064	A-	78		154		184	
FT	661259	4232	2129	A-	274	B-	712	A-	56		104		126	
FT	661260	4188	2137	B+	248	A+	736	A-	55		81		144	
FT	661261	4124	2046	A+	258	A-	672	A+	41		86		154	
FT	661262	4089	2030	A-	237	A-	708	A+	54		88		146	
FT	661263	5473	2615	A+	385	A-	1090	A+	62		150		205	A+
FT	661264	4193	2123	A-	248	B-	677	A-	53		95		119	
FT	661265	4297	2114	A-	237	A+	753	A+	57		86		142	
FT	661266	4125	2078	A+	255	A+	683	A+	52		90		130	
FT	661267	5447	2607	A-	392	A-	1083	A+	77		148		183	
FT	661268	4133	1990	A-	255	A-	697	A+	59		85		140	
FT	661269	4052	2009	A-	231	A-	688	A-	48		86		133	
FT	661270	5425	2601	A+	388	A-	1058	A-	75		149		212	A-
FT	661272	4107	2071	A-	258	B-	658	B-	46		81		141	
FT	661273	4222	2121	A+	269	A+	695	A-	69		86		154	
FT	661274	4155	2138	A+	269	A-	639	A-	59		87		136	
FT	661275	4108	2033	A+	243	A-	664	A+	53		77		129	
FT	661276	4205	2084	A-	232	B-	738	A-	57		72		150	
FT	661277	4014	1995	A+	251	A-	635	A-	52		97		142	
FT	663133	4022	2030	A+	261	A+	705	A-	61		84		130	

Grade 8 Science			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	661278	4075	1989	A+	260	A-	631	A-	70		77		126	
FT	661279	4721	2216	A+	285	A-	799	A-	83		104		135	
FT	661280	4131	2014	A+	255	A+	668	A+	62		80		112	
FT	661281	4106	2003	A-	269	A+	672	A+	59		84		124	
FT	661282	4008	1925	A+	240	A+	613	A+	60		67		127	
FT	661283	4085	2050	A+	246	A-	640	A-	61		97		129	
FT	661284	4147	2051	A+	267	A+	663	A-	67		82		131	
FT	661285	4039	1966	A-	259	A-	657	C-	56		75		133	
FT	661286	4833	2307	A-	300	A-	845	A-	97		101		162	
FT	661287	3998	1994	A+	249	A-	657	A-	57		71		113	
FT	661288	4041	1964	A+	247	A-	617	A-	66		71		128	
FT	661289	4116	2033	A-	236	A-	686	A+	63		81		139	
FT	661290	4808	2327	A-	294	A-	817	A-	82		126		162	
FT	661291	4084	1931	A-	235	A-	672	A+	50		72		131	
FT	661292	4130	2011	A-	243	A-	711	A-	66		81		114	
FT	661293	4745	2217	A+	287	A-	827	A-	66		98		136	
FT	661294	4043	1954	B+	237	A-	615	A-	58		87		121	
FT	661295	4118	1989	A+	260	A-	656	A-	59		85		149	
FT	661296	4125	2024	A-	245	B-	661	B-	67		88		127	
FT	661297	4813	2330	A-	295	A-	848	B-	78		100		159	
FT	661298	4050	2006	A-	224	B-	611	A-	48		83		117	
FT	661299	4027	1989	A+	236	A+	669	A-	65		76		96	
FT	661300	4063	2011	A+	227	A-	627	A-	64		90		116	
FT	661301	4092	1976	A+	231	A-	649	A-	57		96		131	
FT	661302	4805	2305	A-	302	B-	808	A-	73		116		164	

Grade 8 Science			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	661303	3995	1978	A+	231	B-	623	C-	73		100		132	
FT	661304	4024	1965	A+	263	B-	626	C-	52		74		116	
FT	661305	4041	2015	A-	239	B-	677	A-	55		71		129	
FT	661306	4712	2240	A-	291	A-	788	A+	73		108		154	
FT	661307	4090	1999	A-	244	C-	623	C-	59		92		120	
FT	661308	4123	2020	C-	234	B+	654	B+	55		74		146	
FT	661309	4070	1975	A-	233	A+	636	A+	60		72		128	
FT	661310	4057	1992	A-	245	A-	623	A+	60		86		115	
FT	661312	3941	1936	A-	240	A-	603	A-	47		61		127	
FT	661314	4122	2024	A+	255	A-	641	A-	55		85		116	
FT	661315	4080	2012	A+	226	A+	658	A-	59		64		124	
FT	661316	4049	2001	A+	236	B-	630	A-	52		82		126	
FT	661317	4772	2268	A+	293	A-	810	A-	80		102		171	
FT	661318	4001	1949	A+	253	A-	610	A-	64		84		116	
FT	661319	4034	1966	A-	266	A-	636	A-	61		76		128	
FT	661320	4803	2296	A+	280	A-	772	A+	84		115		165	
FT	661321	4055	1995	A+	232	B-	658	A-	68		79		126	
FT	661322	4090	1993	A+	244	A-	637	A+	57		83		127	
FT	661323	4720	2241	A-	283	B-	831	A-	87		114		153	
FT	661324	4007	1963	A-	238	C-	637	A-	66		89		111	
FT	661325	4127	2037	B-	266	A-	610	A-	58		82		109	
FT	663231	4046	1943	A+	258	A-	660	A+	70		81		106	
FT	663232	4072	1996	A+	234	B+	658	A+	57		84		127	
FT	663233	4071	2020	A-	253	A+	652	A-	61		85		118	
FT	663234	4065	2009	A-	274	A-	643	A-	68		79		128	

Grade 11 Science			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	647168	4556	2194	A-	299	A-	721	A-	54		124		151	
FT	647174	4067	1982	B+	268	A-	576	A-	44		102		122	
FT	647183	4092	2075	B-	236	B-	592	B-	45		76		98	
FT	647186	4088	2055	A-	249	A-	589	A-	41		86		117	
FT	647188	4511	2165	A-	248	A+	704	A-	54		110		131	
FT	647196	4090	2058	B+	256	B-	614	A-	35		95		122	
FT	647201	4090	2012	A+	231	A-	550	A+	46		95		123	
FT	647202	4045	2018	A-	253	A-	635	A-	52		95		99	
FT	647207	4019	1978	B-	250	A-	553	A-	49		95		109	
FT	647218	4116	2007	B-	264	A+	583	A+	50		103		115	
FT	661326	4527	2233	A+	281	C-	712	A-	66		114		118	
FT	661327	4091	1996	A-	247	A-	605	A-	52		101		120	
FT	661328	4047	2062	A+	249	A+	582	A-	54		99		123	
FT	661329	4529	2217	A+	248	A-	736	A-	54		109		149	
FT	661331	4140	2029	B+	235	A-	641	A-	50		98		103	
FT	661332	4010	1965	B+	238	A-	565	A+	50		77		132	
FT	661333	4058	2012	A+	227	A-	556	A-	45		92		125	
FT	661334	4131	2059	A+	225	A-	599	A-	52		92		132	
FT	661335	4084	1972	A-	236	B-	558	B-	46		83		116	
FT	661336	4162	2068	A+	256	A+	609	A+	50		94		117	
FT	661337	4087	2054	A+	256	A-	564	A-	50		82		108	
FT	661339	4092	2065	A+	263	A+	559	A-	36		93		130	
FT	661340	4110	2039	A+	239	A-	547	A+	56		79		124	
FT	661341	4112	2079	A+	246	A+	565	A-	46		90		116	
FT	661345	4605	2194	A-	296	A+	742	A+	64		114		133	
FT	661346	4150	2041	B-	233	B-	599	A-	39		85		125	
FT	661348	4134	2047	C+	234	A+	570	A+	46		80		118	
FT	661349	4111	2066	A+	233	A-	605	A+	39		89		116	

Grade 11 Science			Gender DIF (REF=M, FOC=F)		Ethnicity DIF (REF=WH, FOC=BL)		Ethnicity DIF (REF=WH, FOC=HI)		Ethnicity DIF (REF=WH, FOC=AM)		Ethnicity DIF (REF=WH, FOC=AS)		Ethnicity DIF (REF=WH, FOC=MU)	
Type	Item ID	N	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code	NFoc	Code
FT	661350	4586	2220	A+	311	A-	766	A-	71		113		112	
FT	661351	3944	1941	A+	226	B-	554	A-	58		71		124	
FT	661352	4085	2056	A-	232	A+	579	A-	40		91		136	
FT	661354	4595	2206	A-	308	A-	762	A-	61		113		139	
FT	661355	4089	2102	A-	236	A-	548	A-	45		100		84	
FT	661357	4054	2056	A-	227	A+	549	A+	47		81		138	
FT	661358	4543	2217	A+	283	A-	738	A-	53		104		118	
FT	661359	4075	1955	A+	256	A-	562	A-	41		80		133	
FT	661361	4119	2084	A-	242	A-	580	A-	43		102		126	
FT	661362	4565	2233	A+	292	A-	723	A-	69		125		120	
FT	661363	4121	2047	A-	242	A-	589	A-	53		102		113	
FT	661364	4122	2011	A+	252	A-	606	A-	42		88		124	
FT	661365	4166	2054	A-	262	A-	613	A-	42		96		109	
FT	661366	4066	2002	A-	237	B-	576	A-	51		87		127	
FT	661367	4503	2163	A-	293	B-	742	A-	59		107		120	
FT	661368	4037	2014	B-	216	C-	574	A-	49		87		117	
FT	661369	4005	1978	A+	250	A-	561	A-	43		97		140	
FT	661370	4060	2038	B-	250	A-	587	A-	50		101		104	
FT	661372	4181	2073	A-	241	A-	558	A+	38		80		107	
FT	661373	4027	2028	A-	236	A-	572	A+	53		91		105	
FT	661374	4033	2028	A-	236	A+	590	A+	56		80		118	
FT	661375	4120	2047	A+	251	A-	575	A-	51		97		124	

Appendix W: Reading, Mathematics, and Science Analysis and Demographic Summary Sheets

*AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Reading : Grade 3

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		22712	30.6	8.7	0.90	0.90	111.2	33.7	22.4	56.6	21.0
Gender	Male	11606	30.0	8.9	0.90	0.90	108.8	33.8	24.7	55.8	19.5
	Female	11106	31.2	8.5	0.90	0.90	113.6	33.5	20.0	57.4	22.6
Ethnicity	AM	325	24.4	8.9	0.89	0.89	88.5	29.5	47.1	46.5	6.5
	AS	490	31.6	9.4	0.92	0.92	117.1	39.2	21.6	48.8	29.6
	BL	1506	25.1	9.0	0.89	0.89	90.9	30.3	44.7	47.9	7.4
	PI	22	32.0	9.3	0.92	0.92	117.2	36.1	18.2	54.5	27.3
	WH	15632	32.1	8.2	0.89	0.89	116.9	33.0	16.6	58.0	25.4
	HI	3945	27.1	8.4	0.88	0.88	97.6	29.2	34.7	56.0	9.3
	MU	792	30.2	9.0	0.91	0.91	109.8	34.3	23.9	56.2	19.9
Special Ed	No	19382	31.5	8.3	0.89	0.89	114.3	33.1	18.8	58.1	23.1
	Yes	3330	25.5	9.0	0.89	0.89	92.7	31.2	43.4	47.9	8.7
ELL	No	20808	31.1	8.6	0.90	0.90	113.2	33.6	20.3	57.1	22.6
	Yes	1904	24.6	7.9	0.85	0.86	88.7	25.6	45.7	50.8	3.5
FLS	No	11995	33.4	7.7	0.88	0.88	122.0	32.7	12.5	57.4	30.2
	Yes	10617	27.5	8.7	0.89	0.89	99.2	30.5	33.3	55.8	10.9

Grade 4

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		22206	31.0	7.9	0.88	0.88	114.8	38.5	21.0	49.8	29.2
Gender	Male	11461	30.6	8.1	0.88	0.88	112.8	38.7	22.9	49.2	27.8
	Female	10745	31.5	7.8	0.88	0.88	116.9	38.1	18.9	50.4	30.7
Ethnicity	AM	311	24.2	8.2	0.86	0.86	83.9	35.5	52.1	39.5	8.4
	AS	507	32.3	8.7	0.91	0.91	122.1	42.9	18.9	42.0	39.1
	BL	1435	26.2	8.2	0.87	0.87	92.1	35.6	39.7	48.9	11.4
	PI	16	26.4	7.2	0.82	0.82	91.7	29.3	37.5	62.5	0.0
	WH	15307	32.5	7.4	0.87	0.87	121.6	37.2	15.3	49.7	35.0
	HI	3863	27.7	7.8	0.86	0.86	98.4	34.3	34.0	52.2	13.8
	MU	767	30.7	8.1	0.88	0.88	113.1	38.9	22.7	49.5	27.8
Special Ed	No	18792	32.0	7.4	0.86	0.86	119.3	36.8	16.5	51.2	32.3
	Yes	3414	25.5	8.5	0.88	0.88	89.8	37.6	45.8	42.1	12.0
ELL	No	20653	31.6	7.8	0.88	0.88	117.2	38.0	18.8	50.1	31.1
	Yes	1553	24.2	7.0	0.81	0.81	82.9	28.4	50.7	45.8	3.5
FLS	No	11958	33.6	7.0	0.86	0.86	127.1	36.4	11.5	48.2	40.3
	Yes	10159	28.1	7.9	0.87	0.87	100.7	35.7	31.9	51.8	16.3

Grade 5

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		21982	33.1	9.1	0.90	0.90	118.4	42.7	21.4	44.6	34.0
Gender	Male	11120	32.6	9.4	0.91	0.91	115.9	43.7	24.0	43.6	32.4
	Female	10862	33.7	8.8	0.90	0.90	120.8	41.6	18.8	45.7	35.5
Ethnicity	AM	302	25.1	9.4	0.89	0.89	83.2	40.1	56.0	33.4	10.6
	AS	464	34.1	10.7	0.94	0.94	125.9	51.5	22.6	32.1	45.3
	BL	1385	27.6	9.5	0.90	0.90	93.5	40.2	41.3	43.8	14.9
	PI	25	29.2	10.8	0.92	0.92	100.7	47.5	32.0	48.0	20.0
	WH	15249	34.8	8.4	0.89	0.89	125.9	41.0	15.5	44.2	40.3
	HI	3825	29.2	9.0	0.89	0.89	99.6	38.5	34.4	48.9	16.7
	MU	732	32.6	9.1	0.90	0.90	115.6	42.0	23.8	45.4	30.9
Special Ed	No	18581	34.5	8.4	0.89	0.89	124.5	40.6	16.0	45.7	38.3
	Yes	3401	25.6	9.2	0.88	0.89	85.0	38.5	51.0	38.9	10.1
ELL	No	20707	33.7	8.9	0.90	0.90	120.8	42.2	19.3	44.8	35.9
	Yes	1275	24.3	7.6	0.82	0.83	78.7	29.8	55.4	41.6	3.0
FLS	No	11941	36.0	8.0	0.89	0.89	132.0	40.1	11.8	41.8	46.4
	Yes	9962	29.8	9.1	0.89	0.89	102.4	39.9	32.6	48.1	19.3

Grade 6

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		21651	33.0	8.8	0.90	0.90	115.2	42.1	22.8	46.0	31.2
Gender	Male	11002	32.3	9.0	0.90	0.90	111.8	42.5	25.7	45.3	29.0
	Female	10649	33.7	8.5	0.89	0.90	118.6	41.4	19.8	46.8	33.4
Ethnicity	AM	335	26.0	9.4	0.89	0.89	83.5	40.4	51.9	34.9	13.1
	AS	468	33.3	10.3	0.93	0.93	118.7	50.2	23.7	39.3	37.0
	BL	1453	28.0	9.2	0.89	0.90	91.9	40.4	43.8	41.8	14.3
	PI	29	31.1	8.5	0.88	0.88	105.3	39.0	27.6	48.3	24.1
	WH	15093	34.6	8.1	0.89	0.89	122.7	40.4	16.5	46.3	37.2
	HI	3598	29.1	8.5	0.88	0.88	96.3	37.9	37.0	48.5	14.5
	MU	675	32.3	8.9	0.90	0.90	112.0	42.2	25.2	47.0	27.9
Special Ed	No	18502	34.4	7.9	0.88	0.88	121.3	39.5	16.9	48.0	35.1
	Yes	3149	25.0	9.0	0.88	0.88	79.0	38.7	57.3	34.4	8.3
ELL	No	20870	33.4	8.6	0.90	0.90	116.9	41.5	20.9	46.8	32.3
	Yes	781	22.4	7.0	0.80	0.80	67.5	28.4	71.3	27.3	1.4
FLS	No	12029	35.7	7.7	0.88	0.88	128.3	39.4	12.6	45.1	42.3
	Yes	9574	29.6	8.8	0.89	0.89	98.9	39.5	35.3	47.3	17.4

Grade 7

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		21425	33.2	9.3	0.91	0.91	122.5	43.2	19.6	41.8	38.6
Gender	Male	10999	32.5	9.5	0.91	0.91	119.6	43.9	22.0	41.2	36.7
	Female	10426	33.8	8.9	0.90	0.90	125.4	42.4	17.1	42.3	40.6
Ethnicity	AM	300	24.4	8.7	0.87	0.87	83.9	35.7	54.7	37.3	8.0
	AS	376	36.6	8.7	0.91	0.91	139.5	43.6	10.6	33.2	56.1
	BL	1379	26.3	9.5	0.89	0.89	91.9	40.0	44.2	42.6	13.1
	PI	22	28.9	9.4	0.90	0.90	101.1	39.7	36.4	50.0	13.6
	WH	15164	34.8	8.5	0.90	0.90	129.9	41.2	13.8	41.1	45.1
	HI	3517	29.3	9.3	0.90	0.90	104.4	40.7	32.1	45.9	22.0
	MU	667	32.4	9.6	0.91	0.91	119.0	44.0	23.8	39.6	36.6
Special Ed	No	18502	34.6	8.4	0.89	0.89	128.8	40.7	13.9	42.8	43.3
	Yes	2923	24.0	8.9	0.87	0.88	82.4	36.6	55.9	35.4	8.7
ELL	No	20857	33.4	9.1	0.91	0.91	123.7	42.8	18.5	41.9	39.6
	Yes	568	22.8	8.0	0.84	0.84	76.9	31.2	59.9	36.4	3.7
FLS	No	12087	36.0	8.1	0.89	0.89	135.7	40.2	10.2	39.0	50.7
	Yes	9293	29.5	9.4	0.90	0.90	105.4	40.9	31.6	45.4	23.0

Grade 8

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		20984	35.5	9.2	0.90	0.90	115.7	40.2	21.6	46.7	31.7
Gender	Male	10770	34.7	9.4	0.90	0.90	111.9	40.2	24.4	47.5	28.1
	Female	10214	36.4	8.9	0.90	0.90	119.8	39.8	18.8	45.8	35.4
Ethnicity	AM	322	28.1	10.1	0.90	0.90	85.5	39.2	50.6	39.1	10.2
	AS	413	38.7	8.4	0.90	0.90	131.4	40.8	13.6	38.3	48.2
	BL	1263	29.1	10.0	0.90	0.90	88.8	38.7	46.0	42.0	12.0
	PI	23	33.3	9.8	0.91	0.91	104.9	38.5	26.1	39.1	34.8
	WH	14950	37.2	8.3	0.89	0.89	122.8	37.9	15.4	47.4	37.2
	HI	3361	30.9	9.6	0.90	0.90	96.0	38.1	38.0	47.2	14.8
	MU	652	34.7	9.7	0.91	0.91	112.3	41.0	24.4	45.9	29.8
Special Ed	No	18333	37.0	8.2	0.88	0.88	121.5	37.5	15.8	48.7	35.4
	Yes	2651	25.6	9.4	0.88	0.88	75.6	35.2	61.8	32.5	5.7
ELL	No	20572	35.8	9.0	0.90	0.90	116.8	39.7	20.5	47.2	32.3
	Yes	412	22.1	7.7	0.82	0.82	62.4	27.5	77.9	21.1	1.0
FLS	No	12090	38.3	7.8	0.88	0.88	127.8	36.9	11.8	46.2	42.0
	Yes	8857	31.8	9.6	0.90	0.90	99.5	38.6	34.8	47.5	17.7

Grade 11

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		20911	34.1	9.8	0.91	0.91	106.0	45.2	32.6	40.3	27.2
Gender	Male	10580	33.0	10.0	0.92	0.92	101.1	45.3	36.6	39.4	24.1
	Female	10331	35.1	9.4	0.91	0.91	111.0	44.5	28.5	41.2	30.3
Ethnicity	AM	251	28.8	10.0	0.90	0.90	82.8	42.6	52.2	35.9	12.0
	AS	467	31.8	11.6	0.94	0.94	98.5	53.3	42.0	31.7	26.3
	BL	1261	27.1	10.1	0.90	0.90	75.2	41.6	60.0	31.0	9.0
	PI	23	31.5	9.6	0.90	0.90	93.8	41.9	43.5	34.8	21.7
	WH	15240	35.8	9.0	0.90	0.90	113.7	43.2	25.5	42.4	32.1
	HI	3064	29.4	9.9	0.90	0.90	84.6	41.7	52.1	35.5	12.4
	MU	605	32.8	10.4	0.92	0.92	100.5	46.5	37.7	38.7	23.6
Special Ed	No	18679	35.3	9.1	0.90	0.90	111.2	43.2	27.4	42.7	29.9
	Yes	2232	23.9	9.1	0.88	0.87	62.3	36.9	75.6	19.8	4.6
ELL	No	20485	34.4	9.6	0.91	0.91	107.2	44.6	31.3	41.0	27.7
	Yes	426	19.6	6.9	0.78	0.78	45.4	26.8	92.7	6.6	0.7
FLS	No	13406	36.4	8.8	0.90	0.90	116.6	43.0	23.1	42.3	34.5
	Yes	7453	30.0	10.0	0.91	0.91	87.2	42.7	49.2	36.8	14.0

Mathematics
Grade 3

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		22752	34.3	10.1	0.92	0.92	110.2	36.4	25.6	48.9	25.5
Gender	Male	11628	34.9	10.2	0.92	0.92	112.5	37.1	24.0	48.0	27.9
	Female	11124	33.7	10.1	0.92	0.92	107.8	35.4	27.2	49.7	23.0
Ethnicity	AM	325	26.8	11.6	0.93	0.93	85.7	36.4	53.2	36.0	10.8
	AS	514	35.5	11.1	0.94	0.94	117.1	42.4	23.7	40.1	36.2
	BL	1510	27.3	10.3	0.91	0.91	86.5	31.9	51.6	39.9	8.5
	PI	22	34.8	11.3	0.94	0.94	112.0	38.8	27.3	50.0	22.7
	WH	15629	36.2	9.3	0.91	0.91	116.7	35.2	18.7	50.7	30.6
	HI	3958	30.1	10.2	0.91	0.91	95.3	32.6	40.7	46.8	12.5
	MU	794	33.6	10.1	0.92	0.92	107.3	35.3	27.3	50.4	22.3
Special Ed	No	19427	35.3	9.7	0.91	0.91	113.4	35.6	22.0	50.2	27.8
	Yes	3325	28.6	10.8	0.92	0.92	91.4	35.1	46.5	41.3	12.2
ELL	No	20798	35.0	9.9	0.92	0.92	112.5	36.1	23.1	49.6	27.3
	Yes	1954	27.2	9.8	0.90	0.90	86.1	30.0	52.4	40.5	7.1
FLS	No	12007	37.6	8.9	0.90	0.91	121.9	35.0	14.8	49.1	36.0
	Yes	10640	30.7	10.2	0.91	0.91	97.3	33.3	37.4	48.7	13.9

Grade 4

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		22238	37.5	11.2	0.93	0.93	108.7	35.9	27.1	50.7	22.1
Gender	Male	11480	38.2	11.2	0.93	0.93	111.2	36.8	25.3	49.8	24.9
	Female	10758	36.7	11.1	0.92	0.93	106.0	34.7	29.1	51.7	19.3
Ethnicity	AM	311	28.1	11.5	0.92	0.92	81.4	32.0	61.1	32.8	6.1
	AS	516	40.9	11.1	0.94	0.94	121.8	39.6	18.4	45.5	36.0
	BL	1438	28.7	11.1	0.91	0.92	82.6	30.3	57.9	36.4	5.6
	PI	16	34.0	9.2	0.88	0.88	94.8	23.4	31.3	68.8	0.0
	WH	15304	39.6	10.3	0.92	0.92	115.2	34.8	19.9	53.2	26.9
	HI	3887	32.9	11.0	0.92	0.92	94.4	32.2	41.9	48.1	10.0
	MU	766	35.8	11.2	0.93	0.93	102.9	34.1	31.7	51.2	17.1
Special Ed	No	18830	38.8	10.5	0.92	0.92	112.6	34.8	22.5	53.0	24.5
	Yes	3408	30.1	11.8	0.93	0.93	87.2	34.0	52.9	38.1	9.0
ELL	No	20641	38.1	11.0	0.93	0.93	110.7	35.7	24.8	51.5	23.6
	Yes	1597	28.8	10.0	0.89	0.89	82.3	26.7	56.7	40.2	3.1
FLS	No	11970	40.9	9.9	0.92	0.92	119.7	34.7	16.0	52.7	31.3
	Yes	10163	33.5	11.2	0.92	0.92	96.0	32.8	39.8	48.6	11.6

Grade 5

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		22022	36.6	11.0	0.92	0.92	109.0	35.3	25.0	52.5	22.5
Gender	Male	11152	36.7	11.3	0.93	0.93	109.8	36.5	25.4	50.5	24.1
	Female	10870	36.4	10.7	0.92	0.92	108.2	34.0	24.6	54.6	20.8
Ethnicity	AM	299	26.8	10.6	0.90	0.90	80.1	29.5	59.5	35.8	4.7
	AS	482	38.6	12.6	0.95	0.95	118.3	43.1	23.9	40.9	35.3
	BL	1388	28.0	10.9	0.91	0.91	83.3	30.3	54.1	40.2	5.7
	PI	25	34.4	11.5	0.93	0.93	103.7	39.6	32.0	56.0	12.0
	WH	15241	38.7	10.2	0.92	0.92	115.4	34.1	18.0	54.6	27.4
	HI	3852	32.2	10.7	0.91	0.91	95.0	31.0	38.6	51.6	9.8
	MU	735	34.7	11.2	0.92	0.92	103.2	34.9	30.3	51.6	18.1
Special Ed	No	18628	38.0	10.4	0.92	0.92	113.3	34.3	20.0	54.6	25.4
	Yes	3394	28.6	10.8	0.91	0.91	85.2	30.7	52.4	41.1	6.5
ELL	No	20694	37.2	10.8	0.92	0.92	110.8	35.0	22.9	53.3	23.7
	Yes	1328	27.3	9.7	0.88	0.88	81.1	26.0	57.5	39.7	2.8
FLS	No	11961	40.0	9.9	0.91	0.92	119.7	34.4	14.7	53.8	31.5
	Yes	9979	32.6	10.9	0.91	0.91	96.4	31.9	37.0	51.2	11.8

Grade 6

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		21703	39.8	12.4	0.94	0.94	106.5	41.0	32.7	43.1	24.3
Gender	Male	11037	39.5	12.6	0.94	0.94	106.0	41.7	33.4	42.3	24.2
	Female	10666	40.0	12.1	0.94	0.94	106.9	40.2	31.9	43.8	24.3
Ethnicity	AM	335	29.8	13.1	0.94	0.94	77.0	38.4	63.0	28.4	8.7
	AS	482	42.0	13.5	0.95	0.96	117.4	48.3	28.6	33.4	38.0
	BL	1458	30.4	12.4	0.93	0.93	77.6	34.8	62.2	31.4	6.4
	PI	29	36.5	10.6	0.90	0.90	95.3	35.6	51.7	37.9	10.3
	WH	15102	42.2	11.3	0.93	0.93	114.0	39.4	24.8	46.0	29.2
	HI	3621	34.3	12.3	0.93	0.93	88.8	36.4	50.4	38.2	11.4
	MU	676	38.3	12.7	0.94	0.94	102.1	41.5	37.0	42.9	20.1
Special Ed	No	18549	41.6	11.5	0.93	0.93	111.9	39.5	26.6	45.9	27.5
	Yes	3154	29.1	12.0	0.92	0.92	74.3	33.9	68.0	26.4	5.6
ELL	No	20876	40.3	12.2	0.94	0.94	108.1	40.6	30.9	43.9	25.2
	Yes	827	26.5	10.4	0.89	0.89	66.7	27.5	77.5	20.7	1.8
FLS	No	12052	43.5	10.9	0.93	0.93	118.7	39.5	20.8	45.7	33.5
	Yes	9597	35.1	12.5	0.93	0.93	91.4	37.5	47.2	39.9	12.8

Grade 7

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		21464	38.9	12.1	0.94	0.94	106.1	38.7	29.8	47.4	22.8
Gender	Male	11022	38.8	12.4	0.94	0.94	106.2	39.5	30.0	46.7	23.3
	Female	10442	38.9	11.8	0.93	0.93	106.1	37.8	29.6	48.1	22.3
Ethnicity	AM	298	27.6	11.6	0.92	0.92	73.6	33.1	69.1	26.8	4.0
	AS	381	44.0	11.3	0.94	0.94	125.1	42.3	16.0	45.4	38.6
	BL	1375	27.6	11.5	0.91	0.91	73.1	31.6	65.8	29.9	4.3
	PI	22	33.0	10.6	0.90	0.90	87.3	28.4	59.1	36.4	4.5
	WH	15161	41.4	11.0	0.93	0.93	113.8	36.8	21.3	51.1	27.6
	HI	3562	33.2	11.9	0.92	0.93	88.7	34.5	48.8	40.7	10.5
	MU	665	36.4	12.5	0.94	0.94	98.5	38.6	36.4	46.0	17.6
Special Ed	No	18553	40.6	11.3	0.93	0.93	111.2	37.2	24.0	50.3	25.6
	Yes	2911	28.0	11.6	0.92	0.92	74.2	32.1	66.5	28.6	4.8
ELL	No	20837	39.2	11.9	0.93	0.93	107.2	38.4	28.5	48.1	23.4
	Yes	627	26.4	10.5	0.89	0.90	69.6	28.0	73.0	24.9	2.1
FLS	No	12103	42.7	10.6	0.92	0.92	118.1	36.8	17.7	50.8	31.5
	Yes	9301	34.0	12.1	0.93	0.93	90.9	35.4	45.2	43.1	11.6

Grade 8

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		21016	40.3	12.4	0.93	0.94	102.5	37.9	33.6	47.5	19.0
Gender	Male	10786	40.1	12.7	0.94	0.94	102.5	38.9	34.3	45.9	19.7
	Female	10230	40.4	12.0	0.93	0.93	102.6	36.7	32.8	49.1	18.1
Ethnicity	AM	320	29.8	12.9	0.93	0.93	73.3	34.0	68.8	24.7	6.6
	AS	422	45.7	11.6	0.94	0.94	122.4	42.4	19.4	42.2	38.4
	BL	1272	29.4	11.8	0.91	0.92	72.2	30.8	68.7	28.0	3.3
	PI	23	40.0	14.4	0.95	0.95	104.4	45.9	34.8	39.1	26.1
	WH	14942	42.7	11.3	0.93	0.93	109.4	36.4	25.5	51.9	22.6
	HI	3388	34.4	12.3	0.92	0.93	85.3	33.6	53.1	38.5	8.4
	MU	649	38.2	12.4	0.93	0.93	96.0	36.1	39.8	46.2	14.0
Special Ed	No	18381	42.0	11.4	0.93	0.93	107.3	36.4	28.0	50.9	21.2
	Yes	2635	28.2	11.8	0.91	0.91	69.2	30.8	72.8	23.8	3.4
ELL	No	20552	40.6	12.2	0.93	0.93	103.4	37.7	32.6	48.1	19.3
	Yes	464	26.7	10.3	0.88	0.89	65.2	25.9	78.2	20.3	1.5
FLS	No	12100	44.0	10.9	0.92	0.92	113.5	36.4	21.5	52.6	25.9
	Yes	8875	35.3	12.4	0.93	0.93	87.7	34.6	49.8	40.6	9.6

Grade 11

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		20910	37.8	13.8	0.95	0.95	100.5	48.6	41.6	32.5	26.0
Gender	Male	10582	37.7	14.2	0.95	0.95	101.0	50.5	42.3	30.3	27.3
	Female	10328	37.8	13.4	0.94	0.94	100.1	46.7	40.8	34.7	24.6
Ethnicity	AM	248	27.0	12.3	0.92	0.92	65.1	39.2	74.2	16.9	8.9
	AS	475	39.7	15.2	0.96	0.96	109.5	55.7	37.3	26.3	36.4
	BL	1261	25.6	12.0	0.92	0.92	61.0	37.5	77.4	17.0	5.6
	PI	22	31.5	14.8	0.95	0.95	80.0	47.3	63.6	22.7	13.6
	WH	15239	40.4	13.0	0.94	0.94	109.5	47.4	33.2	35.6	31.2
	HI	3062	30.7	12.6	0.93	0.93	76.2	39.9	64.4	25.5	10.1
	MU	603	34.6	13.5	0.94	0.94	89.3	45.6	50.7	31.8	17.4
Special Ed	No	18690	39.3	13.3	0.94	0.94	105.6	47.7	36.6	34.9	28.6
	Yes	2220	24.6	10.8	0.90	0.90	58.0	33.7	83.6	12.3	4.1
ELL	No	20462	38.1	13.7	0.95	0.95	101.6	48.5	40.6	32.9	26.5
	Yes	448	23.5	10.2	0.88	0.89	54.3	30.6	85.0	12.5	2.5
FLS	No	13399	41.4	12.9	0.94	0.94	112.9	47.6	30.6	35.6	33.8
	Yes	7458	31.4	13.1	0.93	0.93	78.7	42.4	60.9	27.0	12.1

Science Grade 5

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		22041	34.0	9.4	0.90	0.90	104.2	36.8	31.8	46.2	21.9
Gender	Male	11164	34.6	9.5	0.91	0.91	106.8	37.7	29.5	46.1	24.3
	Female	10877	33.4	9.3	0.90	0.90	101.5	35.6	34.2	46.3	19.4
Ethnicity	AM	300	26.8	9.5	0.89	0.89	78.4	32.6	61.0	32.7	6.3
	AS	485	33.0	11.0	0.93	0.93	102.9	43.8	37.9	36.7	25.4
	BL	1388	26.1	8.9	0.87	0.87	75.8	29.5	64.7	30.8	4.5
	PI	25	32.0	9.8	0.91	0.91	97.2	37.0	40.0	44.0	16.0
	WH	15251	36.4	8.4	0.89	0.89	113.1	34.8	21.5	50.7	27.9
	HI	3857	28.2	8.9	0.87	0.88	82.6	30.3	57.1	36.4	6.5
	MU	735	32.5	9.7	0.90	0.91	98.5	36.5	36.3	46.8	16.9
Special Ed	No	18635	35.1	9.0	0.90	0.90	108.1	36.0	27.2	48.4	24.4
	Yes	3406	28.0	9.6	0.89	0.89	82.7	33.3	57.2	34.4	8.4
ELL	No	20705	34.7	9.1	0.90	0.90	106.7	36.1	28.6	48.1	23.3
	Yes	1336	22.9	7.3	0.80	0.80	65.3	23.1	81.7	17.5	0.8
FLS	No	11971	37.2	8.2	0.88	0.89	116.4	35.0	18.0	50.9	31.0
	Yes	9990	30.2	9.4	0.89	0.89	89.8	33.3	48.0	40.8	11.2

Grade 8

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		21038	40.0	10.7	0.91	0.91	102.8	34.3	30.3	51.3	18.4
Gender	Male	10797	41.0	10.9	0.91	0.91	106.1	35.8	27.9	49.9	22.1
	Female	10241	39.1	10.4	0.90	0.90	99.3	32.3	32.7	52.8	14.5
Ethnicity	AM	322	31.4	10.9	0.90	0.90	77.1	30.9	64.3	31.4	4.3
	AS	431	42.4	11.6	0.93	0.93	112.0	40.0	25.1	45.7	29.2
	BL	1274	31.0	10.4	0.88	0.89	75.9	28.8	64.4	31.3	4.3
	PI	22	38.0	14.9	0.95	0.96	100.6	49.7	40.9	36.4	22.7
	WH	14947	42.4	9.7	0.89	0.89	109.7	32.6	21.4	56.1	22.5
	HI	3392	34.1	10.3	0.89	0.89	84.5	29.6	53.0	40.7	6.4
	MU	650	38.6	11.0	0.91	0.91	98.2	34.3	35.1	50.0	14.9
Special Ed	No	18392	41.3	10.1	0.90	0.90	106.6	33.2	25.3	54.3	20.4
	Yes	2646	31.0	10.5	0.89	0.89	76.1	29.7	64.9	30.4	4.7
ELL	No	20564	40.4	10.5	0.90	0.90	103.8	34.0	29.0	52.2	18.8
	Yes	474	25.7	8.0	0.80	0.80	61.5	21.5	85.2	13.7	1.1
FLS	No	12110	43.4	9.4	0.89	0.89	113.1	32.6	18.0	56.5	25.5
	Yes	8886	35.6	10.7	0.90	0.90	89.0	31.5	46.7	44.5	8.8

Grade 11

Group	Subgroup	Valid N	Raw Scores		Alpha	Stratified Alpha	Scale Scores		Percent in Performance Level		
			Mean	SD			Mean	SD	Below	Meets	Exceeds
Overall		20900	39.6	11.3	0.92	0.92	103.2	30.1	26.8	57.6	15.6
Gender	Male	10573	40.5	11.7	0.93	0.93	106.2	32.1	24.8	55.6	19.6
	Female	10327	38.6	10.7	0.91	0.91	100.2	27.6	28.8	59.6	11.5
Ethnicity	AM	248	32.1	11.2	0.91	0.91	84.2	27.0	52.0	43.5	4.4
	AS	475	36.9	13.7	0.94	0.95	97.9	37.0	36.2	46.5	17.3
	BL	1260	29.7	10.8	0.90	0.90	78.5	25.1	61.3	36.0	2.7
	PI	23	34.3	11.4	0.91	0.92	90.3	28.2	43.5	43.5	13.0
	WH	15237	41.9	10.3	0.91	0.91	109.1	28.8	18.9	61.8	19.2
	HI	3054	33.5	10.7	0.90	0.90	87.4	25.5	46.6	48.8	4.6
	MU	603	37.6	11.1	0.91	0.91	97.8	28.8	34.0	54.7	11.3
Special Ed	No	18673	40.9	10.7	0.91	0.91	106.3	29.1	22.1	60.8	17.1
	Yes	2227	28.9	10.7	0.90	0.90	77.1	25.8	65.6	31.1	3.2
ELL	No	20452	39.9	11.1	0.92	0.92	104.1	29.7	25.5	58.6	16.0
	Yes	448	23.0	8.2	0.81	0.81	63.5	18.8	85.9	13.8	0.2
FLS	No	13402	42.4	10.2	0.91	0.91	110.5	28.8	17.5	61.9	20.6
	Yes	7448	34.6	11.3	0.91	0.91	90.3	27.8	43.2	50.0	6.8

Appendix X: Reading, Mathematics, and Science Strand Reliability and SEM

*L=Total Number of Items per Strand, Reliability=Coefficient Alpha, SEM= Standard Error of Measurement in raw score metric

Content	Code	Strand
Reading	R.1	Vocabulary
	R.2	Comprehension
Mathematics	M.1	Number Sense
	M.2	Geometric/Measurement
	M.3	Algebraic
	M.4	Data Analysis/Probability
Science	S.1	Inquiry, the Nature of Science, and Technology
	S.2	Physical Science
	S.3	Life Science
	S.4	Earth and Space Science

Grade 3:

Grade 3	L	Reliability	SEM
R.1	14	0.73	1.61
R.2	31	0.87	2.24
M.1	23	0.85	1.95
M.2	13	0.74	1.48
M.3	9	0.69	1.17
M.4	5	0.55	0.95

Grade 4:

Grade 4	L	Reliability	SEM
R.1	14	0.68	1.51
R.2	31	0.84	2.31
M.1	25	0.88	1.97
M.2	16	0.76	1.69
M.3	8	0.66	1.12
M.4	6	0.59	0.96

Grade 5:

Grade 5	L	Reliability	SEM
R.1	14	0.72	1.60
R.2	34	0.87	2.35
M.1	27	0.88	2.15
M.2	9	0.65	1.20
M.3	9	0.61	1.22
M.4	10	0.66	1.29
S.1	8	0.65	1.12
S.2	14	0.73	1.51
S.3	15	0.77	1.61
S.4	13	0.67	1.55

Grade 6:

Grade 6	L	Reliability	SEM
R.1	12	0.66	1.44
R.2	36	0.88	2.40
M.1	23	0.84	1.66
M.2	13	0.77	1.42
M.3	9	0.81	1.64
M.4	5	0.76	1.39

Grade 7:

Grade 7	L	Reliability	SEM
R.1	12	0.68	1.43
R.2	36	0.89	2.44
M.1	20	0.86	1.77
M.2	11	0.72	1.38
M.3	18	0.82	1.68
M.4	9	0.67	1.26

Grade 8:

Grade 8	L	Reliability	SEM
R.1	12	0.70	1.31
R.2	38	0.87	2.56
M.1	18	0.80	1.73
M.2	14	0.79	1.54
M.3	17	0.82	1.59
M.4	11	0.74	1.43
S.1	12	0.68	1.47
S.2	14	0.69	1.69
S.3	18	0.77	1.71
S.4	16	0.72	1.65

Grade 11:

Grade 11	L	Reliability	SEM
R.1	11	0.64	1.42
R.2	39	0.89	2.55
M.1	7	0.69	1.07
M.2	19	0.84	1.82
M.3	24	0.89	1.99
M.4	10	0.76	1.32
S.1	11	0.73	1.37
S.2	17	0.75	1.83
S.3	18	0.81	1.65
S.4	14	0.66	1.55





Technical Report

Nebraska State Accountability (NeSA)

Spring 2013 Writing Test

Grades 4, 8, and 11

July 2013





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GENERAL INFORMATION

HISTORY

In January 2009, the Nebraska Department of Education (NDE) contracted with Data Recognition Corporation (DRC) to provide and operate a computerized information system to support the administration, record keeping, and reporting for statewide student assessment (NeSA-Reading, NeSA-Mathematics, and NeSA-Science) under the direction of the Department of Education. Legislative Bill (LB) 1157 passed by the 2008 Nebraska Legislature (<http://www.legislature.ne.gov/laws/statutes.php?statute=79-760.03>) requires a single statewide assessment of writing, reading, mathematics, and science in Nebraska’s K-12 public schools against the Nebraska academic content standards.

The legislation requires that:

- The assessments will be used for accountability purposes.
- The assessments will be criterion-referenced.

The NDE prescribed such assessments starting in the 2009-2010 school year and phased in as described in Table 1-1. The state uses the expertise and experience of the educators in the state to participate, to the maximum extent possible, in the design and development of the statewide assessment system.

Table 1-1 NeSA Administration Schedule

Subject	Administration Year		Grades
	Field Test	Operational	
Reading	2009	2010	3 through 8 plus 1 high school
Mathematics	2010	2011	3 through 8 plus 1 high school
Science	2011	2012	At least 1 grade in elementary, middle/junior high, and high school

In October 2010, the NDE contracted with DRC to provide and operate a computerized information system to support the administration, record keeping, and reporting for the statewide student NeSA-Writing assessment under the direction of the Department of Education.

NeSA-Writing will be phased in as described in Table 1-2.

Table 1-2 NeSA-Writing Administration Schedule

Year	Paper/Pencil Mode	Online Mode
2011	Grades 4 and 8	Grade 11, Pilot Year
2012	Grade 4	Grades 8 and 11
2013	Grade 4	Grades 8 and 11

A governor-appointed Technical Advisory Committee (TAC) consisting of three nationally recognized experts in assessment and measurements, one local administrator, and one teacher from Nebraska provides technical advice, guidance, and research to help NDE make informed decisions regarding standards, assessment, and accountability.

OVERVIEW

The NeSA tests are developed specifically for Nebraska. Since 2002, the Nebraska statewide writing assessment has been annually administered in grades 4, 8, and 11 for the purpose of providing school districts with instructional information and to include writing results from grades 4 and 8 as the “other academic indicator” in the federal accountability requirements of the Elementary and Secondary Education Act (ESEA).

The Nebraska statewide writing assessment is intended to:

1. Gather information to assist teachers in determining the progress of students in meeting state or local standards for writing;
2. Provide each local school district with a report of student progress in meeting state or local standards for writing; and
3. Lead to improved writing by Nebraska students.

DRC and Computerized Assessments and Learning (CAL) were the providers of the printed and online versions, respectively, of the 2013 NeSA-Writing Tests.

Paper/Pencil and Online Testing Window: January 21 – February 8, 2013

Number of Potential Testing Sites

254 districts

949 schools

Background Information Regarding the Formatting Issues with the Online NeSA-Writing Engine at Grades 8 and 11

- Some students taking NeSA-Writing at Grades 8 and 11 online experienced formatting issues.
Examples:
 - Words breaking at the end of lines
 - Odd wrap-arounds
 - Centering could not be turned off
- The issues initially appeared to be random and infrequent.
- The contractor was unable to fix all the problems during the test window. In addition, NDE determined that releasing an updated engine during the writing window would create an inequitable test administration across districts in Nebraska.
- The formatting problems did not cause any student's work to be lost. The formatting problems do not appear to have significantly lowered any scores.
 - The state averages are up slightly from last year.
 - Students whose papers appeared to have been affected scored higher than those unaffected.

- The Sentence Fluency/Conventions domain scores were not lower than the other domains.

Release Decisions

- Release percent of number and percent of students at each performance level: Below, Meets, Exceeds and release Average Scale Scores for schools, for districts, and for the State of Nebraska. Release same disaggregated information—all asterisked with the following information:
 - *Students at grades 8 and 11 experienced formatting issues with the NeSA-Writing online test administration. While research into the score results does not indicate an effect on student results, it also does not assure there was no effect. Scores should be interpreted with caution.*
- NeSA-Writing status scores or improvement scores will not be included in Nebraska State Accountability System [NePAS] in writing at grades 8 and 11.
- Individual Student Reports will include the student's individual scale score and performance level, but will also include the same italicized information as above.
- The problems will be fixed before the next testing period. A new test engine is being used to administer all online tests—INSIGHT.

ADMINISTRATION OF THE WRITING ASSESSMENT

WRITING TOPICS

At each grade level, students responded to a writing topic developed by NDE to measure composition of writing as specified in the writing content standards. Each student responded to one writing topic in a specific mode. The types of the writing topics for each grade were as follows:

- Grade 4 – Narrative
- Grade 8 – Descriptive
- Grade 11 – Persuasive

TEST SESSIONS, TIMING, AND FORMAT

The test window for the grade 4 paper/pencil tests, including make-up tests, was January 21 – February 8, 2013. The grade 4 tests were administered in two independent sessions on two consecutive days. Each session was 40 minutes, unless a student’s IEP or 504 Plan called for additional time. Spanish versions of these tests were developed and made available by DRC for any district that requested them. All student responses were returned to DRC using standard writing booklets for processing and scoring.

The test window for the grades 8 and 11 tests, including make-up tests, was January 21 – February 8, 2013. The majority of students were administered the test online in one session. Students were allowed to use paper to pre-write and continued their work online by drafting and finalizing their response. It was recommended by NDE that districts schedule 90 minutes for students to complete the assessment; however, the test was not timed, and students were allowed as much time as necessary to complete and submit their final essays. Students with an IEP or 504 Plan were allowed to use a paper/pencil test as an accommodation.

The required grade 4 NeSA-Writing paper/pencil test as well as the grades 8 and 11 NeSA-Writing online tests were available to all schools. Spanish versions of the tests were made available to all districts. Table 2-1 shows the number of student who took each exam by mode of administration.

Table 2-1 2013 NeSA-Writing Test Participation

Grade	Number of Students Tested Paper/Pencil	Number of Students Tested Online
4	22,238	N/A
8	454	20,650
11	446	20,529

Tables 2-2 and 2-3 depict the N count as well as the percentage of students that completed their online test in each time span. Student time span is based on the student’s initial login and final log out. Students’ tests may be reactivated to allow testing across longer periods of time, even multiple days. Thus, in some cases, the elapsed time may not reflect the actual amount of time a student spent completing the test.

Table 2-2 2013 NeSA-Writing Grade 8 Online Test Times

Time Span in Minutes	Student Count	% in Each Time Span
0-10	79	0.39%
10-20	212	1.05%
20-30	460	2.28%
30-40	996	4.93%
40-50	1774	8.78%
50-60	2603	12.89%
60-70	3087	15.29%
70-80	3085	15.28%
80-90	2517	12.46%
90+	5383	26.65%
Total	20,196	100.00%

Table 2-3 2013 NeSA-Writing Grade 11 Online Test Times

Time Span in Minutes	Student Count	% in Each Time Span
0-10	48	0.24%
10-20	296	1.46%
20-30	892	4.39%
30-40	2201	10.84%
40-50	3273	16.12%
50-60	3504	17.25%
60-70	3232	15.91%
70-80	2565	12.63%
80-90	1629	8.02%
90+	2670	13.15%
Total	20,310	100.00%

SHIPPING, PACKAGING, AND DELIVERY OF MATERIALS

A single shipment was sent out by DRC to each district. The shipment was delivered by January 7, 2013. The shipment contained all necessary materials to complete the NeSA-Writing test administration.

- *Writing Manual for Test Coordinators and Administrators*
- Secure Materials: Standard Writing Booklets and Spanish Translation Booklets (Grades 4, 8, and 11)
- Administrative Materials: Student PreID Labels, District/School Labels, Do Not Score Labels, Return Shipping Labels, etc.

DRC ensured that all assessment materials were assembled correctly prior to shipping. DRC Operations staff used the automated Operations Materials Management System (OpsMMS) to assign secure materials to a district at the time of ship out. This system used barcode technology to provide an automated quality check between items requested for and items shipped to each site. A shipment box manifest was produced and placed in each box shipped. DRC Operations staff double-checked all box contents against the manifest prior to the box being sealed for shipment to ensure accurate delivery of materials. Districts and schools were selected at random and examined for correct and complete packaging and labeling.

OpsMMS, along with the UPS tracking system, allowed DRC to track the items from the point of shipment from DRC's warehouse facility to receipt at the district. All DRC shipping facilities, materials processing facilities, and storage facilities are secure. Access is restricted by security code. Only DRC inventory control personnel have access to stored secure materials. DRC employees are trained in and made aware of the high level of security that is required.

The paper/pencil assessments for grades 4, 8, and 11 were packaged by school, and shipped to districts to the attention of the District Assessment Contacts. DRC packed 32,350 standard writing booklets, 376 Spanish translation booklets, 3,095 manuals, and approximately 4,790 non-secure materials for testing sites. DRC used UPS to deliver materials to the testing sites.

MATERIALS RETURN

The materials return window was February 13-15, 2013. DRC used UPS for all return shipments.

TEST SECURITY MEASURES

Test security is essential to obtaining reliable and valid scores for accountability purposes. The 2013 NeSA-Writing included a Test Security Agreement that was provided to all districts by NDE in Nebraska's *Standards, Assessment, and Accountability Updates*. The agreement was to be signed by every school principal and District Assessment Contact and faxed to NDE by January 18, 2013. The purpose of the agreement was to serve as a tool to document that the individuals responsible for administering the assessments both understood and acknowledged the importance of test security. The Test Security

Agreement attested that all security measures were followed concerning the handling of secure materials.

SAMPLE MANUALS

Copies of the *Writing Manual for Test Coordinators and Administrators* and the *Online Test Administration Manual* can be found on the Nebraska Department of Education website at www.education.ne.gov/assessment.

PROCESSING AND SCORING THE NeSA-WRITING

RECEIPT OF MATERIALS

Receipt of NeSA-Writing materials began on February 13, 2013, and concluded on February 27, 2013. Any materials received after February 27, 2013, were considered late and were checked-in, scanned, and processed during the late window of March 1, 2013 through April 2, 2013. OpsMMS was utilized to receive materials securely, accurately, and efficiently. This system features advanced automation and cutting-edge barcode scanners. Captured data were organized into reports, which provided timely information with respect to suspected missing materials.

The check-in process occurred immediately upon receipt of materials; therefore, DRC provided immediate feedback to districts regarding any missing materials based on actual receipts versus expected receipts. DRC produced and submitted to NDE a Missing Materials Report that listed all standard and Spanish translation writing booklets by district, school, and grade that were not returned to DRC.

SCANNING OF MATERIALS

DRC used its image scanning system to capture student essays. The images were then loaded into the image scoring system for both the hand scoring of student responses, and for the capture of demographic data.

Customized scanning programs for all scannable documents were prepared to read the writing documents and to electronically format the scanned information. Before materials arrived, all image scanning programs went through a quality review process that included scanning of mock data from production booklets to ensure proper data collection.

After each batch of writing booklets was scanned, writing documents were processed through a computer-based edit program to detect potential errors as a result of smudges, multiple marks, and omits in predetermined fields. Marks that did not meet the pre-defined editing standards were routed to human editors for resolution.

Before batches of writing responses were extracted for scoring, a final edit was performed to ensure that all requirements for final processing were met. If a batch contained errors, it was flagged for further review before being extracted for scoring and reporting.

MATERIALS STORAGE

Upon completion of processing, student writing booklets were boxed for security purposes and final storage.

- Project-specific box labels were created containing unique customer and project information, material type, batch number, pallet/box number, and the number of boxes for a given batch.
- Boxes were stacked on project-specific pallets that were labeled with a list of its contents and delivered to the Materials Distribution Center for final secure storage.

- All paper/pencil writing booklets will be securely stored for one year until DRC receives written authorization from NDE requesting that they be permanently destroyed.
- All electronic student response images will be securely stored until DRC receives written authorization from NDE requesting that they be permanently deleted.

PERFORMANCE ASSESSMENT SERVICES

In 2013, NDE continued the use of analytic scoring rubrics for grades 8 and 11 and adopted the use of an analytic scoring rubric for grade 4. These rubrics use a 1-4 scale across four domains to define narrative, descriptive, and persuasive writing performance analytically. The rubrics define qualities of each score point for each of the four domains; Ideas/Content, Organization, Voice/Word Choice, and Sentence Fluency/Conventions.

RANGEFINDING

After receiving student responses from the 2012 NeSA-W Field Test, DRC's Performance Assessment Services (PAS) staff reviewed all of the responses and assembled them into sets that exemplified the range of different score points, for each of the four domains, for each of the three prompts. Copies of these sets were made for each member of the rangefinding committees. DRC's PAS staff then travelled to Lincoln, Nebraska (June 28 and 29, 2012) and facilitated the rangefinding sessions. The rangefinding committees consisted of Nebraska educators, NDE staff members and DRC Performance Assessment Staff. The rangefinding meeting began in a joint session with a review of the history of the assessment and a discussion of the rangefinding process, along with guidelines for the consensus scoring of the assembled responses. The group then broke into three grade specific committees consisting of ten or twelve NE educators, an NDE representative and two DRC facilitators on each committee. Each committee reviewed the current prompt and scoring rubric, and the grade 8 and grade 11 committees also reviewed the 2012 Scoring Guide anchor papers.

Initially, each student response was read aloud and then discussed by all members of the group equally; to ensure that everyone was interpreting the analytic rubric consistently and uniformly. Each of the four domain scores were addressed independently and following the discussions, scores were agreed upon in each domain. The first set of 20 responses was discussed at length and then consensus scored using this method. Committee members then went on to score additional responses independently. For each student response, committee members' scores were recorded and, if needed, were discussed until a consensus was reached. Responses for which there was a strong agreement among committee members were identified as potential anchor papers to be used in the Scoring Guides for training DRC readers. Each committee consensus scored over 100 responses.

Discussions of student responses included the mandatory use of rubric language. This ensured that the committee members remained focused on the specific requirements of each score point in each domain. DRC PAS staff took notes addressing how and why committees arrived at score point decisions and how each range of scores was defined. This information was used by the scoring directors and team leaders during reader training.

TRAINING MATERIAL CREATION

As part of preparation for the 2013 NeSA-Writing assessment, DRC's PAS staff assembled the committee scored rangefinding responses into sets used for training readers. Responses that the rangefinding committee had a strong consensus and were relevant in terms of the scoring concepts they illustrated were annotated and included as anchor papers in a scoring guide. The full range of each score point in each domain was clearly represented and annotated in the Scoring Guide. These anchor papers, along with the grade specific analytic rubric, served as the readers' constant reference throughout the project. Training and qualifying sets were assembled using the student responses that were reviewed and scored by rangefinding committee members. Responses were selected for training to show readers the ranges for each score point in each domain and to highlight some of the writing characteristics within each domain.

Validity papers were selected from current operational student responses, and consensus scored by DRC PAS staff and NDE representatives. These papers were entered into the imaging system in preparation for being scored by all readers. These pre-scored responses were dealt out intermittently to all readers throughout the project as a quality control process. The readers were unaware that these responses served as validity papers with the objective of ensuring that readers scored student responses in a manner consistent with their training and with Nebraska statewide standards throughout the duration of the project.

READER RECRUITMENT/QUALIFICATIONS

DRC retains a pool of experienced readers from year to year and all of the 2013 NeSA-Writing readers came from this population. Every reader had at least one year of previous scoring experience with Nebraska writing.

The Scoring Director and Team Leaders were chosen by the content specialists from a pool, consisting of experienced individuals who are proven successful readers and leaders, and who had strong backgrounds in writing. Those selected demonstrated organization, leadership, and management skills. All scoring personnel were required to sign confidentiality agreements before any training or handling of secure materials began.

TEAM LEADER AND READER TRAINING

Representatives from NDE travelled to the DRC Plymouth, Minnesota Scoring Center (February 7- 13, 2013) to collaborate with DRC Scoring Directors and Team Leaders during a three-day training session. The content specialist, scoring director and representative from NDE worked cooperatively to review and discuss all of the training materials, and to consensus score a number of additional validity papers. Team leaders were required to annotate all of their training materials with notes from the training sessions. To facilitate scoring consistency, it was imperative that each team leader imparted the same rationale for each response as the other team leaders used.

Two days of reader training took place on February 11-12, 2013 for grades 8 and 11, and February 14-15, 2013 for grade 4, at the DRC Scoring Center. Reader training began with the scoring director providing an intensive review of the analytic scoring rubric, and the anchor papers in the scoring guide. Next, readers practiced by independently scoring the

responses in the training sets. After each training set, the scoring director or team leaders led a thorough discussion of the responses, either in a room-wide or small-group setting. Once the scoring rubric, anchor sets, and training sets were thoroughly discussed, each rater was required to demonstrate understanding of the scoring criteria by qualifying (i.e., scoring with acceptable agreement to the true scores) on at least one of the qualifying sets. Readers who failed to achieve 70% exact agreement on the first qualifying set were given additional, individual training. Readers who did not perform at the required level of agreement by the end of the qualifying process were not allowed to score any student responses. These individuals were removed from the pool of potential readers in DRC's imaging system and released from the project. 40 readers were qualified to score Nebraska grade 4 student writing responses, 34 readers were qualified to score Nebraska grade 8 student writing responses, and 35 readers were qualified to score Nebraska grade 11 student writing responses.

Following training and qualifying, a period of paired scoring took place, when readers were required to work cooperatively to score live responses and discuss and agree on the appropriate score. Once team leaders were satisfied with their performance, the readers were permitted to score independently while being monitored closely.

HANDSCORING PROCESS

Student responses were scored blindly and independently by multiple readers using DRC's handscoring system. Readers were not able to see demographic information pertaining to the student being scored, nor were they able to see any of the other scores given by any other reader. Each reader was required to apply the analytic scoring rubric to a given writing response and was instructed to avoid any bias in their scoring decisions. Each student paper was scored twice and non-adjacent scores were adjudicated. Data collected from the multiple reads was used to calculate the rater agreement rates and score point distributions. Student responses that were considered non-scoreable (Blank, Refusal, Off-Topic, Foreign Language, Illegible/Incoherent, Insufficient, Copy of Prompt), were automatically routed to the scoring director for review, and then to a content specialist for final approval. Those foreign language papers that were identified as being written in Spanish were then scored by a select group of qualified readers and team leaders who are DRC's specialist Spanish scorers.

QUALITY CONTROL

Validity sets

NDE approved/scored validity responses that were added into the Image Handscoring System for daily quality control checks. These pre-scored responses helped to track consistency over time, and how well individual readers were performing.

Recalibration Tests

During the course of scoring, two recalibration sets were produced using pre-determined scored student responses, and administered to readers as a way to address any scoring issues, and as a method of reinforcing the Nebraska scoring standards set out in the rubric.

Monitoring and Read-Behinds

Team leaders conducted routine read-behinds for every member of their teams and provided feedback and assistance to their readers.

Statistical Handscoring Reports

Numerous quality control reports were produced on demand or run daily in order to maintain high standards of scoring accuracy. The Reader Monitor Report and Score Point Distribution Report were especially helpful in analyzing scoring data and maintaining high standards of scoring quality.

Table 4-1 Reader Agreement rates for NeSA-W 2013

GRADE	IDEAS/CONTENT			ORGANIZATION			VOICE/WORD CHOICE			SENTENCE FLUENCY/CONVENTIONS		
	EXACT	ADJ	EX +ADJ	EXACT	ADJ	EX +ADJ	EXACT	ADJ	EX +ADJ	EXACT	ADJ	EX +ADJ
4	75%	24%	99%	74%	26%	100%	73%	27%	100%	74%	26%	100%
8	77%	23%	100%	77%	23%	100%	76%	24%	100%	75%	25%	100%
11	74%	25%	99%	77%	23%	100%	74%	26%	100%	75%	25%	100%

Table 4-2 Score Point Distributions for NeSA-W 2013

GRADE	IDEAS/CONTENT				ORGANIZATION				VOICE/WORD CHOICE				SENTENCE FLUENCY/CONVENTIONS			
	Score Points	%1	%2	%3	%4	%1	%2	%3	%4	%1	%2	%3	%4	%1	%2	%3
4	3	32	54	8	4	33	53	7	4	30	53	10	4	29	53	11
8	1	25	60	14	2	26	61	11	2	23	59	16	2	27	58	12
11	2	18	62	17	3	14	69	13	2	16	64	17	4	18	63	14

Table 4-3 Validity Agreement for NeSA-W 2013

GRADE	IDEAS/CONTENT			ORGANIZATION			VOICE/WORD CHOICE			SENTENCE FLUENCY/CONVENTIONS		
	EXACT	ADJ	EX +ADJ	EXACT	ADJ	EX +ADJ	EXACT	ADJ	EX +ADJ	EXACT	ADJ	EX +ADJ
4	83%	17%	100%	77%	22%	99%	78%	22%	100%	80%	19%	99%
8	88%	11%	99%	85%	15%	100%	84%	16%	100%	79%	21%	100%
11	80%	20%	100%	79%	20%	99%	82%	17%	99%	78%	22%	100%

DECISION CONSISTENCY

In a standards-based testing program, there is great interest in how accurately students are classified into achievement categories. Decision consistency answers the question: What is the agreement between the classifications based on two non-overlapping, equally difficult forms of the test (Huynh, 1976). If two equivalent forms were given to the same students, the consistency of the measure would be reflected by the extent that the classification decisions made from the first set of test scores matched the decisions based on the second set of test scores. In contrast to Coefficient Alpha, which describes the relative ordering of students, it is the actual student scores that are important in decision consistency.

Table 4-4 Pseudo-Decision for Two Hypothetical Categories

		TEST ONE		
		LEVEL I	LEVEL II	MARGINAL
TEST TWO	LEVEL I	ϕ_{11}	ϕ_{12}	$\phi_{1\bullet}$
	LEVEL II	ϕ_{21}	ϕ_{22}	$\phi_{2\bullet}$
	MARGINAL	$\phi_{\bullet 1}$	$\phi_{\bullet 2}$	1

Table 4-5 Pseudo-Decision for Four Hypothetical Categories

		TEST ONE				
		LEVEL I	LEVEL II	LEVEL III	LEVEL IV	MARGINAL
TEST TWO	LEVEL I	ϕ_{11}	ϕ_{12}	ϕ_{13}	ϕ_{14}	$\phi_{1\bullet}$
	LEVEL II	ϕ_{21}	ϕ_{22}	ϕ_{23}	ϕ_{24}	$\phi_{2\bullet}$
	LEVEL III	ϕ_{31}	ϕ_{32}	ϕ_{33}	ϕ_{34}	$\phi_{3\bullet}$
	LEVEL IV	ϕ_{41}	ϕ_{42}	ϕ_{43}	ϕ_{44}	$\phi_{4\bullet}$
	MARGINAL	$\phi_{\bullet 1}$	$\phi_{\bullet 2}$	$\phi_{\bullet 3}$	$\phi_{\bullet 4}$	1

If a student is classified as being in one category based on Test One’s score, how probable would it be that the student would be classified in the same category based on Test Two?

The proportions of correct decisions, ϕ for two and four categories are computed by the following two formulas, respectively:

$$\phi = \phi_{11} + \phi_{22}$$

$$\phi = \phi_{11} + \phi_{22} + \phi_{33} + \phi_{44}.$$

It is the proportion of students classified by the two forms into exactly the same achievement level that represents the overall consistency.

Since it is not possible to retest in order to estimate the proportion of students who would be reclassified in the same performance levels, a statistical model needs to be imposed on the data in order to project the consistency of classifications solely using data from the available administration (Hambleton & Novick, 1973). Although a number of procedures are available, two well-known methods were developed by Hanson and Brennan (1990) and Livingston and Lewis (1995) utilizing specific True Score Models.

Table 4-6 NeSA-W Decision Consistency Results

Content Area	Grade	Livingston & Lewis				Hanson & Brennan			
		Decision Accuracy		Decision Consistency		Decision Accuracy		Decision Consistency	
		Proficient	Advanced	Proficient	Advanced	Proficient	Advanced	Proficient	Advanced
Writing	4	0.91	0.91	0.87	0.88	0.92	0.92	0.89	0.90
	8	0.91	0.92	0.87	0.89	0.92	0.93	0.88	0.90
	11	0.91	0.91	0.88	0.87	0.92	0.92	0.89	0.89

STANDARD SETTING

Introduction

Academic Performance Levels for the writing component of the Nebraska State Accountability assessments (NeSA-Writing) grades 8 and 11 were developed in Spring 2012 and continued for use in Spring 2013. *Academic Performance Levels* for the writing component of the Nebraska State Accountability assessments (NeSA-Writing) grade 4 were developed in Spring 2013 by establishing cut scores that define operationally the three Performance Levels: *Below the Standards*, *Meets the Standards*, and *Exceeds the Standards*. These Performance Level designations will be used by local, state, and federal accountability programs and are central to communicating to parents, teachers, and the public. Standard setting for grades 8 and 11 was completed in April 2012. As with the previous grades 8 and 11 writing standard setting, grade 4 standard setting process, completed Spring 2013, consisted of three distinct events. First, a meeting was held March 4, 2013 with the Nebraska State Board of Education and other stakeholders to introduce the process and obtain feedback to ensure an effective, defensible process. Second, a *Body of Work* Standard Setting was conducted on March 21, 2013 in Lincoln, Nebraska, after the operational data were available. Finally, recommendations of the *Body of Work* process were presented to the State Board of Education on April 8-9, 2013. The purpose of this meeting was for the State Board of Education to formally establish the Performance Levels for NeSA-Writing grade 4. This report specifically documents the *Body of Work* portion of the process.

Holistic Judgments

A holistic judgment typically requires the appraisal of all the available evidence for each student on the construct of interest. The task is to appraise a unit of work much larger than a test item and determine which of the *Performance Level Descriptors* (PLDs), which define the levels, best describes the student. Non-holistic processes, like *Angoff* and *Bookmark*, require the judges to estimate, by various procedures, the likelihood that a *borderline* candidate will succeed on each item. By definition, the borderline student is on the line between two Performance Levels, but the PLDs describe the typical, not the borderline student in the levels. The description of the borderline student is a negotiated consensus about what is different about two levels. The borderline student should have all or nearly all of the attributes of the lower level and few if any of the higher level. The holistic methods do not require this initial negotiation; it is *simply* a process of matching the student's evidence to a Performance Level.

Body of Work Method

Body of Work (BoW) (Kingston, Kahl, Sweeny & Bay, 2001) has much in common with the *Contrasting Groups* (CG) method. Both require a holistic judgment about the individual and both employ logistic regression to do the arithmetic. With *CG*, the judgment is based on a teacher's direct experience with the student in the classroom; typically garnered just prior to the assessment for which the Performance Levels are being developed. With *BoW*, the judgment is based on a significant sample of the student's work collected during the assessment as direct evidence of proficiency on the construct of interest. The judgment is a holistic evaluation of the evidence without consideration of, or perhaps without knowledge of, the rubric to be used for quantifying the performance.

For the NeSA-W, the construct of interest is writing proficiency. The evidence of a student's proficiency is a prompted writing sample and the task for the judges was to sort the responses into groups corresponding to the Performance Levels defined by the *PLDs*. The responses have been scored, using the established rubrics that are the basis of all reporting and analyses for the NeSA-W. The scores are not explicitly given to the judges and the responses were not arranged in score order. Judges are allowed to place responses into whatever categories they deem appropriate, even if it is not consistent with the scoring.

BoW has five basic steps; two (II and IV) of which involve the judges.

- I. *Selection*: Organizers choose responses that cover the range of possible cut scores.
- II. *Focus*¹: Judges assign sparingly spaced responses to Performance Levels.
- III. *Refinement*: Organizers select new sets of responses clustered near the tentative cut points.
- IV. *Pinpoint*: Judges assign finely spaced responses to Performance Levels.
- V. *Analysis*: Psychometrics computes the final cut point recommendations.

Selection

The initial selection of responses included three or four responses at 20 to 25 score points covering the 70 point weighted score range. Because of the weighting, DRC Psychometric Services staff determined the patterns of domain and reader scores that should be included and DRC PAS staff selected the responses and provided hard copies in order to prepare the judge packets for the Standard Setting meetings.

Responses included were selected to cover the scale score range uniformly. The results of the selection process were used during the Focus and Pinpointing steps. The papers represented the breadth of possible score profiles across domains to provide maximum diversity, so that responses at the same total score arrived at that score by different paths.

For Focusing, the packet given to each judge contained enough responses to cover the maximum possible range of cut scores. It was not necessary for any judge to review more than 15 responses in this step. There was a trade-off between this stage and the Pinpointing step; the finer the spacing at this step, the sharper the focus would be at the Pinpoint step.

For Pinpointing, the packets contained 20 to 25 responses, clustered around the tentative cut points. While the Pinpointing response packets did not include any of the Focusing responses, psychometric calculations can be done such that the results from either round can be combined and made equivalent.

¹ This step is referred to as *Range Finding* in the Standard Setting literature, but to avoid confusion with the hand scoring process, this document will use the term *Focus* to refer to the process of narrowing consideration to scores in the vicinity of the eventual Performance Levels.

Focusing

The purpose of *Focusing* is to narrow the possible range of outcomes for Pinpointing. Each judge was asked to review the responses in the packet and to assign each to a Performance Level. Judges were not shown the scoring rubrics and any who were familiar with the rubrics were cautioned not to attempt to score the responses. The appraisal in this process is a holistic judgment about how the response compares to the PLDs, not to the rubric.

The time-consuming part of this activity is the reading. Because the responses are relatively widely spaced, sorting them into Performance Levels proceeded relatively quickly.

Discussion at the end dealt with the boundaries, where there is a lack of consensus among the judges. Participants were asked to locate their best response below the *Meets the Standards* line and describe, at least to themselves, what prevented it being placed above the line. Then, for the weakest paper above the line, why does it belong there? The discussion then turned to responses just below and just above the *Exceeds the Standards* line.

The process for the judges was:

1. Group discussion of the PLDs.
2. Read the responses in their packets.
3. Assign each response to a Performance Level.
4. Compare the strongest response below the *Meets the Standards* line to the weakest response above the line.
5. Rearrange and reconsider as desired.
6. Group discussion of individual assignments.

Refinement

The analysis required for Refinement is minimal; simply a matter of eliminating regions of score points where there was strong consensus on the appropriate Performance Level. Most of the effort was tabulation of judges' assignments and reorganization of the responses to focus on the areas without consensus. The final performance standard was set at the point of complete disagreement: the score where half the judges place the responses above the line and half, below.

Pinpointing

The task for a judge during Pinpointing is identical to Focusing: review the packet of responses and sorting them into appropriate Performance Levels.

Board-Approved Cut Scores and 2013 Impact Data

The final State Board of Education approved cut scores and the percentage of Spring 2013 students in each Performance Level are shown below. These values in the scale score metric will be used for grades 4 and will not change from year to year.

Grade 4		
Performance Level	Scale Score	Percent in Category
Below	0-39	32.2%
Meets	40-56	52.3%
Exceeds	57-70	15.5%

Panelist Recruitment

The NDE recruited panelists for the Standard Setting process:

- In January of 2013, Dr. Valorie Foy communicated with District Assessment Contacts, informing them of the plan for establishing NeSA-Writing cut scores and the need for Nebraska educators to participate in the process.
- Information regarding the Standard Setting process was communicated to Nebraska districts in Nebraska’s *Standards, Assessment, and Accountability Updates*.
- The NDE sought nominations for participation in the Standard Setting process.
- The NDE Statewide Assessment Office members reviewed the nominations and selected participants. Three criteria were considered:
 1. Educational role;
 2. Geographic location; and
 3. Knowledge and experience with the NeSA-Writing.
- Applicants were notified by the NDE of their selection status.

Panelist Survey

A total of 15 panelists participated in the *Body of Work* event. Table 5-1 summarizes information about characteristics of the participating panelists based on their self-reported responses to the Participant Survey. Most panelists were classroom teachers; a few were non-teacher educators, and all were female.

Table 5-1 Standard Setting Panelist Summary

Demographic		Writing
Grade Group - teacher reported	4	15
Gender	Male	0
	Female	15
Ethnicity	White/non-Hispanic	14
	African American	1
Role	Other	1
	Teacher	10
	Educator	4
Region	Rural	5
	Urban	7
	Suburban	3
Experience	0 - 5 years	0
	6 - 10 years	2
	11 - 15 years	4
	16 - 20 years	1
	21 - 25 years	1
	26 - 30 years	7
	31 - 35 years	0
	> 36 years	0

Roles and Responsibilities

A successful Standard Setting requires the concerted and coordinated efforts of many people including staff from the NDE, DRC, and most importantly, the panelists. Each group has its unique and critical roles and responsibilities:

Panelists—brought their individual educational experience and expertise about Nebraska students, writing instruction, and the Nebraska curriculum. Their knowledge of writing instruction and curriculum in Nebraska and their familiarity with Nebraska students forms the foundation for the validity of the performance standards.

Nebraska Department of Education—convened the meeting and introduced the NeSA-Writing program and the importance of Standard Setting. The NDE staff monitored the progress of each panel and fielded questions on the assessment, test content, and on any policy concerns.

DRC Staff—facilitated the sessions and provided logistical and technical support.

Psychometric Lead—conducted the training session and monitored progress and results throughout.

Test Development Specialist—assisted as needed with the Performance Levels and covered questions about test content.

Project Management—maintained security of materials through check-in and check-out procedures, liaison with hotel facility staff, and overall coordination of meeting logistics.

Room Facilitators—reviewed procedures for the panelists, kept the process moving on schedule, explained results, and facilitated the sessions.

Statistical Analyst—entered the panelists' ratings and performed the necessary statistical analyses.

Materials Preparation

Workshop materials were prepared by DRC. The materials available to panelists during the workshop included:

- Training materials
- Performance Level Descriptors
- Focus and Pinpointing papers
- Participant rating forms

Training materials included grade 4 writing topic responses at varying score points and related materials that were otherwise identical to the materials to be used in the actual process.

Writing Performance Level Descriptors were originally developed by the NDE with assistance from educators. A complete statement of the Performance Level Descriptors is included in Appendixes D, E, and F.

Panelists' Evaluation Results

The final step of the Standard Setting process was asking the panelists to complete an evaluation on the Standard Setting meeting itself. This information was used to assess the panelists' impression of the validity of the process and their confidence in the result. A copy of the instrument is included in Appendix G and a summary of the results as averages is shown in Table 5-2. All questions were on a four point scale unless indicated. A one represented a disagreeing statement and a four was an agreeing statement. As observed, panelists were *Confident* to *Very Confident* in the process and outcomes.

Table 5-2 Standard Setting Panelist Evaluation Results

	Grade	4
	Count	15
Training	Clarity	3.60
	Time allotted	3.20
	Exercise	3.53
PLD's	Adeq info	3.53
	Adeq time	3.57
	Capture	3.47
	Communication	3.47
Materials	PLD	3.87
	Essays	3.93
	Summary	3.67
	Impact data	3.60
Amount of time*	Focus	2.27
	Pinpointing	2.07
Roles	PS Lead	3.50
	Rm Facilitator	3.50
	Other	3.50
Confidence	Below/Meets	3.00
	Meets/Exceeds	3.43
Process	Confident	3.14

*Amount of time was on a 3 point scale where 2 was *About Right*.

REPORTING

Determining the Scale Score

The TAC felt that 200 points overstated the precision of the writing scores, because of the dominance of a few patterns. These considerations led to a choice of scale other than the 0-200 scale used by reading, math, and science. A 70-point scale was suggested, somewhat arbitrarily, as being less than 200 and different than either 50, which might be confused with a raw score, or 100, which might be confused with percent correct. Having settled on the choice of metric for the reporting scale, there is still a question of whether the weighted composite score is to be transformed linearly or logistically into the scale score. It is generally held that the logistic (Rasch) metric, when it can be used, has better measurement properties than any version of raw scores. Several Rasch analyses (multi-faceted, rating scale, weighted, unweighted) support its use with these data.

The Composite to Scale Score tables can be seen in Appendixes H and I.

Composite Scores

A composite total score is calculated from the domain scores of each reader using the weights as shown below for the four domains respectively and summing the domain scores. The composite scores will be translated into scale scores which range from 0 to 70.

The composite score for 2012 is computed by combining the domain scores as:

$$CS = 1.4D_1 + 1.0D_2 + 0.8D_3 + 0.8D_4$$

For example an 8th grade student could have received the following domain scores by reader:

	Domain 1	Domain 2	Domain 3	Domain 4	Weighted score
Reader 1	3 (4.2)	3 (3)	2 (1.6)	3 (2.4)	11.2
Reader 2	3 (4.2)	2 (2)	3 (2.4)	3 (2.4)	11.0

*Note: Weighted calculations are in parentheses.

Total composite score for this student is 22.2 which corresponds to a scale score of 40. This falls in the Performance Level *Meets the Standards*.

GRADE 4, 8, AND 11 REPORTS

DRC reported student results on the NeSA-Writing for grades 4, 8, and 11. Reports were included on the Individual Student Reports (ISRs) with NeSA- Reading, Mathematics, and Science and printed and shipped to districts/schools. Additionally, districts and schools were able to access online reports using DRC's eDIRECT system.

REFERENCES

Kingston, N. M., Kahl, S. R., Sweeney, K. P., & Bay, L. (2001). Setting performance standards using the body of work method. In G. J. Cizek (Ed.), *Setting Performance Standards: Concepts, methods and perspectives* (pp. 218-248). Mahwah, NJ: Erlbaum.

Appendix A: Nebraska Department of Education Scoring Guide for Narrative Writing – Analytic – GRADE 4

Nebraska Department of Education Scoring Guide for Narrative Writing – Analytic – Grade 4				
	1	2	3	4
IDEAS / CONTENT 35%	<ul style="list-style-type: none"> The writer creates little understanding of events of the story. Content has many digressions from the topic. Supporting details are lacking. Storyline is often repetitious, disconnected, or random. 	<ul style="list-style-type: none"> The writer creates a limited understanding of events of the story. Content has some digressions from the topic. Limited or unrelated details are included. Storyline is occasionally vague. 	<ul style="list-style-type: none"> The writer creates a general understanding of events of the story. Content is generally focused on the topic. Adequate, related details are included. Storyline is generally logical and easy to follow. 	<ul style="list-style-type: none"> The writer creates a clear understanding of events of the story. Content is well-focused on the topic. Numerous, relevant details are included. Storyline is logical and easy to follow throughout.
ORGANIZATION 25%	<ul style="list-style-type: none"> Structural development of a beginning, middle, or end is lacking. Pacing is awkward. Transitions are missing or connections are unclear. Paragraphing is ineffective or missing. 	<ul style="list-style-type: none"> Structural development of a beginning, middle, or end is limited. Pacing is somewhat inconsistent. Transitions are repetitious or weak. Paragraphing is irregular. 	<ul style="list-style-type: none"> Structural development of a beginning, middle, and end is functional. Pacing is generally controlled. Transitions are functional. Paragraphing is generally successful. 	<ul style="list-style-type: none"> Structural development of a beginning, middle, and end is effective. Pacing is well-controlled. Transitions effectively show how ideas connect. Paragraphing is sound.
VOICE / WORD CHOICE 20%	<ul style="list-style-type: none"> Wording is lifeless and mechanical, conveying little sense of the writer. Voice is inappropriate for the purpose and audience. Language is neither specific, precise, nor varied. 	<ul style="list-style-type: none"> Wording is occasionally expressive, conveying a limited sense of the writer. Voice is sometimes inappropriate for the purpose and audience. Language is occasionally specific, precise, and varied. 	<ul style="list-style-type: none"> Wording is generally expressive, conveying a sense of the writer. Voice is generally appropriate for the purpose and audience. Language is generally specific, precise, and varied. 	<ul style="list-style-type: none"> Wording is expressive and engaging, conveying a strong sense of the writer. Voice is well-suited for the purpose and audience. Language is specific, precise, and varied throughout.
SENTENCE FLUENCY / CONVENTIONS 20%	<ul style="list-style-type: none"> Sentences seldom vary in length or structure. Phrasing sounds awkward and unnatural. Fragments or run-ons confuse the reader. Grammar, usage, punctuation, and spelling errors throughout distract the reader. 	<ul style="list-style-type: none"> Sentences occasionally vary in length or structure. Phrasing occasionally sounds unnatural. Fragments or run-ons sometimes confuse the reader. Grammar, usage, punctuation, and spelling errors may distract the reader. 	<ul style="list-style-type: none"> Sentences generally vary in length or structure. Phrasing generally sounds natural. Fragments and run-ons, if present, do not confuse the reader. Grammar, usage, punctuation, and spelling are usually correct and errors do not distract the reader. 	<ul style="list-style-type: none"> Sentences vary in length and structure throughout. Phrasing consistently sounds natural and conveys meaning. Fragments and run-ons, if present, are intended for stylistic effect. Grammar, usage, punctuation, and spelling are consistently correct and may be manipulated for stylistic effect.

Appendix B: Nebraska Department of Education Scoring Guide for Descriptive Writing – Analytic – GRADE 8

Nebraska Department of Education Scoring Guide for Descriptive Writing – Analytic - GRADE 8				
	1	2	3	4
IDEAS / CONTENT 35%	<ul style="list-style-type: none"> The picture of what is being described is unclear. Content has many digressions from the topic. Sensory details are lacking. 	<ul style="list-style-type: none"> The picture of what is being described is limited. Content has some digressions from the topic. Sensory details are limited or unrelated. 	<ul style="list-style-type: none"> The picture of what is being described is clear. Content is generally focused on the topic. Sensory details are adequate and related. 	<ul style="list-style-type: none"> The picture of what is being described is clear and vivid. Content is well-focused on the topic. Sensory details are numerous and relevant.
ORGANIZATION 25%	<ul style="list-style-type: none"> Structural development of an introduction, body, and conclusion is lacking. Pacing is awkward. Transitions are missing or connections are unclear. Paragraphing is ineffective or missing. 	<ul style="list-style-type: none"> Structural development of an introduction, body, and conclusion is limited. Pacing is somewhat inconsistent. Transitions are repetitious or weak. Paragraphing is irregular. 	<ul style="list-style-type: none"> Structural development of an introduction, body, and conclusion is functional. Pacing is generally controlled. Transitions are functional. Paragraphing is generally successful. 	<ul style="list-style-type: none"> Structural development of an introduction, body, and conclusion is effective. Pacing is well- controlled. Transitions effectively show how ideas connect. Paragraphing is sound.
VOICE / WORD CHOICE 20%	<ul style="list-style-type: none"> Wording is inexpressive and lifeless, conveying little sense of the writer. Voice inappropriate for the purpose and audience. Language is neither specific, precise, nor varied. Few, if any, vivid words or phrases are used. 	<ul style="list-style-type: none"> Wording is occasionally expressive, conveying a limited sense of the writer. Voice is sometimes inappropriate for the purpose and audience. Language is occasionally specific, precise, and varied. Some vivid words and phrases are used. 	<ul style="list-style-type: none"> Wording is generally expressive, conveying a sense of the writer. Voice is generally appropriate for the purpose and audience. Language is generally specific, precise, and varied. Adequate vivid words and phrases are used. 	<ul style="list-style-type: none"> Wording is expressive and engaging, conveying a strong sense of the writer throughout. Voice is well-suited for the purpose and audience throughout. Language is specific, precise, and varied throughout. Numerous vivid words and phrases used effectively.
SENTENCE FLUENCY / CONVENTIONS 20%	<ul style="list-style-type: none"> Sentences seldom vary in length or structure. Phrasing sounds awkward and unnatural. Fragments or run-ons confuse the reader. Grammar, usage, punctuation, and spelling errors throughout distract the reader. 	<ul style="list-style-type: none"> Sentences occasionally vary in length or structure. Phrasing occasionally sounds unnatural. Fragments or run-ons sometimes confuse the reader. Grammar, usage, punctuation, and spelling errors may distract the reader. 	<ul style="list-style-type: none"> Sentences generally vary in length or structure. Phrasing generally sounds natural. Fragments and run-ons, if present, do not confuse the reader. Grammar, usage, punctuation, and spelling are usually correct and errors do not distract the reader. 	<ul style="list-style-type: none"> Sentences vary in length and structure throughout. Phrasing consistently sounds natural and conveys meaning. Fragments and run-ons, if present, are intended for stylistic effect. Grammar, usage, punctuation, and spelling are consistently correct and may be manipulated for stylistic effect.

Appendix C: Nebraska Department of Education Scoring Guide for Persuasive Writing – Analytic – GRADE 11

Nebraska Department of Education Scoring Guide for Persuasive Writing – Analytic – GRADE 11				
	1	2	3	4
IDEAS / CONTENT 35%	<ul style="list-style-type: none"> • Writer conveys little opinion or position about the topic. • Content has many digressions from the topic. • Reasoning is unclear. • Supporting examples or reasons are lacking. 	<ul style="list-style-type: none"> • Writer conveys a limited opinion or position about the topic. • Content has some digressions from the topic. • Reasoning is somewhat logical and convincing. • Supporting examples or reasons are limited. 	<ul style="list-style-type: none"> • Writer conveys a general opinion or position about the topic. • Content is generally focused on the topic. • Reasoning is usually logical and convincing. • Supporting examples or reasons are adequate and relevant. 	<ul style="list-style-type: none"> • Writer conveys a clear opinion or position about the topic. • Content is well-focused on the topic. • Reasoning is logical and compelling. • Supporting examples or reasons are numerous and relevant.
ORGANIZATION 25%	<ul style="list-style-type: none"> • Structural development of an introduction, body, and conclusion is lacking. • Pacing is awkward. • Transitions are missing or connections are unclear. • Paragraphing is ineffective or missing. 	<ul style="list-style-type: none"> • Structural development of an introduction, body, and conclusion is limited. • Pacing is somewhat inconsistent. • Transitions are repetitious or weak. • Paragraphing is irregular. 	<ul style="list-style-type: none"> • Structural development of an introduction, body, and conclusion is functional. • Pacing is generally controlled. • Transitions are functional. • Paragraphing is generally successful. 	<ul style="list-style-type: none"> • Structural development of an introduction, body, and conclusion is effective. • Pacing is well- controlled. • Transitions effectively show how ideas connect. • Paragraphing is sound.
VOICE / WORD CHOICE 20%	<ul style="list-style-type: none"> • Writer demonstrates little commitment to the topic. • Voice is inappropriate for the purpose and audience. • Language is neither specific, precise, varied, nor engaging. • Writer fails to anticipate the reader's questions. 	<ul style="list-style-type: none"> • Writer demonstrates a limited commitment to the topic. • Voice is sometimes inappropriate for the purpose and audience. • Language is occasionally specific, precise, varied, and engaging. • Writer anticipates few of the reader's questions. 	<ul style="list-style-type: none"> • Writer demonstrates a general commitment to the topic. • Voice is generally appropriate for the purpose and audience. • Language is generally specific, precise, varied, and engaging. • Writer generally anticipates the reader's questions. 	<ul style="list-style-type: none"> • Writer demonstrates a strong commitment to the topic. • Voice is well-suited for the purpose and audience. • Language is specific, precise, varied, and engaging throughout. • Writer consistently anticipates reader's questions.
SENTENCE FLUENCY / CONVENTIONS 20%	<ul style="list-style-type: none"> • Sentences seldom vary in length or structure. • Phrasing sounds awkward and unnatural. • Fragment or run-ons confuse the reader. • Grammar, usage, punctuation, and spelling errors throughout distract the reader. 	<ul style="list-style-type: none"> • Sentences occasionally vary in length or structure. • Phrasing occasionally sounds unnatural. • Fragments or run-ons sometimes confuse the reader. • Grammar, usage, punctuation, and spelling errors may distract the reader. 	<ul style="list-style-type: none"> • Sentences generally vary in length or structure. • Phrasing generally sounds natural. • Fragments and run-ons, if present, do not confuse the reader. • Grammar, usage, punctuation, and spelling are usually correct and errors do not distract the reader. 	<ul style="list-style-type: none"> • Sentences vary in length and structure throughout. • Phrasing consistently sounds natural and conveys meaning. • Fragments and run-ons, if present, are intended for stylistic effect. • Grammar, usage, punctuation, and spelling are consistently correct and may be manipulated for stylistic effect.

Appendix D: Performance Level Descriptors Grade 4

**Nebraska State Accountability-Writing (NeSA-W) Performance Level
Descriptors
Grade 4**

<u>Below the Standards</u>	<u>Meets the Standards</u>	<u>Exceeds the Standards</u>
<p>Overall the student’s writing reflects an unsatisfactory performance of the standards and an insufficient understanding of the traits of writing. The student’s writing is still under development. Extensive revision and/or editing is necessary.</p> <p>The student’s writing is below the standards if the . . .</p> <ul style="list-style-type: none"> o Writer creates a limited or no understanding of events in the story. o Content has some digressions from the topic. o Supporting details are limited, unrelated, or lacking. o Storyline is vague, repetitious, disconnected, or random. o Structural development of a beginning, middle, or end is limited or lacking. o Pacing is inconsistent or awkward. o Transitions are repetitious, weak, unclear, or missing. o Paragraphing is irregular, ineffective, or missing. o Wording is inexpressive and lifeless, conveying a limited sense of the writer. o Voice is sometimes inappropriate for the purpose and audience. o Language is seldom specific, precise or varied. o Sentences seldom vary in length or structure. o Phrasing sounds awkward and unnatural. o Writing has fragments or run-ons that confuse the reader. o Grammar, usage, punctuation, and spelling errors distract the reader. 	<p>Overall the student’s writing reflects a satisfactory performance of the standards and a sufficient understanding of the traits of writing. The student’s writing demonstrates more strengths than weaknesses. Some revision and/or editing is necessary.</p> <p>The student’s writing meets the standards if the . . .</p> <ul style="list-style-type: none"> o Writer creates a general understanding of events in the story. o Content is generally focused on the topic. o Details are adequate and related. o Storyline is generally logical and easy to follow. o Structural development of a beginning, middle, and end is functional. o Pacing is generally controlled. o Transitions are functional. o Paragraphing is generally successful. o Wording is generally expressive, conveying a sense of the writer. o Voice is generally appropriate for the purpose and audience. o Language is generally specific, precise, and varied. o Sentences generally vary in length or structure. o Phrasing generally sounds natural. o Fragments and run-ons do not generally confuse the reader. o Grammar, usage, punctuation, and spelling are usually correct and rarely distract the reader. 	<p>Overall the student’s writing reflects an advanced performance of the standards and a thorough understanding of the traits of writing. The student’s writing demonstrates numerous strengths. Only minor revision and/or editing is necessary.</p> <p>The student’s writing exceeds the standards if the . . .</p> <ul style="list-style-type: none"> o Writer creates a clear understanding of events in the story. o Content is well-focused on the topic. o Details are numerous and relevant. o Storyline is logical and easy to follow throughout. o Structural development of a beginning, middle, and end is effective. o Pacing is well-controlled. o Transitions effectively show how ideas connect. o Paragraphing is sound. o Wording is expressive and engaging, conveying a strong sense of the writer throughout. o Voice is well-suited for the purpose and audience throughout. o Language is specific, precise, and varied throughout. o Sentences vary in length and structure throughout. o Phrasing consistently sounds natural and conveys meaning. o Fragments and run-ons, if present, are intended for stylistic effect. o Grammar, usage, punctuation, and spelling are consistently correct and may be manipulated for stylistic effect.

Appendix E: Performance Level Descriptors Grade 8

Nebraska State Accountability-Writing (NeSA-W) Performance Level Descriptors

Grade 8

<u>Below the Standards</u>	<u>Meets the Standards</u>	<u>Exceeds the Standards</u>
<p>Overall the student’s writing reflects an unsatisfactory performance of the standards and an insufficient understanding of the traits of writing. The student’s writing is still under development. Extensive revision and/or editing is necessary.</p> <p>The student’s writing is below the standards if the . . .</p> <ul style="list-style-type: none"> ○ Picture of what is being described is limited or unclear. ○ Content has some digressions from the topic. ○ Sensory details are limited, unrelated, or lacking. ○ Structural development of an introduction, body, and conclusion is limited or lacking. ○ Pacing is inconsistent or awkward. ○ Transitions are repetitious, weak, unclear, or missing. ○ Paragraphing is irregular, ineffective, or missing. ○ Wording is inexpressive and lifeless, conveying a limited sense of the writer. ○ Voice is sometimes inappropriate for the purpose and audience. ○ Language is seldom specific, precise or varied. ○ Writing lacks vivid words and phrases ○ Sentences seldom vary in length or structure. ○ Phrasing sounds awkward and unnatural. ○ Writing has fragments or run-ons that confuse the reader. ○ Grammar, usage, punctuation, and spelling errors distract the reader. 	<p>Overall the student’s writing reflects a satisfactory performance of the standards and a sufficient understanding of the traits of writing. The student’s writing demonstrates more strengths than weaknesses. Some revision and/or editing is necessary.</p> <p>The student’s writing meets the standards if the . . .</p> <ul style="list-style-type: none"> ○ Picture of what is being described is clear. ○ Content is generally focused on the topic. ○ Sensory details are adequate and related. ○ Structural development of an introduction, body, and conclusion is functional. ○ Pacing is generally controlled. ○ Transitions are functional. ○ Paragraphing is generally successful. ○ Wording is generally expressive, conveying a sense of the writer. ○ Voice is generally appropriate for the purpose and audience. ○ Language is generally specific, precise, and varied. ○ Writing has adequate vivid words and phrases. ○ Sentences generally vary in length or structure. ○ Phrasing generally sounds natural. ○ Fragments and run-ons do not generally confuse the reader. ○ Grammar, usage, punctuation, and spelling are usually correct and rarely distract the reader. 	<p>Overall the student’s writing reflects an advanced performance of the standards and a thorough understanding of the traits of writing. The student’s writing demonstrates numerous strengths. Only minor revision and/or editing is necessary.</p> <p>The student’s writing exceeds the standards if the . . .</p> <ul style="list-style-type: none"> ○ Picture of what is being described is clear and vivid. ○ Content is well-focused on the topic. ○ Sensory details are numerous and relevant. ○ Structural development of an introduction, body, and conclusion is effective. ○ Pacing is well-controlled. ○ Transitions effectively show how ideas connect. ○ Paragraphing is sound. ○ Wording is expressive and engaging, conveying a strong sense of the writer throughout. ○ Voice is well-suited for the purpose and audience throughout. ○ Language is specific, precise, and varied throughout. ○ Numerous vivid words and phrases are used effectively. ○ Sentences vary in length and structure throughout. ○ Phrasing consistently sounds natural and conveys meaning. ○ Fragments and run-ons, if present, are intended for stylistic effect. ○ Grammar, usage, punctuation, and spelling are consistently correct and may be manipulated for stylistic effect.

Appendix F: Performance Level Descriptors Grade 11

Nebraska State Accountability-Writing (NeSA-W) Performance Level Descriptors

Grade 11

Below the Standards

Overall the student’s writing reflects an unsatisfactory performance of the standards and an insufficient understanding of the traits of writing. The student’s writing is still under development. Extensive revision and/or editing is necessary.

The student’s writing is below the standards if the . . .

- Writer conveys limited or no opinion or position about the topic.
- Content has some digressions from the topic.
- Reasoning is limited or unclear.
- Supporting examples or reasons are limited or lacking.
- Structural development of an introduction, body, and conclusion is limited or lacking.
- Pacing is inconsistent or awkward.
- Transitions are repetitious, weak, unclear, or missing.
- Paragraphing is irregular, ineffective, or missing.
- Writer demonstrates limited or no commitment to the topic.
- Voice is sometimes inappropriate for the purpose and audience.
- Language is seldom specific, precise, or varied.
- Writer often fails to anticipate the reader’s questions.
- Sentences seldom vary in length or structure.
- Phrasing sounds awkward and unnatural.
- Writing includes fragments or run-ons that confuse the reader.
- Grammar, usage, punctuation, and spelling errors distract the reader.

Meets the Standards

Overall the student’s writing reflects a satisfactory performance of the standards and a sufficient understanding of the traits of writing. The student’s writing demonstrates more strengths than weaknesses. Some revision and/or editing is necessary.

The student’s writing meets the standards if the . . .

- Writer conveys a general opinion or position about the topic.
- Content is generally focused on the topic.
- Reasoning is usually logical and convincing.
- Supporting examples or reasons are adequate and relevant.
- Structural development of an introduction, body, and conclusion is functional.
- Pacing is generally controlled.
- Transitions are functional.
- Paragraphing is generally successful.
- Writer demonstrates a general commitment to the topic.
- Voice is generally appropriate for the purpose and audience.
- Language is generally specific, precise, varied, and engaging.
- Writer generally anticipates the reader’s questions.
- Sentences generally vary in length or structure.
- Phrasing generally sounds natural.
- Fragments and run-ons, if present, generally do not confuse the reader.
- Grammar, usage, punctuation, and spelling are usually correct and errors rarely distract the reader.

Exceeds the Standards

Overall the student’s writing reflects an advanced performance of the standards and a thorough understanding of the traits of writing. The student’s writing demonstrates numerous strengths. Only minor revision and/or editing is necessary.

The student’s writing exceeds the standards if the . . .

- Writer conveys a clear opinion or position about the topic.
- Content is well-focused on the topic.
- Reasoning is logical and compelling.
- Supporting examples or reasons are numerous and relevant.
- Structural development of an introduction, body, and conclusion is effective.
- Pacing is well-controlled.
- Transitions effectively show how ideas connect.
- Paragraphing is sound.
- Writer demonstrates a strong commitment to the topic.
- Voice is well-suited for the purpose and audience.
- Language is specific, precise, varied, and engaging throughout.
- Writer consistently anticipates reader’s questions.
- Sentences vary in length and structure throughout.
- Phrasing consistently sounds natural and conveys meaning.
- Fragments and run-ons, if present, are intended for stylistic effect.
- Grammar, usage, punctuation, and spelling are consistently correct and may be manipulated for stylistic effect.

Appendix G: Standard Setting Panelist Evaluation Form

**NEBRASKA STATE ACCOUNTABILITY-WRITING (NESA-W)
STANDARD SETTING MEETING
MARCH 21, 2013
EVALUATION FORM**

THE PURPOSE OF THIS EVALUATION IS TO OBTAIN YOUR OPINIONS ABOUT THE STANDARD SETTING MEETING. YOUR OPINION WILL PROVIDE A BASIS FOR EVALUATING THE BOOKMARK PROCESS. PLEASE **DO NOT** PUT YOUR NAME ON THIS FORM. WE WANT YOUR OPINIONS TO REMAIN ANONYMOUS. AND ALSO NOTE, IN ORDER FOR YOUR ANSWERS TO BE INCLUDED PLEASE CLEARLY STATE YOUR RESPONSE.

1. Grade Level:

4

2. Circle the phrase that most accurately reflects your satisfaction with the training.

	Not at all	Somewhat	Adequate	Totally clear
Clarity				
Amount of Time	Way too little	Too Little	Appropriate	Too Much
Practice Exercises	Not Useful	Somewhat Useful	Useful	Very Useful

3. Check the column that most accurately reflects your level of agreement regarding the Performance Level Descriptors (PLDs).

	Strongly Disagree	Disagree	Agree	Strongly Agree
Adequate information was provided to participants regarding the PLDs.				
Adequate time was provided for participants to gain understanding of the PLDs.				
The PLDs capture what students should know and be able to do at each grade level.				
The PLDs communicate a reasonable profile of students' achievement at Below the Standards, Meets the Standards, and Exceeds the Standards.				

4. Check the column that most accurately reflects your opinion regarding the usefulness of the following materials.

Materials	Not Useful	Somewhat Useful	Useful	Very Useful
PLD's				
Essays				
Panelist Summary				
Impact Data				

5. Check the column that most accurately reflects your opinion regarding the amount of time allotted for your ratings.

Time Allotted	Too Little Time	About Right	Too Much Time
Focus Round			
Pinpointing Round			

6. Check the column that most accurately reflects your satisfaction with the following roles.

Role	Not Satisfied	Somewhat Satisfied	Satisfied	Very Satisfied
DRC Psychometric Lead				
DRC Room Facilitator				
Other DRC Staff				

7. Check the column that most accurately reflects the level of confidence you had in determining the bookmark location for each assessment cut-point. Please only indicate confidence level for the grades in which you participated. Otherwise, leave it blank.

Grade	Cut-point Location	Not Confident	Partially Confident	Confident	Very Confident
4	Below/Meets				
	Meets/Exceeds				

8. How confident are you that the processes and methods used will produce valid results?

Not Confident Somewhat Confident Confident Very Confident

9. If you have further comments or suggestions for ways to improve the meeting, please do so in the space below. All comments will remain anonymous.

THANK YOU FOR PARTICIPATING IN THE STANDARD SETTING MEETING.

Appendix H: Composite to Scale Score Tables Grade 4

Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score
4	8.0	1	4	12.0	19	4	16.0	29
4	8.1	7	4	12.1	19	4	16.1	31
4	8.2	10	4	12.2	19	4	16.2	32
4	8.3	11	4	12.3	19	4	16.3	32
4	8.4	12	4	12.4	20	4	16.4	33
4	8.5	13	4	12.5	20	4	16.5	33
4	8.6	13	4	12.6	20	4	16.6	34
4	8.7	13	4	12.7	20	4	16.7	34
4	8.8	14	4	12.8	20	4	16.8	35
4	8.9	14	4	12.9	20	4	16.9	35
4	9.0	14	4	13.0	20	4	17.0	35
4	9.1	15	4	13.1	20	4	17.1	35
4	9.2	15	4	13.2	21	4	17.2	36
4	9.3	15	4	13.3	21	4	17.3	36
4	9.4	15	4	13.4	21	4	17.4	36
4	9.5	16	4	13.5	21	4	17.5	36
4	9.6	16	4	13.6	21	4	17.6	36
4	9.7	16	4	13.7	21	4	17.7	37
4	9.8	16	4	13.8	21	4	17.8	37
4	9.9	16	4	13.9	22	4	17.9	37
4	10.0	16	4	14.0	22	4	18.0	37
4	10.1	17	4	14.1	22	4	18.1	37
4	10.2	17	4	14.2	22	4	18.2	37
4	10.3	17	4	14.3	22	4	18.3	38
4	10.4	17	4	14.4	22	4	18.4	38
4	10.5	17	4	14.5	23	4	18.5	38
4	10.6	17	4	14.6	23	4	18.6	38
4	10.7	17	4	14.7	23	4	18.7	38
4	10.8	18	4	14.8	23	4	18.8	38
4	10.9	18	4	14.9	23	4	18.9	38
4	11.0	18	4	15.0	24	4	19.0	39
4	11.1	18	4	15.1	24	4	19.1	39
4	11.2	18	4	15.2	24	4	19.2	39
4	11.3	18	4	15.3	25	4	19.3	39
4	11.4	18	4	15.4	25	4	19.4	39
4	11.5	18	4	15.5	25	4	19.5	39
4	11.6	19	4	15.6	26	4	19.6	39
4	11.7	19	4	15.7	27	4	19.7	39
4	11.8	19	4	15.8	27	4	19.8	40
4	11.9	19	4	15.9	28	4	19.9	40

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Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score
4	20.0	40	4	24.0	50	4	28.0	61
4	20.1	40	4	24.1	51	4	28.1	61
4	20.2	40	4	24.2	52	4	28.2	61
4	20.3	40	4	24.3	53	4	28.3	61
4	20.4	40	4	24.4	54	4	28.4	61
4	20.5	40	4	24.5	54	4	28.5	61
4	20.6	40	4	24.6	55	4	28.6	61
4	20.7	41	4	24.7	55	4	28.7	61
4	20.8	41	4	24.8	55	4	28.8	62
4	20.9	41	4	24.9	56	4	28.9	62
4	21.0	41	4	25.0	56	4	29.0	62
4	21.1	41	4	25.1	56	4	29.1	62
4	21.2	41	4	25.2	57	4	29.2	62
4	21.3	41	4	25.3	57	4	29.3	62
4	21.4	41	4	25.4	57	4	29.4	62
4	21.5	42	4	25.5	57	4	29.5	63
4	21.6	42	4	25.6	57	4	29.6	63
4	21.7	42	4	25.7	58	4	29.7	63
4	21.8	42	4	25.8	58	4	29.8	63
4	21.9	42	4	25.9	58	4	29.9	63
4	22.0	42	4	26.0	58	4	30.0	63
4	22.1	43	4	26.1	58	4	30.1	63
4	22.2	43	4	26.2	58	4	30.2	64
4	22.3	43	4	26.3	58	4	30.3	64
4	22.4	43	4	26.4	59	4	30.4	64
4	22.5	43	4	26.5	59	4	30.5	64
4	22.6	43	4	26.6	59	4	30.6	64
4	22.7	44	4	26.7	59	4	30.7	65
4	22.8	44	4	26.8	59	4	30.8	65
4	22.9	44	4	26.9	59	4	30.9	65
4	23.0	44	4	27.0	59	4	31.0	65
4	23.1	45	4	27.1	60	4	31.1	66
4	23.2	45	4	27.2	60	4	31.2	66
4	23.3	45	4	27.3	60	4	31.3	66
4	23.4	46	4	27.4	60	4	31.4	67
4	23.5	46	4	27.5	60	4	31.5	67
4	23.6	47	4	27.6	60	4	31.6	68
4	23.7	47	4	27.7	60	4	31.7	68
4	23.8	48	4	27.8	60	4	31.8	69
4	23.9	49	4	27.9	61	4	31.9	70
						4	32.0	70

Appendix I: Composite to Scale Score Tables Grade 8

Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score
8	8.0	1	8	12.0	16	8	16.0	27
8	8.1	7	8	12.1	16	8	16.1	28
8	8.2	8	8	12.2	16	8	16.2	29
8	8.3	9	8	12.3	17	8	16.3	30
8	8.4	10	8	12.4	17	8	16.4	30
8	8.5	10	8	12.5	17	8	16.5	31
8	8.6	11	8	12.6	17	8	16.6	31
8	8.7	11	8	12.7	17	8	16.7	32
8	8.8	11	8	12.8	17	8	16.8	32
8	8.9	12	8	12.9	17	8	16.9	32
8	9.0	12	8	13.0	17	8	17.0	33
8	9.1	12	8	13.1	17	8	17.1	33
8	9.2	12	8	13.2	18	8	17.2	33
8	9.3	13	8	13.3	18	8	17.3	33
8	9.4	13	8	13.4	18	8	17.4	34
8	9.5	13	8	13.5	18	8	17.5	34
8	9.6	13	8	13.6	18	8	17.6	34
8	9.7	13	8	13.7	18	8	17.7	34
8	9.8	14	8	13.8	18	8	17.8	34
8	9.9	14	8	13.9	18	8	17.9	34
8	10.0	14	8	14.0	19	8	18.0	35
8	10.1	14	8	14.1	19	8	18.1	35
8	10.2	14	8	14.2	19	8	18.2	35
8	10.3	14	8	14.3	19	8	18.3	35
8	10.4	14	8	14.4	19	8	18.4	35
8	10.5	15	8	14.5	19	8	18.5	35
8	10.6	15	8	14.6	20	8	18.6	36
8	10.7	15	8	14.7	20	8	18.7	36
8	10.8	15	8	14.8	20	8	18.8	36
8	10.9	15	8	14.9	20	8	18.9	36
8	11.0	15	8	15.0	20	8	19.0	36
8	11.1	15	8	15.1	21	8	19.1	36
8	11.2	15	8	15.2	21	8	19.2	36
8	11.3	15	8	15.3	21	8	19.3	36
8	11.4	16	8	15.4	22	8	19.4	37
8	11.5	16	8	15.5	22	8	19.5	37
8	11.6	16	8	15.6	23	8	19.6	37
8	11.7	16	8	15.7	23	8	19.7	37
8	11.8	16	8	15.8	24	8	19.8	37
8	11.9	16	8	15.9	25	8	19.9	37

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Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score
8	20.0	37	8	24.0	48	8	28.0	61
8	20.1	37	8	24.1	50	8	28.1	61
8	20.2	37	8	24.2	51	8	28.2	61
8	20.3	38	8	24.3	52	8	28.3	61
8	20.4	38	8	24.4	53	8	28.4	61
8	20.5	38	8	24.5	53	8	28.5	61
8	20.6	38	8	24.6	54	8	28.6	62
8	20.7	38	8	24.7	54	8	28.7	62
8	20.8	38	8	24.8	55	8	28.8	62
8	20.9	38	8	24.9	55	8	28.9	62
8	21.0	38	8	25.0	55	8	29.0	62
8	21.1	39	8	25.1	55	8	29.1	62
8	21.2	39	8	25.2	56	8	29.2	62
8	21.3	39	8	25.3	56	8	29.3	63
8	21.4	39	8	25.4	56	8	29.4	63
8	21.5	39	8	25.5	56	8	29.5	63
8	21.6	39	8	25.6	57	8	29.6	63
8	21.7	39	8	25.7	57	8	29.7	63
8	21.8	40	8	25.8	57	8	29.8	63
8	21.9	40	8	25.9	57	8	29.9	64
8	22.0	40	8	26.0	57	8	30.0	64
8	22.1	40	8	26.1	58	8	30.1	64
8	22.2	40	8	26.2	58	8	30.2	64
8	22.3	40	8	26.3	58	8	30.3	64
8	22.4	40	8	26.4	58	8	30.4	65
8	22.5	41	8	26.5	58	8	30.5	65
8	22.6	41	8	26.6	58	8	30.6	65
8	22.7	41	8	26.7	59	8	30.7	65
8	22.8	41	8	26.8	59	8	30.8	66
8	22.9	42	8	26.9	59	8	30.9	66
8	23.0	42	8	27.0	59	8	31.0	66
8	23.1	42	8	27.1	59	8	31.1	66
8	23.2	42	8	27.2	59	8	31.2	67
8	23.3	43	8	27.3	60	8	31.3	67
8	23.4	43	8	27.4	60	8	31.4	67
8	23.5	43	8	27.5	60	8	31.5	68
8	23.6	44	8	27.6	60	8	31.6	68
8	23.7	45	8	27.7	60	8	31.7	69
8	23.8	45	8	27.8	60	8	31.8	70
8	23.9	47	8	27.9	60	8	31.9	70
						8	32.0	70

Appendix J: Composite to Scale Score Tables Grade 11

Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score
11	8.0	1	11	12.0	17	11	16.0	25
11	8.1	5	11	12.1	17	11	16.1	26
11	8.2	7	11	12.2	17	11	16.2	26
11	8.3	8	11	12.3	17	11	16.3	27
11	8.4	9	11	12.4	17	11	16.4	27
11	8.5	9	11	12.5	17	11	16.5	28
11	8.6	10	11	12.6	17	11	16.6	28
11	8.7	10	11	12.7	18	11	16.7	28
11	8.8	11	11	12.8	18	11	16.8	29
11	8.9	11	11	12.9	18	11	16.9	29
11	9.0	11	11	13.0	18	11	17.0	29
11	9.1	11	11	13.1	18	11	17.1	29
11	9.2	12	11	13.2	18	11	17.2	30
11	9.3	12	11	13.3	18	11	17.3	30
11	9.4	12	11	13.4	19	11	17.4	30
11	9.5	12	11	13.5	19	11	17.5	30
11	9.6	13	11	13.6	19	11	17.6	31
11	9.7	13	11	13.7	19	11	17.7	31
11	9.8	13	11	13.8	19	11	17.8	31
11	9.9	13	11	13.9	19	11	17.9	31
11	10.0	13	11	14.0	20	11	18.0	31
11	10.1	14	11	14.1	20	11	18.1	31
11	10.2	14	11	14.2	20	11	18.2	32
11	10.3	14	11	14.3	20	11	18.3	32
11	10.4	14	11	14.4	20	11	18.4	32
11	10.5	14	11	14.5	21	11	18.5	32
11	10.6	14	11	14.6	21	11	18.6	32
11	10.7	15	11	14.7	21	11	18.7	32
11	10.8	15	11	14.8	21	11	18.8	33
11	10.9	15	11	14.9	21	11	18.9	33
11	11.0	15	11	15.0	22	11	19.0	33
11	11.1	15	11	15.1	22	11	19.1	33
11	11.2	15	11	15.2	22	11	19.2	33
11	11.3	16	11	15.3	23	11	19.3	33
11	11.4	16	11	15.4	23	11	19.4	33
11	11.5	16	11	15.5	23	11	19.5	34
11	11.6	16	11	15.6	24	11	19.6	34
11	11.7	16	11	15.7	24	11	19.7	34
11	11.8	16	11	15.8	25	11	19.8	34
11	11.9	16	11	15.9	25	11	19.9	34

Nebraska State Accountability 2013 Writing Technical Report

Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score	Grade	Composite Score	Scale Score
11	20.0	34	11	24.0	46	11	28.0	59
11	20.1	34	11	24.1	47	11	28.1	60
11	20.2	35	11	24.2	48	11	28.2	60
11	20.3	35	11	24.3	49	11	28.3	60
11	20.4	35	11	24.4	50	11	28.4	60
11	20.5	35	11	24.5	51	11	28.5	61
11	20.6	35	11	24.6	51	11	28.6	61
11	20.7	35	11	24.7	51	11	28.7	61
11	20.8	35	11	24.8	52	11	28.8	61
11	20.9	36	11	24.9	52	11	28.9	61
11	21.0	36	11	25.0	53	11	29.0	62
11	21.1	36	11	25.1	53	11	29.1	62
11	21.2	36	11	25.2	53	11	29.2	62
11	21.3	36	11	25.3	53	11	29.3	62
11	21.4	36	11	25.4	54	11	29.4	62
11	21.5	36	11	25.5	54	11	29.5	63
11	21.6	37	11	25.6	54	11	29.6	63
11	21.7	37	11	25.7	54	11	29.7	63
11	21.8	37	11	25.8	55	11	29.8	63
11	21.9	37	11	25.9	55	11	29.9	64
11	22.0	37	11	26.0	55	11	30.0	64
11	22.1	37	11	26.1	55	11	30.1	64
11	22.2	38	11	26.2	55	11	30.2	64
11	22.3	38	11	26.3	56	11	30.3	64
11	22.4	38	11	26.4	56	11	30.4	65
11	22.5	38	11	26.5	56	11	30.5	65
11	22.6	39	11	26.6	56	11	30.6	65
11	22.7	39	11	26.7	57	11	30.7	65
11	22.8	39	11	26.8	57	11	30.8	66
11	22.9	39	11	26.9	57	11	30.9	66
11	23.0	40	11	27.0	57	11	31.0	66
11	23.1	40	11	27.1	57	11	31.1	67
11	23.2	40	11	27.2	58	11	31.2	67
11	23.3	40	11	27.3	58	11	31.3	67
11	23.4	41	11	27.4	58	11	31.4	68
11	23.5	41	11	27.5	58	11	31.5	68
11	23.6	42	11	27.6	59	11	31.6	69
11	23.7	43	11	27.7	59	11	31.7	70
11	23.8	43	11	27.8	59	11	31.8	70
11	23.9	45	11	27.9	59	11	31.9	70
						11	32.0	70

Appendix K: Formatting Information for TAC

NeSA Writing 2013 - Formatting Analysis

Nebraska NeSA Accountability TAC - Presented by Bill Auty - April 24, 2013

The following analyses are based on identification of formatting issues by raters. If both raters identified a paper as showing evidence of formatting issues caused by the online software, the paper is flagged. Note that NDE believes that the number of papers flagged may be a slight overestimate of the online formatting issue. For example, some students may have intentionally entered unusual spacings and returns, which would look to the raters as if the software caused the formatting.

DF\$Grade	FALSE	TRUE	
08	11458	9490	20948
	54.7	45.3	
11	11952	8869	20821
	57.4	42.6	
Total	23410	18359	41769

Table 1: Papers Flagged for Formatting by Grade

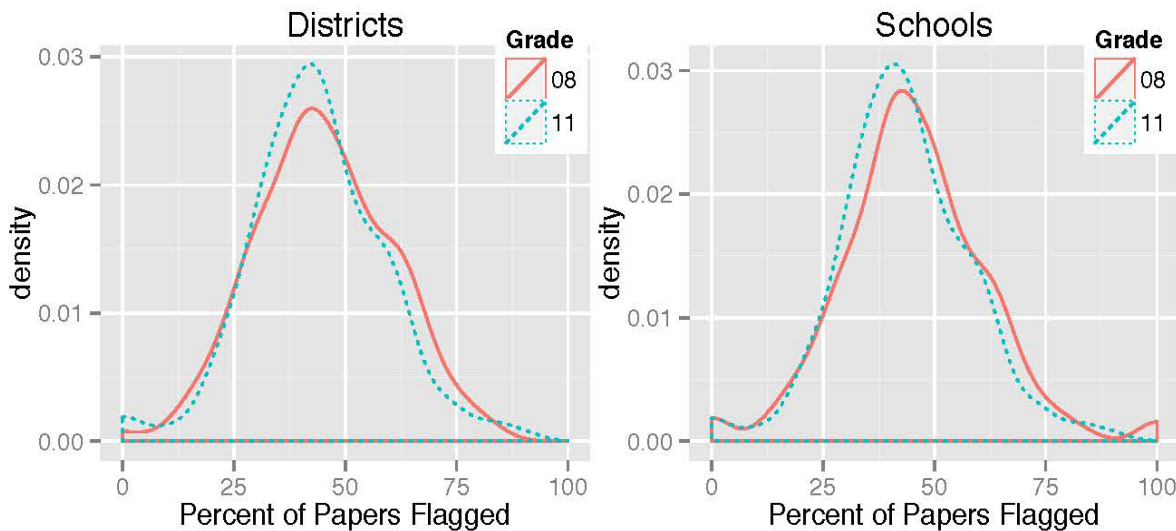


Figure 1: Distribution of Percent Flagged

These results lead us to conclude that the formatting issue was not limited to a few students or a few schools. Across the state at grade 8, 45% of the papers were flagged for formatting and 43% were flagged at grade 11. The distributions of schools and districts by percent of papers flagged for formatting also indicate that the issue was wide spread across districts and schools.

Grade 8

To test the effect of the formatting issue on writing results, we conducted the following analyses:

- A comparison of means of the domains and total scores of papers flagged and not flagged
- ANOVA for the effect of formatting flag on total writing score
- ANCOVA for the total writing score by grade 7 reading and formatting flag
- A graphic representation of those data
- A comparison of the correlations between domain scores
- A comparison of the mean scores by percent of papers flagged at the school and district level

flag	Grade	IC	ORG	VWC	SFC	Total
FALSE	08	5.58	5.50	5.64	5.52	22.24
TRUE	08	5.85	5.71	5.88	5.68	23.14

Table 2: Writing Score Means by Format Flag

The mean scores of papers flagged for formatting are all higher than of the means of papers not flagged.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
flag	1.000	4205.272	4205.272	172.849	0.000
Residuals	20946.000	509599.088	24.329		

Table 3: ANOVA: Total by Format Flag

The Analysis of Variance (ANOVA) results show a significant main effect of difference in mean total writing score between the flagged and non-flagged papers.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
flag	1.000	3356.732	3356.732	202.234	0.000
read7	1.000	130766.352	130766.352	7878.309	0.000
flag:read7	1.000	109.612	109.612	6.604	0.010
Residuals	19998.000	331932.323	16.598		

Table 4: ANCOVA: Total by Format Flag on Grade 7 Reading

The analysis of covariance (ANCOVA) was run to see if the differences in writing scores were due to the ability of students in the group with formatting issues. We don't have any concurrent NESAs results for this year, so we used the scale score on NESAs-Reading from last year as an indicator of student ability. The results of the analysis indicate that previous year's reading scores are highly related to this year's writing results and that the differences between flagged and non-flagged papers were significant even when grade 7 reading was taken into account. The interaction term was also significant. The graph in figure 2 shows that papers flagged for formatting had higher scores across the range of grade 7 reading scale scores with the difference diminishing at the upper end of the range.

The correlation matrices in tables 6 and 6 show high correlations between domains. The Chi Squared test for the equality of correlation matrices has a value of 1872.341 (probability ≤ 0) indicating that the correlations are different with the flagged papers having lower correlations. However, inspection of the matrices reveals that the patterns of correlations are the same, i.e., the differences are not due to a single domain.

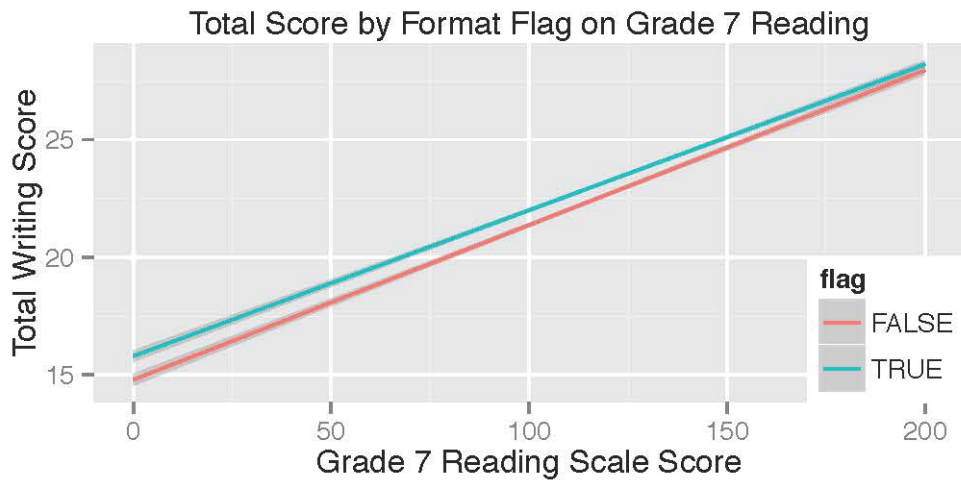


Figure 2: ANCOVA Plot

	IC	ORG	VWC	SFC
IC	1.00	0.90	0.89	0.85
ORG	0.90	1.00	0.87	0.87
VWC	0.89	0.87	1.00	0.88
SFC	0.85	0.87	0.88	1.00

Table 5: Domain Score Correlations: Papers Not Flagged

	IC	ORG	VWC	SFC
IC	1.00	0.85	0.85	0.80
ORG	0.85	1.00	0.82	0.82
VWC	0.85	0.82	1.00	0.83
SFC	0.80	0.82	0.83	1.00

Table 6: Domain Score Correlations: Papers Flagged

To examine the effect of the formatting issue on schools and districts, we plotted the mean total writing score by the percent of papers flagged. In figure 3, we see that there is a slight increase in writing total as the percent of the percent of papers flagged increases. We can conservatively say that there is no evidence that having a larger percentage of students experiencing the formatting issue results in lower writing scores.

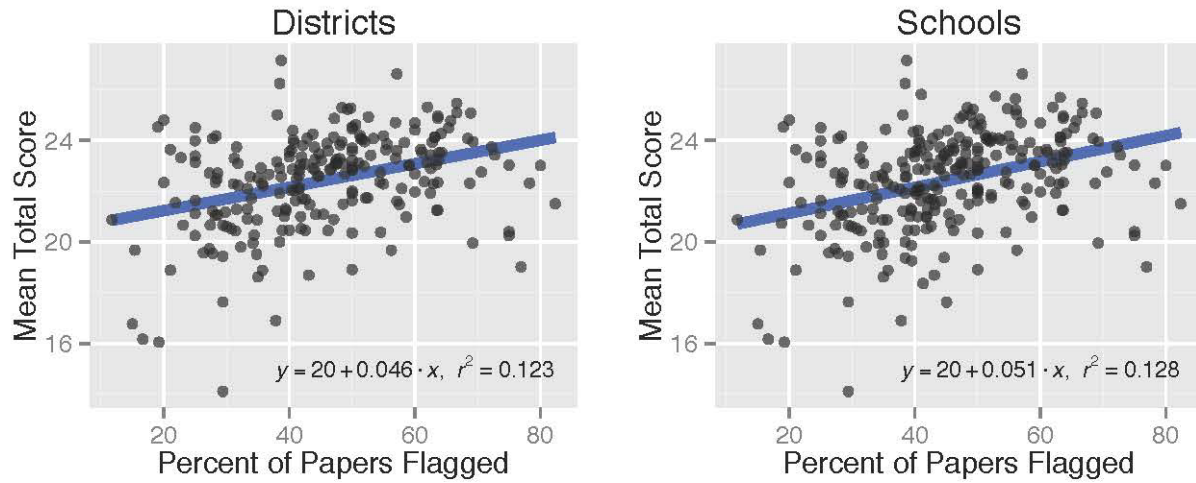


Figure 3: Grade 8 Writing Mean by Percent of Papers Flagged

Grade 11

The same analyses were repeated for grade 11, except that there are no grade 10 reading results available to do an ANCOVA. We see the same results at grade 11 with higher means for papers flagged for formatting problems. The Chi Squared test for the equality of correlation matrices (tables 9 and 10) is again significant 1872.341 (probability ≤ 0) with lower correlations for non-flagged papers and the same patterns of correlations. We also see in figure 4 that percent of papers flagged is not associated with lower writing scores at grade 11.

flag	Grade	IC	ORG	VWC	SFC	Total
FALSE	11	5.63	5.63	5.68	5.56	22.51
TRUE	11	6.07	6.01	6.06	5.90	24.08

Table 7: Writing Score Means by Format Flag

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
flag	1	12557.75	12557.75	449.88	0.0000
Residuals	20819	581130.40	27.91		

Table 8: ANOVA:Writing Total by Format Flag

	IC	ORG	VWC	SFC
IC	1.00	0.92	0.92	0.88
ORG	0.92	1.00	0.91	0.88
VWC	0.92	0.91	1.00	0.92
SFC	0.88	0.88	0.92	1.00

Table 9: Domain Score Correlations: Papers Not Flagged

	IC	ORG	VWC	SFC
IC	1.00	0.85	0.86	0.79
ORG	0.85	1.00	0.82	0.78
VWC	0.86	0.82	1.00	0.85
SFC	0.79	0.78	0.85	1.00

Table 10: Domain Score Correlations: Papers Flagged

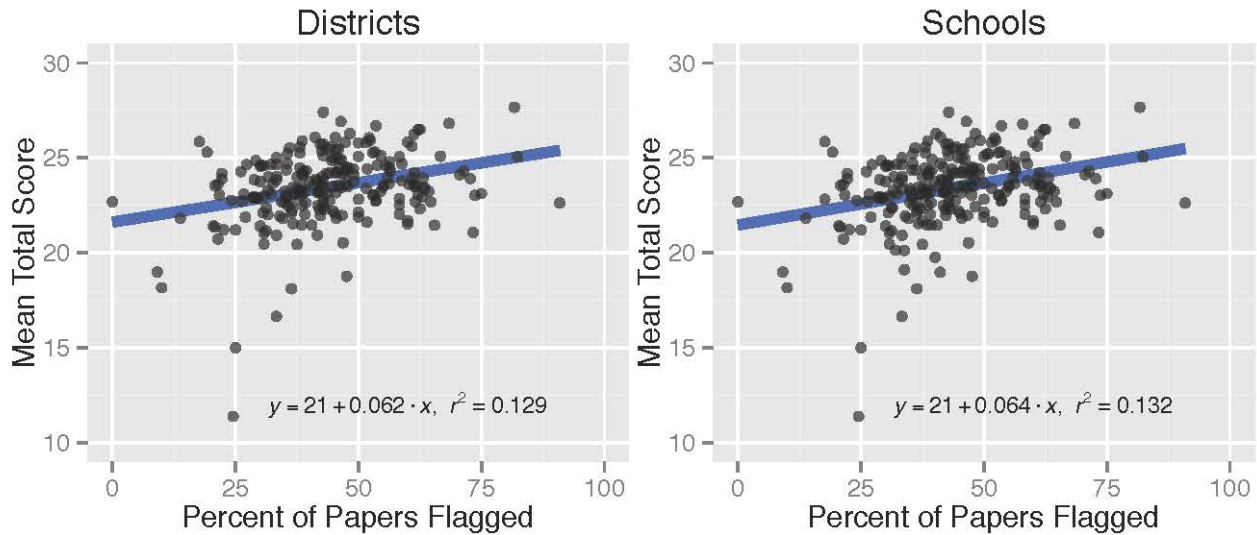


Figure 4: Grade 11 Writing Mean by Percent of Papers Flagged

Conclusion

While we can't conclude that the formatting issues had no negative effect on student scores, we don't have any evidence that student scores were systematically reduced. This does not reduce the seriousness of the problem or suggest that we can ignore the issue. We know from anecdotal reports by school staff that the formatting issues upset some students who experienced them. The statistical analyses reported here are limited by the data that are available. These results can only inform, not determine, interpretations of the scores or policy decisions to be made.

NeSA Writing 2013 - Supplemental Analysis

Nebraska NeSA Accountability TAC - April 24, 2013

The following analyses are supplemental information about the ODW formatting issue. In the original document, the graphs of Districts and Schools by Percent of Papers Flagged had kernel smoothed lines as a representation of the distributions. More traditional histograms with each bar representing a range of 5 percentage points are shown below.

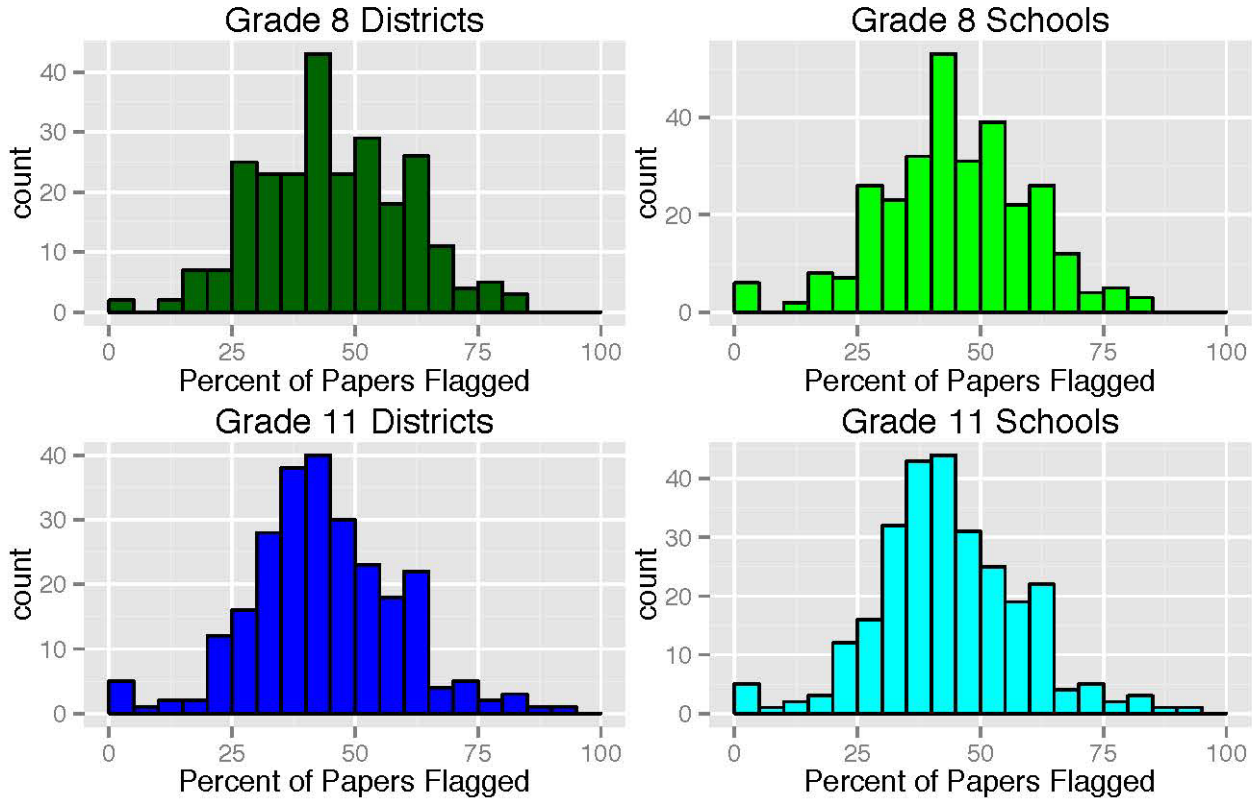


Figure 1: Histograms of Percent Flagged

We calculated the means, standard deviations (sd) and Cohen’s d effect size (es) for the writing scores from flagged and non-flagged groups. The results are shown in Table 1.

grade	flag	func	IC	ORG	VWC	SFC	Total
08	FALSE	mean	5.58	5.50	5.64	5.52	22.24
		TRUE	5.85	5.71	5.88	5.68	23.14
	FALSE	sd	1.38	1.36	1.41	1.40	5.28
		TRUE	1.18	1.18	1.22	1.23	4.47
		es	0.21	0.16	0.18	0.12	0.18
11	FALSE	mean	5.63	5.63	5.68	5.56	22.51
		TRUE	6.07	6.01	6.06	5.90	24.08
	FALSE	sd	1.56	1.50	1.53	1.56	5.94
		TRUE	1.16	1.06	1.13	1.20	4.24
		es	0.31	0.28	0.28	0.24	0.30

Table 1: Writing Score Means, Standard Deviations and Effect Size by Format Flag

Limitations of the Research:

The most reliable method of identifying students who encountered formatting issues in the online engine would be tracking them through the engine software. However, that information is not available as the online engine did not track such details of test administration. Some students who encountered formatting issues easily ignored them or adjusted to them while other students experienced more frustration. This variation in students' experience cannot be accurately factored in when determining the effect of the formatting issues on student results. Because of these limitations, we cannot be certain about the extent of the impact on student results or school accountability.

Appendix L : Performance Assessment Services Formatting Response

Some students at grades 8 and 11 experienced formatting issues with the NeSA Writing online test administration. While research into score results does not indicate an effect on students' results, DRC undertook the following action prior to scoring in order to ensure accurate scoring and attempt to quantify the number of students impacted.

- The Scoring staff met with the Project Management team to review the list of issues reported by the districts.
- For any issues that would be visible to readers, the Scoring team selected examples from the pool of returned answer documents.
- Using these example papers, the Scoring team assembled a set for discussion. Prior to scoring, readers were trained to recognize the issues and instructed to ensure that these formatting issues would not factor into the scoring of the responses.
- Once acclimated to the 2013 formatting issues in the grade 8 and 11 online administrations, readers were instructed to indicate for each response scored, the possible presence or absence of formatting issues for information gathering purposes only.
- Throughout scoring, Team Leaders and Scoring Directors reviewed readers' work to ensure that scoring rubrics were being applied accurately for all responses regardless of formatting issues.