Maryland School Assessment-Reading:

Grades 3 through 8

Technical Report:

2009 Administration

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INTRODUCTION

The *Maryland School Assessment (MSA)* is a measure of students' reading and mathematics comprehension. The *MSA* fulfills recommendations of the Visionary Panel for Better Schools and meets the federal testing requirements of the *No Child Left Behind Act (NCLB)* of 2001.

New academic standards were designed to inform parents, teachers, and educators of what students actually learned in schools and to make schools accountable for teaching contents measured by the *MSA*. To this end, the Maryland State Department of Education (MSDE), in collaboration with hundreds of educators across the state, developed a series of reading tests to measure students' achievement against the new academic standards.

In 2003, the MSA-Reading was introduced in grades 3, 5, and 8; grades 4, 6, and 7 were added to the program in 2004.

The purpose of the 2009 *MSA-Reading Technical Report* is to provide users and other interested parties with a general overview and statistical results of the MSA-Reading.

The 2009 *Technical Report* is composed of four sections and four appendices.

The first section contains the following information:

- General overview and purposes of the MSA-Reading

- Development and review of the MSA-Reading items and test

- Test form design, test form specifications, item type, and item roles

- Operational form construction using the Rasch model

- Test administration

- Scoring procedures

- Operational item analyses

- Linking, equating, and scaling procedures

- Score interpretation

- Test validity and Unidimensionality analyses

- Field test analysis and item bank construction

- Quality assurance

The second section provides the current year's reading achievement results for grades 3 through 8. It contains information about the cutoff score and pass rate at each performance level for the 2009 reading assessment. In addition, students' performance levels were analyzed by key student subgroups such as gender, ethnicity, and LEA (Local Education Agency).

In the third section, we summarized detailed statistical procedures used for the 2009 reading test. This section provides detailed psychometric information to those who might be interested in learning specific psychometric characteristics and procedures applied to the MSA-Reading.

The last section contains statistical results of the 2009 MSA-Reading. It includes descriptive statistics for the 2009 reading test based on raw scores and scale scores, accuracy and consistency of the 2009 reading test, rater agreement rates, correlation coefficients among substrands, and total and substrand RS/SS conversion tables. Accordingly, this section provides the statistical and psychometric characteristics of the 2009 MSA-Reading.

Four appendices provide additional statistical results for the 2009 MSA-Reading: Appendix A contains stratified random sampling results; Appendix B contains 2009 MSA-Reading scale score histograms and Tukey charts; Appendix C contains both classical and Rasch (One-Parameter Logistic Item Response Theory) item parameters. The last appendix contains test blueprints for grades 3 through 8.

1. OVERVIEW OF THE 2009 *MARYLAND SCHOOL ASSESSMENT-READING*

In 2002, the Maryland State Department of Education (MSDE), in order to conform to the requirements of the new Federal program "No Child Left Behind," retired its award-winning *Maryland School Performance Assessment Program* and adopted a testing program known as the *Maryland School Assessment* (*MSA*). The new program, like its predecessor, was based on the *Voluntary State Curriculum*, which set reasonable academic standards for what teachers were expected to teach and what students were expected to learn in schools.

In 2003, the MSA-Reading was introduced in grades 3, 5, and 8, with grades 4, 6, and 7 being added to the program in 2004. A Bookmark standard setting was conducted in 2003 to set proficiency-level cut scores for grades 3, 5, and 8. Because 2004 was the first testing year for grades 4, 6, and 7, a second Bookmark standard setting was held in summer 2004 to set cut scores for these additional grades. The performance-level cut scores were used to assign students to three proficiency levels (Basic, Proficient, and Advanced) for AYP reporting under the "No Child Left Behind" act. Information about the Bookmark procedures and results can be obtained from MSDE. It should be noted that these cut scores have been applied since 2003 (for grades 3, 5, and 8) or 2004 (for grades 4, 6, and 7).

Until 2007 the MSA-Reading was administered along with the *Stanford Achievement Test Series, Tenth Edition (SAT10)*, and the SAT10 common items aligned to the Maryland curriculum were used exclusively for the purpose of form-to-form and year-to-year linking. In 2007, however, MSDE implemented an important action plan on MSA-Reading test: dropping all of the SAT10 items from the 2008 assessment. Due to this decision, MSDE and Pearson team members examined options to replace the SAT10 items removed from the test. The minimum requirement was to develop enough items to cover the same total and subtotal score points that SAT10 common items contributed in previous years (for grade 5, for example, 45 total score points with 15 points each for general reading, literary, and informational reading). In addition, it was decided that only one operational form would be developed for the 2008 administration. More detailed information about the test and equating design changes of the 2008 administration can be found in section 1.11 of the 2008 MSA-Reading technical report, *Constructing the 2008 MSA-Reading Operational Forms*.

For the 2009 reading assessment, MSDE decided to develop and administer two operational test forms in each grade to maintain a high level of test security. To implement this plan, MSDE and Pearson team members decided to place two sets of literary and informational passages in sessions 2 and 3 of the first day of the reading test. Detailed information about the test sessions and timing can be found in the 2009 MSA-Reading Examiners Manual (EM) which is available from either MSDE or Pearson.

For the purposes of year-to-year linking and equating, we first constructed a 2009 linking pool which included only operational selected-response items (i.e., multiple-choice items). These items appeared both in 2009 and in 2007. After setting up the linking pool, we then conducted a stability check of linking items and decided which items should be excluded from or which items should remain in the linking pool. During the calibration and equating processes, we kept and fixed the original field test Rasch item difficulty parameters of any linking items (i.e., 2007 assessment) that remained through the stability check to put the 2009 assessment on a common scale. Accordingly, all scale scores of the 2009 assessment were comparable within each grade

since all the scale scores were linked back to the 2003 (for grades 3, 5, and 8) and 2004 (for grades 4, 6, and 7).

1.1 Purposes/Uses of the 2009 MSA-Reading

By measuring students' achievement against the new academic standards, the 2009 MSA-Reading fulfills two main purposes. First, the MSA-Reading was designed to inform parents, teachers, and educators of what students actually learned in schools by providing specific feedback that can be used to improve the quality of schools, classrooms, and individualized instructional programs, and to model effective assessment approaches that can be used in classrooms. Second, the MSA-Reading serves as an accountability tool to measure performance levels of individual students, schools, and districts against the new academic standards.

1.2 The Voluntary State Curriculum

Federal law requires that states align their tests with their state content standards. MSDE worked carefully and rigorously to construct new tests to provide a strong alignment as defined by the U.S. Department of Education.

The *Voluntary State Curriculum* (*VSC*), which defined what students should know and be able to do at each grade level, helped schools understand the standards more clearly, and included more specificity with indicators and objectives. The format of the *VSC* specified standards statements, indicators, and objectives. Standards are broad, measurable statements of what students should know and be able to do. Indicators and objectives provide more specific content knowledge and skills that are unique at each grade level.

The objectives assessed by the MSA at each grade level are embedded in the *VSC*. In addition, they are identified with the notation, ***assessment limit***. Assessment limits provide clarification about the specific skills and content that students are expected to have learned for each assessed objective. Even though some objectives in the VSC may not have an Assessment limit at a given grade-level, these non-assessed objectives still must be included in instruction. They introduce important concepts in preparation for assessed skills and content at subsequent grade levels.

The following provides one example of assessment limit of Grade 3 MSA-Reading:

STANDARD 1.0

    General Reading Process

  TOPIC:

      B. VOCABULARY: Students will apply their knowledge of letter/sound relationships and word structure to **decode un**familiar words

    INDICATOR:

        1. Use a variety of phonetic skills to read unfamiliar words

    OBJECTIVES:

        a. Apply phonics skills

Assessment limits:

- Hard and soft consonants
- Initial consonant blends (2 letters)
- Open and closed syllables
- Digraphs

It should be noted that it was not the case that every indicator would necessarily be tested each year even if 100% of the standards should be tested. Consequently, the *VSC* specified curricular indicators and objectives that contributed directly to measuring content standards, which were aligned to the *MSA*. More information on assessment limits and standards can be found in Appendix D, *The 2009 MSA-Reading Blueprint*.

1.3 Development and Review of the 2009 MSA-Reading Items and Test

As seen in Table 1.1, the development of the 2009 MSA-Reading test required the involvement of four groups in addition to MSDE and Pearson. These groups are as follows:

National Psychometric Council

The National Psychometric Council (NPC) took a major role in reviewing and making recommendations to MSDE on the development and implementation of the 2009 MSA-Reading program. For example, they made recommendations to MSDE on issues, such as test blueprints, field test design, item analysis, item selection for scoring purposes, linking, equating and scaling issues, standard setting, and other relevant statistical and psychometric issues. MSDE adopted their guidelines and recommendations.

Content Review Committee

Content Review Committee members ensured that the MSA-Reading was appropriately difficult and fair. Committee members were either specialists in reading for test items, or experts in test construction and measurement. They represented all levels of education as well as the ethnic and social diversity of Maryland students. Committee members were from different areas of the state.

The educators' understanding of Maryland curriculum and extensive classroom experience made them a valuable source of information. They reviewed test items and forms and took a holistic approach to ensure that tests were fair and balanced across reporting categories.

Bias Review Committee

In addition to the Content Review Committee, a separate Bias Review Committee examined each item, passage and art on reading tests. They looked for indications of bias that would impact the performance of an identifiable group of students. Committee members discussed and, if necessary, rejected items based on gender, ethnic, religious, or geographical bias.

Vision Review Committee

A Vision Review Committee reviewed the passages, art, and items for bias to the visually impaired. The committee makes their recommendations to NOT put any item they had a concern with on Form 1.

Table 1.1 The 2009 MSA-Reading Responsibility for Test Development

Development of the 2009 MSA-Reading	Primary Responsibility
Development of Preliminary Blueprints and Item Specifications	Pearson; MSDE; NPC
Development of Preliminary Brief Constructed Response Rubrics	MSDE; NPC
Item Writing	Pearson; MSDE
Item Review	Pearson; MSDE; Content Review Committee
Bias Review	Pearson; MSDE; Bias Review Committee
Vision Review	Pearson; MSDE; Vision Review Committee
Construction of Field Test Forms	Pearson; MSDE
Modification of Special Forms	Pearson; MSDE
Review of Special Forms	MSDE
Pre-Field Test Training Workshops	Pearson; MSDE; LEAs
Field Test Administrations	MSDE; LEAs
Construction of Operational Test Forms	Pearson; MSDE; NPC
Review of Operational Test Forms	MSDE
Final Construction of Operational Test Forms	Pearson; MSDE

1.4 Test Form Design, Specifications, Item Type, and Item Roles

The MSA-Reading test had two forms of operational items at each grade. Field test items were embedded within the operational items resulting in a total of 10 test forms at each grade. As can be seen in Table 1.2, Forms 1, 3, 5, 7 and 9 are identical with respect to operational items (designated as operational Form A) and differ only with respect to field test items. This is also true for Forms 2, 4, 6, 8, and 10 (designated as operational Form B).

Test Form Specifications and Reporting Category

Tables 1.3 through 1.8 provide information on the total number of operational items included in the 2009 operational test forms and how these items were broken down based on each content standard. It should be noted that the test specifications in these tables represent the targeted test design for each grade and show the targeted distribution of each content standard.

Specifically, each standard was used for reporting purposes (i.e., reporting subscale scores). That is, there were three reporting standards for reading across grades: General Reading, Literary, and Informational Processes. The number of raw score points for each reporting standard was identical (i.e., 15) for all grades except for grades 3 and 8.

Table1.2 The 2009 MSA-Reading Test Form Design: Grades 3 through 8

	Operational Item Sets		Field Test Item Sets									
	A	B	1	2	3	4	5	6	7	8	9	10
Form 1	X		X									
Form 2		X		X								
Form 3	X				X							
Form 4		X				X						
Form 5	X						X					
Form 6		X						X				
Form 7	X								X			
Form 8		X								X		
Form 9	X										X	
Form 10		X										X

Note. Forms 1, 3, 5, 7, and 9 (Form A) are identical, and Forms 2, 4, 6, 8, and 10 (Form B) are identical in terms of operational test items.

Item Types

The 2009 MSA-Reading contains two types of items: *selected response* (*SR*) and *brief constructed response* (*BCR*) items. *SR* items required students to select a correct answer from several alternatives. For the 2009 MSA-Reading, students selected an answer from four alternatives. Each *SR* item was scored as right or wrong.

BCR items required students to answer a question with a couple of words, a sentence, or a more elaborate way. For the 2009 MSA-Reading, these items were scored using a general rubric with maximum values between 0 and 3.

The Role of Operational SR Items

All the SR items except for those in sessions 2 (Literary Reading) and 3 (Informational Reading) were used for both form-to-form and year-to-year linking. The session 2 and 3 items were used only for the purpose of year-to-year linking since they are unique items.

Detailed information about form-to-form and year-to-year linking procedures can be found in section 1.9, *Form-to-Form Linking Procedures* and *Year-to-Year Linking Procedures*.

Table 1.3 The 2009 MSA-Reading Item Distribution of Each Standard: Grade 3 and 8

Form	General Reading			Literary Reading			Informational reading			Total Number of Items
	No. of SR	No. of BCR	No. of Items	No. of SR	No. of BCR	No. of Items	No. of SR	No. of BCR	No. of Items	
A	16	0	16	8	2	10	9	2	11	**37**
B	16	0	16	8	2	10	9	2	11	**37**

Table 1.4 The 2009 MSA-Reading Item Distribution of Each Standard: Grade 5

Form	General Reading			Literary Reading			Informational reading			Total Number of Items
	No. of SR	No. of BCR	No. of Items	No. of SR	No. of BCR	No. of Items	No. of SR	No. of BCR	No. of Items	
A	15	0	15	9	2	11	9	2	11	**37**
B	15	0	15	9	2	11	9	2	11	**37**

Table 1.5 The 2009 MSA-Reading Item Distribution of Each Standard: Grade 4, 6, and 7

Form	General Reading			Literary Reading			Informational reading			Total Number of Items
	No. of SR	No. of BCR	No. of Items	No. of SR	No. of BCR	No. of Items	No. of SR	No. of BCR	No. of Items	
A	15	0	15	9	2	11	9	2	11	**37**
B	15	0	15	9	2	11	9	2	11	**37**

Table 1.6 The 2009 MSA-Reading Total and Standard Scores: Grade 3 and 8

Form	Total and Each Cluster Scores			
	General Reading	Literary Reading	Informational Reading	Total Score
A	16 (16 MC)	14 (8 MC + 6 BCR)	15 (9 MC + 6 BCR)	45
B	16 (16 MC)	14 (8 MC + 6 BCR)	15 (9 MC + 6 BCR)	45

Table 1.7 The 2009 MSA-Reading Total and Standard Scores: Grade 5

Form	Total and Each Cluster Scores			
	General Reading	Literary Reading	Informational Reading	Total Score
A	15 (15 MC)	15 (9 MC + 6 BCR)	15 (9 MC + 6 BCR)	45
B	15 (15 MC)	15 (9 MC + 6 BCR)	15 (9 MC + 6 BCR)	45

Table 1.8 The 2009 MSA-Reading Total and Standard Scores: Grade 4, 6, and 7

Form	Total and Each Cluster Scores			
	General Reading	Literary Reading	Informational Reading	Total Score
A	15 (15 MC)	15 (9 MC + 6 BCR)	15 (9 MC + 6 BCR)	45
B	15 (15 MC)	15 (9 MC + 6 BCR)	15 (9 MC + 6 BCR)	45

1.5 Operational Test Form Construction Using the Rasch Model

The selection of items to be included in the final operational test forms of the 2009 MSA-Reading required a careful consideration based on test blueprints, classical item analyses, *DIF* analyses, and IRT analyses. Specifically, the Rasch model (i.e., 1-Parameter Logistic IRT) played a major role in constructing the 2009 operational forms. First, Pearson suggested the following guidelines:

- Do not include items that are too easy or too hard.
- Do not include *BCR* items with score distributions that do not elicit the full range of rubric scores.
- Do not include items with *DIF* classifications "C" for the *SR* items and "CC" for the *BCR* items *unless* they have been deemed acceptable by the external review of content experts.
- Finally, do not include items which have Rasch *Infit* and *Outfit* mean-squares lower than .5 or higher than 1.5. More specific information on Rasch *Infit* and *Outfit* mean-squares can be found in the third part of the 2009 technical report, *Overview of Statistical Summaries*.

A procedure for using IRT methods to build tests that meet any desired set of test specifications was outlined by Lord (1977). The procedure utilizes an item bank with item parameter estimates available for the IRT model of choice, with accompanying information functions. The steps in the procedure suggested by Lord (1977) are as follows:

- First, the shape of desired test information needs to be decided. This was termed as the "target information function" by Lord (1977).
- Second, specific items need to be selected from the item bank with item information functions that will fill up hard-to-fill areas under the target information function.
- Third, the test information function after test items are added needs to be recalculated.
- Fourth, until the test information function approximates the target information function to a satisfactory degree, test items need to keep on being selected.

It should be noted that these steps were implemented within a framework defined by the content specification of the test. In addition, reading content specialists from MSDE reviewed the final test forms of the 2009 MSA-Reading. The following table and figure show an example of the 2009 MSA-Reading operational test form construction using the Rasch (i.e., 1-PL IRT) method. Detailed information about constructing operational forms using the Rasch method can be obtained from either MSDE or Pearson.

Table 1.9 The 2009 Reading Operational Test Construction Using the Rasch Model: Grade 4 Form A

Item Type	P-value	A	D_{i1}	D_{i2}	D_{i3}
BCR	0.55	1.00	-2.8865	0.1713	4.6908
BCR	0.36	1.00	-0.2820	1.6397	4.9886
BCR	0.47	1.00	-1.9819	1.1775	6.3237
BCR	0.33	1.00	-0.4489	2.3407	6.2535
SR	0.86	1.00	-0.6371		
SR	0.81	1.00	-0.2093		
SR	0.91	1.00	-1.2263		
SR	0.93	1.00	-1.4827		
SR	0.92	1.00	-1.3213		
SR	0.95	1.00	-1.8707		
SR	0.89	1.00	-1.0118		
SR	0.50	1.00	1.4012		
SR	0.93	1.00	-1.7932		
SR	0.63	1.00	0.7230		
SR	0.71	1.00	0.3088		
SR	0.75	1.00	0.0330		
SR	0.76	1.00	-0.0371		
SR	0.79	1.00	-0.1849		
SR	0.52	1.00	1.3123		
SR	0.55	1.00	1.1575		
SR	0.69	1.00	0.4436		
SR	0.62	1.00	0.8269		
SR	0.62	1.00	0.7861		
SR	0.81	1.00	-0.3227		
SR	0.55	1.00	1.1761		
SR	0.72	1.00	0.1781		
SR	0.65	1.00	0.5588		
SR	0.47	1.00	1.4551		
SR	0.69	1.00	0.3030		
SR	0.82	1.00	-0.5030		
SR	0.49	1.00	1.3460		
SR	0.72	1.00	0.2006		
SR	0.64	1.00	0.6870		
SR	0.65	1.00	0.5988		
SR	0.59	1.00	0.9160		
SR	0.62	1.00	0.7593		
SR	0.58	1.00	0.9692		
SR	0.82	1.00	-0.8817		
SR	0.65	1.00	0.1471		

Table 1.9 (Continued)

Item Type	P-value	A	D_{i1}	D_{i2}	D_{i3}
SR	0.66	1.00	0.1540		
SR	0.59	1.00	0.1906		
SR	0.73	1.00	-0.1963		
SR	0.86	1.00	-1.2429		
SR	0.67	1.00	0.1071		
SR	0.63	1.00	0.1229		

Note. A: item discrimination; D_{i1}: first structure measure estimate; D_{i2}: second structure measure estimate; D_{i3}: second structure measure estimate.

Note. Please refer to section 3.3 of this technical report to get detailed information about how to estimate structure measure estimate ($D_{ij} = D_i + F_{ij}$)

TIC
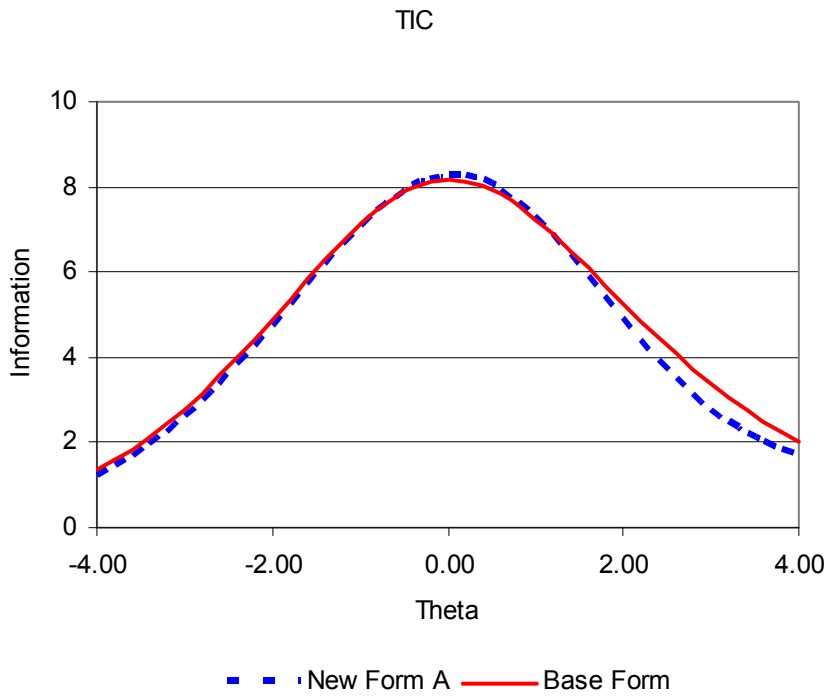
Figure 1.1 Test Information Curves of Base Form vs. Current Year's Reading Operational Test Form

SE
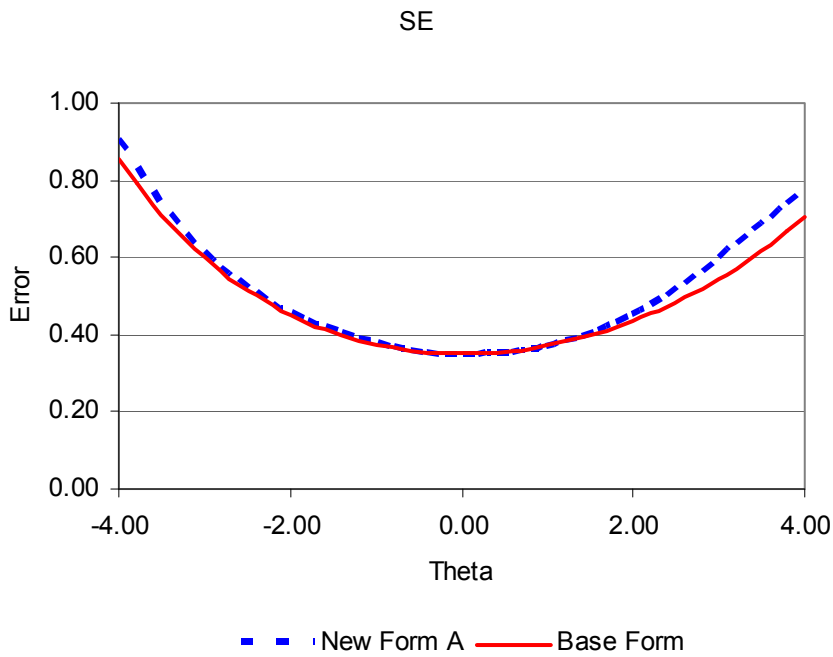
Figure 1.2 Standard Errors of Base Form vs. Current Year's Reading Operational Test Form

1.6 Test Administration of the 2009 MSA-Reading

The 2009 MSA-Reading test was administered to all students in grades 3 through 8 except for students taking the Alt-MSA-Reading or the Mod-MSA- Reading. Pearson coordinated the test administration procedures with MSDE prior to implementation. This chapter was prepared to provide general information about the 2009 test administration. Detailed information about the 2009 test administration can be obtained from the 2009 Test Administration and Coordination Manual (TACM) and Examiners Manual (EM) which are available from either MSDE or Pearson.

Test Materials

All test materials had to be stored in a secure location prior to test administration. The School Test Coordinator (STC) provided test administration training and test materials to the test examiners. The Daily Testing Materials Tracking Record (or an equivalent form designed by the LEA) was used to track the distribution and return of Test Books.

Before testing began, the Test Examiners (TEs) carefully inventoried all test materials given to them, as they were accountable for the return of all secure materials at the end of testing. TEs checked to ensure they had all the materials they needed for testing.

For the Test Examiner, Pearson provided the following materials:

- MSA Examiner's Manual for grades 3 through 8- Reading

- Pre-printed and generic labels

- Scoring Service Identification (SSID) sheets

For each student, the following materials were provided by Pearson:

- Test/Answer Book

- Special accommodations testing materials, if necessary

For each student, the following additional materials were provided by school or student:

- Two No. 2 pencils with erasers

- Blank scratch paper

Each classroom used for the assessment also needed the following additional materials:

- A sign for the door that reads "Testing: Do not Disturb"

- A digital clock or a watch, or clock with a second hand

Two test-related Examiners Manuals (EM) were developed for the 2009 MSA: one version for reading and the other for mathematics for use in all grades 3-8. Developed in partnership with MSDE, the EMs contained instructions for preparation and administration of the test. In addition to the EMs, one Test Administration and Coordination Manual (TACM) was developed for use by the Local Accountability Coordinators (LAC) and building-level School Test Coordinators (STC). Included in this manual were instructions for preparation of materials for

testing, monitoring of testing, and packaging of materials for return to Pearson for scoring. The TACM was distributed and reviewed during a workshop in January for STCs and LACs, with duplicates sent to each school along with its testing materials.

Test Administration Schedule

The primary test window for MSA was established by MSDE (March 16-25, 2009, with make-up testing held March 26-31, 2009). However, each LEA (Local Education Agency) set a specific schedule for administration of the MSA within that window for their district. For a given test, grade, content area, and test format, all testing (with the exception of the make-up administration) had to take place on the same schedule. Each LEA schedule was submitted to MSDE in advance and approved for each district by the state. For example, all Grade 3 MSA-Reading must be administered on the same days throughout the LEA. In addition, each content area in each grade was tested on two days during the window. In any given grade, one content area's primary testing window was completed before beginning the second content area's primary testing window.

The MSA-Reading testing schedule allowed approximately 2 hours and 30 minutes for testing on Day 1 and 1 hour and 45 minutes on Day 2 (including preparation time and breaks).

For the 2009 MSA-Reading, the primary testing days were as follows:

- Test materials delivered to schools   On or Before March 2, 2009
  (Examiner's Manuals, Test/Answer Books,
  and Test Coordinator's Kits)
- Reading Primary Testing Window   March 16 – March 25, 2009
- Make-up Testing Window   March 26 – March 31, 2009

Students and parents should be reminded of the importance of students attending school during the administration of the MSA and the importance of student participation in MSA testing. Maryland was held to the 95% participation requirement under NCLB by the US Department of Education, and schools were urged to do all they can to test all students on MSA or Alt-MSA (as applicable).

If a student was absent on the testing days, a make-up test was administered on any two consecutive days within the testing window. If a school had an unscheduled closing or delayed opening that prohibited the administration from occurring on the scheduled testing dates, the STCs were consulted by LACs to determine the testing schedule to be followed.

During the administration of the 2009 MSA-Reading, MSDE had testing monitors in selected schools observing administration procedures and testing conditions. All monitors had identification cards for security purposes. There was no prior notification of which schools would be monitored, but monitors followed local procedures for reporting to the school's main office and giving proper notification that an MSDE monitor was in the building.

Student Participation

MSDE calculates actual participation of students who took the test. This means that the schools are held accountable not only for student achievement on MSA or Mod-MSA testing, but also they are accountable to ensure that at least 95% of students participate in testing. Accordingly, schools should do all they can to test all students on MSA, Mod-MSA, or Alt-MSA, as applicable.

All students in grades 3 through 5 had to participate in the 2009 MSA-Reading, and all students in grades 6 through 8 had to participate in either the 2009 MSA-Reading or Mod-MSA-Reading. All students in grade 6 through 8 had to participate in the 2009 Mod-MSA- Reading, if determined to be eligible by the student's IEP. The only exception was that students with severe cognitive disabilities were assessed by the *Alternate Maryland School Assessment* (Alt-MSA) instead of the regular MSA- Reading or Mod-MSA- Reading. The criteria that students should need to meet in order to be tested in the Alt-MSA program instead of the MSA- Reading can be viewed in section 5, Appendix A of the TACM.

Participation of English Language Learners (ELLs) in the MSA-Reading or the Mod-MSA- Reading

There are special rules that apply to the participation of English Language Learners (ELLs) in the MSA-Reading and the Mod-MSA-Reading, as follows:

ELL students in their first year of enrollment in a U.S. school may substitute their score on the English Language Proficiency Test for the MSA- Reading or the Mod-MSA-Reading test. ELL students must participate in the MSA-Reading or the Mod-MSA-Reading test starting in their second year of enrollment in a U.S. school.

Accommodations for Assessment

Accommodations for assessment of students with disabilities (i.e., students having an Individualized Education Program or a Section 504 Plan) and students who are English Language Learners (ELL) had to be approved and documented according to the procedures and requirements outlined in the document entitled "Maryland Accommodations Manual: A Guide to Selecting, Administrating, and Evaluating the Use of Accommodations for Instruction and Assessment" (MAM). A copy of the most recent edition of this document is available electronically on the LAC and STC web pages at https://docushare.msde.state.md.us/docushare.

No accommodations could be made for students merely because they were members of an instructional group. Any accommodation had to be based on individual needs and not on a category of disability area, level of instruction, environment, or other group characteristics. Responsibility for confirming the need and appropriateness of an accommodation rested with the LAC and school-based staff involved with each student's instructional program. A master list of all students and their accommodations had to be maintained by the principal and submitted to the LAC, who provided a copy to MSDE upon request. Please refer to section 1 of the 2009 TACM for further information regarding testing accommodations.

Large-Print and Braille Test Books and Kurzweil^{TM} Test Forms on CD

The MSA-Reading was administered to those requiring (1) large-print Student Test/Answer Books or (2) Braille Test Books, or (3) Kurzweil^{TM} Test Forms on CD for a verbatim reading accommodation. For large-print Test/Answer Books, Braille Test Books, and Kurzweil^{TM} Test

Forms on CD, student responses were transcribed into the standard-size Test/Answer Book following testing.

The student's name, LEA number, and school number were written on the large-print Test/Answer Book for proper transcription into the standard-size Test/Answer Book.

The pre-printed student ID label was affixed to the standard-size Test/Answer Book containing the transcribed responses, and not to the large-print Test/Answer Book or Braille books. The bubbles on the demographic page of the standard-size Test/Answer Book were not filled in if there was a pre-printed student ID label for the student.

A certified Test Examiner (TE) transcribed the student responses into a standard-size Test/Answer Book exactly as given by the student. The standard-size Test/Answer Book with the pre-printed or general label attached was returned to Pearson with all other Test/Answer Books.

Large-Print Test/Answer Books and Braille Test/Answer Books containing the original student responses prior to transcription were to be returned with Non-Scorable materials. Any Test/Answer Books which were used as source documents for transcription were invalidated by drawing a large slash across the student demographic page with a black permanent marker.

Once the student responses had been transcribed, the transcribed Test/Answer Book was returned for scoring with the standard-size materials. Specific packing instructions are provided in the 2009 TACM in section 4.

Verbatim Reading Accommodation and Kurzweil^{TM} Test Form on CD

Students who had a verbatim reading accommodation documented in their Individual Education Plan (IEP), ELL Plan, or Section 504 Plan, and who received that accommodation in regular instruction, received the accommodation on the 2009 MSA-Reading. The accommodation was provided by a live reader or through technology. Appendix L of the 2009 TACM provided information on verbatim reading instruction. Technology used to provide the verbatim reading accommodation was Kurzweil^{TM} reading software. Official, secure electronic copies of the test were ordered through the LAC. MSDE encouraged (but did not require) the use of the Kurzweil^{TM} software to ensure uniformity in the delivery of the verbatim reading accommodation throughout the state.

Students using Kurzweil^{TM} software had to familiarize themselves with its operation prior to the test administration. When there were technical difficulties with Kurzweil^{TM} a certified staff member was used instead. Kurzweil^{TM} Test Form CDs were shipped by Pearson. After testing, schools returned the CDs to Pearson with the non-scorable secure materials.

Administration Procedures for Students with IEP, 504 Plan, or ELL Plan Permitting a Dictated Responses or Use of Word Processor

A student whose IEP, 504 Plan, or ELL Plan permitted a dictated response had his/her responses transcribed at the school level by an eligible TE, or by a staff member working under the direct supervision of a certified TE, into the student's Test/Answer Book with a pre-printed or generic ID label attached.

A student whose IEP, 504 Plan, or ELL plan permitted the use of a word processor had his/her responses transcribed by hand or under the direct supervision of an eligible TE or STC exactly as the student entered his/her responses on the word processor. The student's responses were

always transcribed at the school level into the student's Test/Answer Book with the pre-printed or generic ID label attached. After the student's responses were transcribed, the memory of the word processor was cleared. The original word-processed print-out was returned to Pearson with the non-scorable materials.

Test Format

All grade levels of the MSA-Reading used a Test Book format in which students wrote their answers directly in the Test Book. There were 10 forms of MSA-Reading. Different test forms were administered to students in each classroom participating in reading tests, and each test form was identified by color and form number/letter. All forms of the MSA Test/Answer Books for each grade had the same grade designation and picture on the front cover. The Test/Answer Books were spiraled within a classroom, and each student used a combined Test/Answer Book.

Since the Test/Answer Books were scanned for scoring, students were encouraged not to use highlighters in any part of the book. Although students might be accustomed to using highlighters in daily instruction, highlighting in the Test/Answer Book could obliterate information in a student's book, creating problems when it was scanned for scoring. As an alternative to highlighting, students were allowed to lightly circle or underline information in test items or perform calculations to help them in responding, as long as markings did not interfere with the bubbled answer choice area and/or the track marks along the outside margins of each page.

Security of Test Materials

The following code of ethics conforms to the Standards for Educational and Psychological Testing developed by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (Pearson, 2009):

> It is breach of professional ethics for school personnel to provide verbal or nonverbal clues or answers, teach items on the test, share writing prompts, coach, hint, or in any way influence a student's performance during the testing situation. A breach of ethics may result in invalidation of test results and local education agency (LEA) or MSDE disciplinary action. (p. 11)

The Test/Answer Books for the 2009 MSA-Reading were confidential and kept secure at all times. Unauthorized use, duplication, or reproduction of any or all portions of the assessment was prohibited, which is reflected by the following statement (Pearson, 2009):

> Violation of security can result in prosecution and/or penalties as imposed by the Maryland State Board of Education and/or State Superintendent of Schools in accordance with the COMAR 13A.03.04 and 13A.12.05. (p. 11)

All materials were treated as confidential and placed in locked areas. Secure and non-secure test materials were as follows:

- Secure materials: Test/Answer Books (including large-print and Braille), Kurzweil[TM] test forms on CD, and used scratch paper
- Non-secure materials: TACM, Examiner's Manuals, unused pre-printed student and generic ID labels, unused FedEx return shipping labels, and unused green/orange shipping labels

1.7 Scoring Procedures of the 2009 MSA-Reading

Students' responses to *SR* items were machine-scored, and their responses to *BCR* items were individually read and scored by Pearson.

Hand Scoring Staff

The PSC Project Manager (PSC PM), Content Specialist (CS), and Scoring Directors (SD) participated in the rangefinding sessions in Maryland. (Detailed information about rangefinding procedures can be found in the following portion of this section: *Development Procedures for Rangefinding*.) The SD was responsible for maintaining annotations and meeting minutes from all sessions. These notes were a record of the comments and decisions made by the MSDE personnel and members of the Maryland teacher committee. These notes were utilized by the SD responsible for training the Scoring Supervisors and Scorers for the respective Maryland prompts.

1) Scorer

A graduate of a four-year accredited college or university who had completed the Maryland-specific domain training. The scorers were eligible to score items for which they had been trained and successfully qualified.

2) Scoring Supervisor

A reader who directly monitored the scoring of a team of Scorers and retrained as needed. The reader had successfully completed the PSC Scoring Supervisor training.

3) Scoring Director (SD)

An experienced and knowledgeable PSC team leader who was responsible for selecting a wide variety of student responses for such activities as rangefinding and building training materials. Selected papers were then submitted to MSDE for comment and approval. Scoring directors remained on the project as rangefinding participants and trainers. Scoring directors worked with scoring supervisors and the Content Specialist to oversee the scoring of several items. An SD's main duty during scoring was to rule on validity of questionable papers and to maintain consistency in scoring decisions.

4) Content Specialist (CS)

Experienced content/training personnel who had served as SDs and were selected by the Scoring Resources staff and Project Manager to train and support Scoring Directors for Maryland.

Scorer Recruitment and Qualifications

All Scorers for MSDE had to provide Pearson their résumé and documentation of a four-year college degree. Human Resources made every effort to recruit Scorers with a teaching background and to match Scorers to projects which suited their educational background and previous scoring experience. This addition to the scoring pool did not qualify these Scorers for scoring the MSDE program.

Scoring Supervisor Selection

The training for new Scoring Supervisors consisted of a two-day course focusing on the duties and responsibilities necessary to successfully manage a team of Scorers. The workshop was led by the PSC Site Manager and Scoring Directors. The instruction included a review of PSC

policies and procedures, sessions on use of ePEN and the monitoring reports to track a Scorer's speed and accuracy, role playing activities which explored various situations that could occur with Scorers during the scoring of a project, and Scorer counseling and retraining guidelines. Upon completion of the workshop, the PSC Site Manager and Scoring Directors in conjunction with the Content Specialist reviewed each participant's performance, making sure that each had a complete understanding of the Scoring Supervisor role and its responsibilities. Any participant they found who did not perform to their satisfaction was not added to the qualified Supervisor list.

Scoring Supervisor Project Training and Qualification

Project-specific Supervisor training for MSDE was conducted in the days immediately preceding Scorer training. This training began with the SD reading the rubrics aloud and answering any questions the Supervisor might have regarding the rubric. The SD then read each anchor paper aloud to the Supervisors. Each response in the anchor set was thoroughly explained, including the notes and comments of the rangefinding committee. Practice Set 1 was reviewed next. The Supervisors scored the practice set individually in the electronic scoring system (ePEN) as well as recorded their scores on a paper copy of the practice set, and then waited for all Supervisors to complete scoring the set. When everyone had completed scoring the training set, the SD discussed the responses one by one, focusing on why each received that score and not another. The SD reviewed with the group the reason for assigning each score point and discussed each paper in its entirety. The Supervisors were then ready to score Practice Set 2. Practice Set 2 was scored and reviewed exactly as Practice Set 1.

Having thoroughly discussed both practice sets with the group, the SD explained that in order for a participant to qualify as a Scoring Supervisor, it was required that the Supervisor should score at least 80% perfect agreement on two of three qualifying sets or one of two qualifying sets, depending on the number of sets available for each item (Qualification Rules, Attachment M). The Supervisors scored the first qualifying set individually and recorded their scores in ePEN. As each Supervisor finished scoring, the SD reviewed the qualifying reports before allowing the Supervisor to proceed to the next qualifying set. Each response was reviewed and any questions the Supervisor had were addressed before the Supervisor attempted the next qualifying set. The Supervisor followed the same procedure with Qualifying set 2 (and set 3 if available). Supervisors had to pass one of two or two of three sets (depending on the number of qualifying sets available per item) with 80% agreement as specified in the qualification rules or they would be released from the MSDE project.

Scoring Supervisor Duties

Scoring Supervisors were responsible for monitoring the training and qualifying of the Scorers assigned to their team. The Supervisors assisted the SD, if requested, during the training of the Scorers. The Supervisor was responsible for monitoring Scorers' progress through the qualifying sets. The Supervisor was also responsible for monitoring each Scorer's assignment of scores to the responses. Additionally, the Supervisor reviewed the statistical reports with each individual on the team. The Supervisor consulted the SD regarding variations by the team members from the acceptable standards (i.e., 80%). The Supervisor had the initial responsibility to see that the Scorer maintained the set standards through individual retraining. The SD monitored the Supervisor by reviewing team statistics and working one-on-one with the Supervisor.

Scoring Director Selection and Qualification

The candidates for Scoring Director had been recommended by the Content Specialist, PSC Resource Staffing Managers or Site Manager. The recommendations were based upon the evaluations the candidates received as Scorers and Supervisors and were part of their personnel file. The candidates generally had been Supervisors on large-scale projects for multiple teams, and/or they had served as Supervisors on small-scale projects where Supervisors trained their individual teams. They had been evaluated on their ability to train Scorers as well as their ability to monitor the scoring accuracy and consistency of Scorers. These evaluations were submitted in writing at the end of each scoring project by the Site Managers and SDs that had observed the work of the SD candidates.

Scoring Director Project Training

The SDs familiarized themselves with the rubric. Any questions regarding the rubric were addressed by the PSC Content Specialist or MSDE. The next step was for the SD to become familiar with all their items and all training materials and scoring decisions/issues associated with their items prior to Supervisor training.

Scoring Director Duties

The SD's job was to conduct the training of the Supervisors and Scorers, oversee the actual scoring of the papers, monitor the work of the Supervisor, and act as the decision-maker for situations or questions that may arise during the scoring process. For example, all condition code (foreign language, off-topic, off-mode, etc.) responses were reviewed by the SD, who had to confirm any such decision and ensure consistency of decisions. (Blank condition codes were assigned at the Scorer level and did not require SD confirmation.) Additionally the SD and Supervisor conducted all resolution readings. The resolution score became the reported score.

The SD also reviewed any potential questionable content responses and forwarded those to the Content Specialist to consult with MSDE before processing.

The SD was also responsible for daily statistical review and analysis of all monitoring reports to ensure the quality of the scoring. Review of the data allowed the SD not only to monitor the Scorer but also to provide the Supervisor with additional input. Available data included 1) individual Scorer agreement rates between two independent scorings; 2) score point distributions by Scorer and trend review; 3) prompt statistics for agreement rates and score point distributions; 4) Resolution data; 5) scorer-level and item-level agreement on validity papers pre-scored by MSDE.

Scorer Training

Scorer training was led by the SD, and each SD was responsible for training the items he/she monitored throughout scoring. After sufficient student responses were scored for equating purposes for the first item, the SD reconvened the group and trained the second item. Training began with the definition and an overview of holistic scoring. Training continued with a reading and discussion of the generic rubric and item, and then the student responses in the anchor set were read and discussed. In the anchor set the scores had been recorded on the student responses and were arranged in ascending point-scale order. Each annotated anchor response was read aloud and discussed thoroughly. Emphasis was placed on the Scorers' understanding of how the responses differed from one another in incremental quality, how each response reflected the

description of its score point as generalized in the scoring rubric, and how each reflected the MSDE's standard for application of each score point.

Once Scorers had all their questions answered and the discussion of the anchor set was finished, the Scorers began to assign scores to the first practice set. Each Scorer independently read and scored the responses in the practice set in the electronic scoring system (ePEN). The correct scores were then read to the group when everyone had completed the scoring. In addition, each practice paper was discussed as to reasons for applying each given score. At this point, Scorers interacted with the SD in discussing the characteristics of each response that earned the assigned score point. The same format was followed for each practice set. During this process, the job of the Scorer was to internalize the scoring scale and adjust his or her individual scoring to conform to that scale. Once all practice papers had been scored and fully discussed, Scorers began the qualifying process.

For MSA-Reading, there were two or three qualifying sets, depending on the particular item. MSDE informed PSC in writing for each specific administration how many qualifying sets were approved and were available to the Scorers. Scorers had to achieve at least 80% perfect agreement on two of three qualifying sets or one of two qualifying sets, depending on the number of sets available for each item.

Scoring Rules for MSA-Reading

The following scoring rules were applied to MSA-Reading BCR items:

- Reading BCR items were scored:

  0, 1, 2, or 3 with two readings

- Scores given were the higher of the 1st and 2nd Reader's scores provided they were adjacent.

- For example:

1st Reader	2nd Reader	Final Score
1	2	2
2	3	3

- A resolution reader was used if two non-adjacent initial scores were received.
- The resolution reader's score was used in place of both the 1st and 2nd Reader's scores.

- For example:

1st Reader	2nd Reader	Resolution Reader	Final Score
0	2	1	1
0	3	2	2
1	3	3	3
2	0	1	1
3	0	2	2

Inter-Rater Agreement

Pearson's scoring system generated many kinds of internal monitoring reports that enabled the project leadership to monitor the accuracy and consistency of scoring. These reports were compiled by prompt, listed the entire prompt's Scorers, and provided the results of their scoring for each day. Information on these reports included the number of responses read by the Scorers during the period, the number and percent of condition code responses, and the number of responses for which there had been a second reading. The number of responses with second readings provided data that allowed for reporting of the number and percent of responses with perfect agreement; the number and percent of responses on which the first Scorer was a point lower than the second Scorer; the number and percent of responses on which the first Scorer was a point higher than the second Scorer (Adjacent); and the number and percent of responses differing by more than one score point (Non-Adjacent). The Scoring Director also reviewed the daily statistical reports to identify individuals or teams who might need retraining in order to provide continuous scoring consistency on the project. MSDE received data summary reports. Statistical summaries of inter-rater reliability can be found in section 3.4, *Inter-Rater Reliability*.

Scorer Retraining

When a Scorer's performance fell below acceptable parameters for a project, the Scorer was retrained. Retraining was the process by which the SD or Supervisor utilized a number of methods such as individual tutoring on problem score points, individual review of selected responses, and anchor and rubric review to get a Scorer back on track with the guidelines provided by a specific program. Group retraining was conducted by the SD every Monday (or following any extended break) during the scoring project. In addition, daily retraining occurred as deemed necessary by the MSDE representative and CS.

Backreading

Pearson's ePEN system allowed Supervisors and/or SDs to conduct backreads as an additional monitoring method. When conducting backreads, the Supervisor or SD received images of student responses and the scores assigned by the Scorer. Responses selected for backreads might be randomly selected or might be targeted backreads (e.g., responses receiving specific scores, etc.). These backreads were very useful in tracking specific areas of confusion for a given Scorer or group of Scorers and assisted the Supervisor and SD in knowing just how to direct retraining activities for individual Scorers or teams. The initial backreading percentage was set at

3%. This percentage might be adjusted either higher or lower by the Supervisor based upon the performance of the Scorer.

Development Procedures for Rangefinding

Scoring Directors were selected by the PSC Scoring Resource Manager and Content Specialist to prepare sets of papers for client approval. These experienced SDs were judged by the CS for their ability to recognize and assemble a wide variety of responses. The SD also participated with the clients as a facilitator during the rangefinding session in order to make notes and be prepared to assemble the finished sets to the client's specifications. For a given reading prompt, the SD had the following responsibilities:

1) To know the prompt and the rubric thoroughly

2) To read responses

- Looked for responses that seemed to represent the full range of quality as described in the rubric.
- Searched all orders for responses, with particular emphasis on the state's high-performing districts.
- Included not only papers that were homogeneous in their level of quality but also papers that differed in quality from variable to variable but which could be given an overall classification of High, Medium, or Low.
- Marked High, Medium, and Low papers—marked especially good ones that might potentially receive top scores.

3) To sort copies

- Copies were sorted into piles, reflecting the nature of the flag—all potential high papers were together, all potential medium papers were together, etc., with all problem papers grouped together.
- For problem or decision papers, duplicates of types of problems were culled. The best example of each problem type was retained; the rest were set aside for possible future use.

4) To develop sets for rangefinding

- Decided which particular papers from the sorted piles should go into sets for rangefinding. Each paper selected went into a rangefinding set arranged in performance from low to high performance.

Rangefinding Procedures

The objective of rangefinding sessions was for the team members to arrive at a consensus as to the score of each paper in the proposed training materials. These sessions were attended by Maryland educators, MSDE, and PSC Project Manager, Content Specialists, and Scoring Directors, who selected and prepared all of the papers that would be reviewed. These papers and their corresponding scores formed the basis of selecting final Anchor Sets, Practice Sets, and Qualifying Sets. Discussions among the team members were important, as they revealed what kinds of qualities characterized certain score points. The most difficult aspects involved

balancing widely discrepant qualities found in the same paper and defining the line between adjacent scores.

During formal rangefinding, the procedure for assigning scores to the papers in each set was as follows:

- The item was reviewed by the committee and criteria were discussed for receiving full credit.

- Selected "grounding" papers that represented the full range of scores were read aloud and discussed by the rangefinding panel. Reading aloud focused attention on the ideas presented—or what the student had to say—allowing the panel members to divorce themselves from how the paper looked or how well it had been edited.

- After each response was read, each panel member independently assigned a score. An overall tentative score was assigned to each response on which there seemed to be consensus. However, all assigned scores at this point, even those on responses for which there were complete agreement, were provisional and subject to change based on later considerations.

- All subsequent responses were read and scored by each panel member independently, using the tentative scores on the previous sets as guidelines. After each set had been read, the results were recorded on a consensus sheet and discussed after each committee member had already recorded tentative scoring decisions. There might be frequent reference to previous responses to make sure that decisions on score points were consistent.

This iterative process of reading, charting, and discussing successive responses had three results:

- It established scores for papers for which there was virtually unanimous agreement.

- It identified papers that were on the line between two adjacent scores, necessitating the clarification of that line.

- It contributed to understanding the rationale behind scoring decisions.

During this process, the tentative scores assigned to earlier responses became firm.

1.8 The 2009 MSA-Reading Operational Item Analyses

Classical Analysis with Common Items Used for Form-to-Form Linking

As mentioned in chapter 1.4, two operational forms were randomly distributed to students and linked using common items appearing on both forms (i.e., operational forms A and B). As a result, classical analysis of these common items was conducted to check if the two groups taking different operational forms were equivalent. The following descriptive statistics were calculated based on a raw, number-right score of the common items: mean (*M*) and standard deviation (*SD*). The results indicated that the students taking the two operational forms were statistically close and equivalent across all grades, as seen in Table 1.10.

Table 1.10 Descriptive Statistics for the 2009 MSA-Reading Form-to-Form Linking Common Items

Grade	Form	No. of Items	*N*	*M*	*SD*
3	A	25	26,900	19.06	4.42
	B	25	26,903	19.11	4.37
4	A	25	29,449	17.71	4.51
	B	25	29,266	17.62	4.49
5	A	25	30,193	18.59	4.03
	B	25	29,986	18.61	4.00
6	A	25	29,751	18.23	4.17
	B	25	29,070	18.22	4.17
7	A	25	30,046	19.32	4.24
	B	25	29,541	19.37	4.15
8	A	25	30,717	18.12	3.87
	B	25	30,235	18.13	3.80

Note. Form A designates the identical operational portion of Forms 1, 3, 5, 7, and 9. Form B designates the identical operational portion of Forms 2, 4, 6, 8, and 10.
Note. Analysis was conducted with a statewide population.

P-Value Check with Year-to-Year Linking Common Items

As mentioned in chapter 1.4, different years' assessments were linked using linking items appearing both years. This section was prepared to provide information about how much p-values (i.e., classical item difficulty) of the 2009 year-to-year linking items varied from previous years.

It should be noted that only SR items were used for the purpose of year-to-year linking. Second, the item sequence numbers on the tables were assigned based on the 2009 assessment. The statistics of the previous year's assessment (i.e., 2007) were calculated based on a smaller field-test sample while the 2009 statistics are based on the current year's statewide population. Finally, it should be noted that detailed information about the Rasch analysis on these core linking items can be found in section 1.9, *Calibration, Equating, Scaling*.

In general, we can conclude that most of the 2009 p-values were slightly increased compared to the 2007 p-values across all grades.

Table 1.11 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 3 Form A

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA
1	3399914	SR	0.93	0.94	24	3588154	SR	0.65	0.71
2	3588051	SR	0.98	0.98	25	3588158	SR	0.49	0.55
3	3588052	SR	0.74	0.75	26	3592457	SR	0.71	0.76
4	3588010	SR	0.87	0.90	27	3592456	SR	0.49	0.51
5	3588015	SR	0.89	0.92	28	3592460	SR	0.81	0.83
6	3588020	SR	0.94	0.96	29	3592458	SR	0.65	0.70
7	3588023	SR	0.68	0.72	36	3592482	SR	0.60	0.62
8	3588035	SR	0.64	0.71	37	3592483	SR	0.89	0.89
9	3588039	SR	0.77	0.79	38	3592481	SR	0.84	0.85
10	**3492376**	**SR**	**0.85**	**0.91**	39	3592485	SR	0.80	0.78
12	**3492383**	**SR**	**0.77**	**0.82**	40	3592477	SR	0.55	0.55
13	**3492387**	**SR**	**0.74**	**0.81**	41	3592478	SR	0.79	0.79
15	**3492385**	**SR**	**0.63**	**0.69**	42	3592473	SR	0.64	0.64
16	**3471500**	**SR**	**0.54**	**0.67**	43	3592474	SR	0.60	0.60
18	**3471502**	**SR**	**0.73**	**0.81**					
19	**3471497**	**SR**	**0.68**	**0.75**					
21	**3471496**	**SR**	**0.64**	**0.77**					
22	3588155	SR	0.76	0.82					
23	3588156	SR	0.70	0.78					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 3 Form A

Grade	Year	No. of Items	M	SD
3	2007	33	0.73	0.13
	2009	33	0.77	0.12

Table 1.12 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 3 Form B

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB
1	3399914	SR	0.93	0.94		3588154	SR	0.65	0.72
2	3588051	SR	0.98	0.98		3588158	SR	0.49	0.55
3	3588052	SR	0.74	0.75		3592457	SR	0.71	0.76
4	3588010	SR	0.87	0.90		3592456	SR	0.49	0.50
5	3588015	SR	0.89	0.92		3592460	SR	0.81	0.83
6	3588020	SR	0.94	0.96		3592458	SR	0.65	0.70
7	3588023	SR	0.68	0.73		3592482	SR	0.60	0.60
8	3588035	SR	0.64	0.71		3592483	SR	0.89	0.89
9	3588039	SR	0.77	0.79		3592481	SR	0.84	0.85
10	**3497775**	**SR**	**0.69**	**0.80**		3592485	SR	0.80	0.80
12	**3497781**	**SR**	**0.79**	**0.80**		3592477	SR	0.55	0.56
13	**3497779**	**SR**	**0.70**	**0.77**		3592478	SR	0.79	0.79
15	**3497774**	**SR**	**0.72**	**0.78**		3592473	SR	0.64	0.64
16	**3490488**	**SR**	**0.52**	**0.59**		3592474	SR	0.60	0.59
18	**3490487**	**SR**	**0.65**	**0.69**					
19	**3490490**	**SR**	**0.77**	**0.80**					
21	**3490489**	**SR**	**0.69**	**0.75**					
22	3588155	SR	0.76	0.83					
23	3588156	SR	0.70	0.80					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 3 Form B

Grade	Year	No. of Items	M	SD
3	2007	33	0.73	0.13
	2009	33	0.76	0.12

Table 1.13 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 4 Form A

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA
1	3588095	SR	0.65	0.65	24	3592889	SR	0.65	0.68
2	3399931	SR	0.79	0.79	25	3592891	SR	0.53	0.46
3	3588096	SR	0.78	0.78	26	3592925	SR	0.62	0.61
4	3595149	SR	0.94	0.94	27	3592933	SR	0.51	0.55
5	3399943	SR	0.95	0.96	28	3592930	SR	0.55	0.54
6	3399944	SR	0.90	0.97	29	3592934	SR	0.76	0.77
7	3588105	SR	0.55	0.56	36	3592902	SR	0.67	0.67
8	3588111	SR	0.94	0.94	37	3592903	SR	0.62	0.57
9	3588114	SR	0.89	0.89	38	3592909	SR	0.65	0.65
10	**3497923**	**SR**	**0.73**	**0.80**	39	3592905	SR	0.78	0.78
12	**3497925**	**SR**	**0.72**	**0.79**	40	3588222	SR	0.59	0.58
13	**3497924**	**SR**	**0.72**	**0.78**	41	3588220	SR	0.78	0.74
15	**3497922**	**SR**	**0.68**	**0.62**	42	3588217	SR	0.76	0.74
16	**3470326**	**SR**	**0.43**	**0.47**	43	3588218	SR	0.51	0.48
18	**3470320**	**SR**	**0.60**	**0.63**					
19	**3470319**	**SR**	**0.65**	**0.66**					
21	**3470324**	**SR**	**0.72**	**0.78**					
22	3592890	SR	0.59	0.64					
23	3592893	SR	0.69	0.77					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 4 Form A

Grade	Year	No. of Items	*M*	*SD*
4	2007	33	0.69	0.13
	2009	33	0.70	0.14

Table 1.14 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 4 Form B

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB
1	3588095	SR	0.65	0.65	24	3592889	SR	0.65	0.68
2	3399931	SR	0.79	0.80	25	3592891	SR	0.53	0.45
3	3588096	SR	0.78	0.78	26	3592925	SR	0.62	0.60
4	3595149	SR	0.94	0.94	27	3592933	SR	0.51	0.55
5	3399943	SR	0.95	0.96	28	3592930	SR	0.55	0.55
6	3399944	SR	0.90	0.97	29	3592934	SR	0.76	0.78
7	3588105	SR	0.55	0.56	36	3592902	SR	0.67	0.65
8	3588111	SR	0.94	0.94	37	3592903	SR	0.62	0.56
9	3588114	SR	0.89	0.89	38	3592909	SR	0.65	0.63
10	**3488811**	**SR**	**0.71**	**0.76**	39	3592905	SR	0.78	0.78
12	**3488810**	**SR**	**0.70**	**0.74**	40	3588222	SR	0.59	0.56
13	**3488812**	**SR**	**0.80**	**0.83**	41	3588220	SR	0.78	0.74
15	**3488809**	**SR**	**0.52**	**0.57**	42	3588217	SR	0.76	0.73
16	**3497913**	**SR**	**0.57**	**0.62**	43	3588218	SR	0.51	0.48
18	**3497910**	**SR**	**0.52**	**0.53**					
19	**3497912**	**SR**	**0.69**	**0.72**					
21	**3497914**	**SR**	**0.85**	**0.82**					
22	3592890	SR	0.59	0.65					
23	3592893	SR	0.69	0.76					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 4 Form B

Grade	Year	No. of Items	M	SD
4	2007	33	0.70	0.14
	2009	33	0.70	0.14

Table 1.15 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 5 Form A

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA
1	3400077	SR	0.86	0.87	24	3588245	SR	0.69	0.76
2	3400080	SR	0.81	0.80	25	3588248	SR	0.82	0.84
3	3400086	SR	0.91	0.91	26	3588250	SR	0.72	0.71
4	3400088	SR	0.94	0.93	27	3588252	SR	0.64	0.62
5	3451551	SR	0.92	0.93	28	3588251	SR	0.65	0.69
6	3451440	SR	0.95	0.96	29	3588254	SR	0.62	0.71
7	3451552	SR	0.89	0.91	36	3588240	SR	0.69	0.66
8	3588453	SR	0.50	0.49	37	3588239	SR	0.62	0.68
9	3588454	SR	0.93	0.93	38	3588242	SR	0.62	0.63
10	**3486361**	**SR**	**0.82**	**0.90**	39	3595121	SR	0.55	0.54
12	**3486359**	**SR**	**0.65**	**0.74**	40	3588233	SR	0.63	0.60
13	**3486364**	**SR**	**0.66**	**0.67**	41	3588236	SR	0.71	0.66
15	**3486363**	**SR**	**0.59**	**0.75**	42	3588234	SR	0.76	0.74
16	**3468076**	**SR**	**0.73**	**0.75**	43	3588235	SR	0.79	0.74
18	**3468079**	**SR**	**0.86**	**0.91**					
19	**3468075**	**SR**	**0.67**	**0.74**					
21	**3468080**	**SR**	**0.63**	**0.72**					
22	3588243	SR	0.72	0.72					
23	3588244	SR	0.47	0.55					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 5 Form A

Grade	Year	No. of Items	M	SD
5	2007	33	0.73	0.13
	2009	33	0.75	0.13

Table 1.16 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 5 Form B

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB
1	3400077	SR	0.86	0.87	24	3588245	SR	0.69	0.76
2	3400080	SR	0.81	0.80	25	3588248	SR	0.82	0.86
3	3400086	SR	0.91	0.92	26	3588250	SR	0.72	0.72
4	3400088	SR	0.94	0.94	27	3588252	SR	0.64	0.63
5	3451551	SR	0.92	0.93	28	3588251	SR	0.65	0.69
6	3451440	SR	0.95	0.96	29	3588254	SR	0.62	0.71
7	3451552	SR	0.89	0.91	36	3588240	SR	0.69	0.66
8	3588453	SR	0.50	0.49	37	3588239	SR	0.62	0.68
9	3588454	SR	0.93	0.93	38	3588242	SR	0.62	0.63
10	**3296480**	**SR**	**0.87**	**0.95**	39	3595121	SR	0.55	0.54
12	**3296482**	**SR**	**0.74**	**0.74**	40	3588233	SR	0.63	0.61
13	**3296476**	**SR**	**0.69**	**0.63**	41	3588236	SR	0.71	0.67
15	**3296479**	**SR**	**0.65**	**0.69**	42	3588234	SR	0.76	0.72
16	**3486184**	**SR**	**0.74**	**0.74**	43	3588235	SR	0.79	0.74
18	**3486187**	**SR**	**0.59**	**0.60**					
19	**3486183**	**SR**	**0.46**	**0.53**					
21	**3486185**	**SR**	**0.72**	**0.80**					
22	3588243	SR	0.72	0.74					
23	3588244	SR	0.47	0.53					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 5 Form B

Grade	Year	No. of Items	*M*	*SD*
5	2007	33	0.72	0.14
	2009	33	0.74	0.14

Table 1.17 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 6 Form A

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA
1	3400102	SR	0.92	0.93	24	3588279	SR	0.84	0.86
2	3400104	SR	0.93	0.97	25	3588281	SR	0.78	0.82
3	3595144	SR	0.85	0.85	26	3588289	SR	0.55	0.56
4	3400107	SR	0.88	0.88	27	3588290	SR	0.67	0.72
5	3588412	SR	0.81	0.81	28	3588292	SR	0.70	0.75
6	3451451	SR	0.92	0.93	29	3588288	SR	0.42	0.45
7	3451452	SR	0.52	0.50	36	3594634	SR	0.65	0.66
8	3451553	SR	0.80	0.80	37	3594633	SR	0.51	0.50
9	3451453	SR	0.93	0.93	38	3594638	SR	0.62	0.62
10	**3470024**	**SR**	**0.77**	**0.85**	39	3594637	SR	0.76	0.76
12	**3470020**	**SR**	**0.67**	**0.79**	40	3588272	SR	0.86	0.85
13	**3470018**	**SR**	**0.72**	**0.76**	41	3588275	SR	0.66	0.64
15	**3470021**	**SR**	**0.64**	**0.73**	42	3588274	SR	0.50	0.52
16	**3498430**	**SR**	**0.68**	**0.68**	43	3588273	SR	0.59	0.56
18	**3498424**	**SR**	**0.73**	**0.80**					
19	**3498425**	**SR**	**0.70**	**0.78**					
21	**3498426**	**SR**	**0.51**	**0.58**					
22	3588278	SR	0.50	0.51					
23	3588277	SR	0.88	0.88					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 6 Form A

Grade	Year	No. of Items	*M*	*SD*
6	2007	33	0.71	0.15
	2009	33	0.73	0.15

Table 1.18 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 6 Form B

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB
1	3400102	SR	0.92	0.93	24	3588279	SR	0.84	0.86
2	3400104	SR	0.93	0.97	25	3588281	SR	0.78	0.81
3	3595144	SR	0.85	0.85	26	3588289	SR	0.55	0.56
4	3400107	SR	0.88	0.88	27	3588290	SR	0.67	0.71
5	3588412	SR	0.81	0.81	28	3588292	SR	0.70	0.75
6	3451451	SR	0.92	0.93	29	3588288	SR	0.42	0.44
7	3451452	SR	0.52	0.50	36	3594634	SR	0.65	0.66
8	3451553	SR	0.80	0.80	37	3594633	SR	0.51	0.49
9	3451453	SR	0.93	0.94	38	3594638	SR	0.62	0.60
10	**3470033**	**SR**	**0.55**	**0.59**	39	3594637	SR	0.76	0.77
12	**3470035**	**SR**	**0.66**	**0.69**	40	3588272	SR	0.86	0.85
13	**3470034**	**SR**	**0.69**	**0.81**	41	3588275	SR	0.66	0.63
15	**3470032**	**SR**	**0.59**	**0.61**	42	3588274	SR	0.50	0.51
16	**3489686**	**SR**	**0.76**	**0.84**	43	3588273	SR	0.59	0.56
18	**3489689**	**SR**	**0.77**	**0.82**					
19	**3489692**	**SR**	**0.61**	**0.68**					
21	**3489691**	**SR**	**0.69**	**0.76**					
22	3588278	SR	0.50	0.53					
23	3588277	SR	0.88	0.87					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 6 Form B

Grade	Year	No. of Items	M	SD
6	2007	33	0.71	0.15
	2009	33	0.73	0.15

Table 1.19 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 7 Form A

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA
1	3400135	SR	0.95	0.96	24	3588331	SR	0.60	0.70
2	3400120	SR	0.92	0.93	25	3588333	SR	0.88	0.95
3	3400132	SR	0.79	0.81	32	3588330	SR	0.87	0.88
4	3451470	SR	0.90	0.91	33	3588326	SR	0.64	0.61
5	3451556	SR	0.94	0.95	34	3588327	SR	0.73	0.75
6	**3470045**	**SR**	**0.75**	**0.85**	35	3595060	SR	0.72	0.75
8	**3470047**	**SR**	**0.65**	**0.77**	36	3588283	SR	0.56	0.54
9	**3470044**	**SR**	**0.81**	**0.87**	37	3588284	SR	0.71	0.71
11	**3470048**	**SR**	**0.58**	**0.68**	38	3588286	SR	0.84	0.83
12	**3468871**	**SR**	**0.59**	**0.69**	39	3594600	SR	0.80	0.82
14	**3468868**	**SR**	**0.53**	**0.62**	40	3588316	SR	0.75	0.73
15	**3468869**	**SR**	**0.64**	**0.73**	41	3588317	SR	0.81	0.80
17	**3468875**	**SR**	**0.47**	**0.57**	42	3588318	SR	0.78	0.74
18	3595069	SR	0.63	0.72	43	3595059	SR	0.47	0.50
19	3595067	SR	0.81	0.86					
20	3595071	SR	0.65	0.66					
21	3595072	SR	0.61	0.70					
22	3588332	SR	0.80	0.85					
23	3595058	SR	0.60	0.67					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 7 Form A

Grade	Year	No. of Items	*M*	*SD*
7	2007	33	0.72	0.13
	2009	33	0.76	0.12

Table 1.20 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 7 Form B

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB
1	3400135	SR	0.95	0.96	24	3588331	SR	0.60	0.70
2	3400120	SR	0.92	0.93	25	3588333	SR	0.88	0.95
3	3400132	SR	0.79	0.82	32	3588330	SR	0.87	0.89
4	3451470	SR	0.90	0.91	33	3588326	SR	0.64	0.61
5	3451556	SR	0.94	0.95	34	3588327	SR	0.73	0.76
6	**3497792**	**SR**	**0.59**	**0.73**	35	3595060	SR	0.72	0.75
8	**3497790**	**SR**	**0.75**	**0.83**	36	3588283	SR	0.56	0.54
9	**3497793**	**SR**	**0.75**	**0.81**	37	3588284	SR	0.71	0.72
11	**3497789**	**SR**	**0.69**	**0.73**	38	3588286	SR	0.84	0.84
12	**3468857**	**SR**	**0.59**	**0.68**	39	3594600	SR	0.80	0.82
14	**3468860**	**SR**	**0.73**	**0.79**	40	3588316	SR	0.75	0.73
15	**3468856**	**SR**	**0.55**	**0.60**	41	3588317	SR	0.81	0.80
17	**3468863**	**SR**	**0.61**	**0.64**	42	3588318	SR	0.78	0.74
18	3595069	SR	0.63	0.69	43	3595059	SR	0.47	0.50
19	3595067	SR	0.81	0.87					
20	3595071	SR	0.65	0.66					
21	3595072	SR	0.61	0.71					
22	3588332	SR	0.80	0.86					
23	3595058	SR	0.60	0.66					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 7 Form B

Grade	Year	No. of Items	*M*	*SD*
7	2007	33	0.73	0.13
	2009	33	0.76	0.12

Table 1.21 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 8 Form A

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FA
1	3400154	SR	0.91	0.95	24	3595097	SR	0.55	0.57
2	3400158	SR	0.93	0.93	25	3595095	SR	0.63	0.63
3	3451476	SR	0.84	0.85	32	3588376	SR	0.69	0.72
4	3451557	SR	0.83	0.84	33	3588377	SR	0.48	0.52
5	3451558	SR	0.89	0.91	34	3588378	SR	0.72	0.72
6	**3514207**	**SR**	**0.65**	**0.76**	35	3595087	SR	0.87	0.87
8	**3514204**	**SR**	**0.64**	**0.59**	36	3588367	SR	0.61	0.63
9	**3514208**	**SR**	**0.72**	**0.80**	37	3588366	SR	0.82	0.83
11	**3514206**	**SR**	**0.62**	**0.73**	38	3588369	SR	0.53	0.49
12	**3327512**	**SR**	**0.86**	**0.91**	39	3588368	SR	0.87	0.88
14	**3327514**	**SR**	**0.64**	**0.74**	40	3588392	SR	0.79	0.80
15	**3327513**	**SR**	**0.70**	**0.77**	41	3588396	SR	0.34	0.27
17	**3327516**	**SR**	**0.65**	**0.72**	42	3588393	SR	0.64	0.59
18	3588360	SR	0.64	0.75	43	3588395	SR	0.50	0.54
19	3588361	SR	0.62	0.72					
20	3595083	SR	0.76	0.83					
21	3588362	SR	0.63	0.69					
22	3595094	SR	0.66	0.71					
23	3595099	SR	0.81	0.89					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 8 Form A

Grade	Year	No. of Items	*M*	*SD*
8	2007	33	0.70	0.14
	2009	33	0.73	0.15

Table 1.22 P-Value Comparison of Linking Common Items for Year 2007 vs. Year 2009: Grade 8 Form B

Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB	Item Seq. No.	Item CID	Item Type	Previous Year	Y09 FB
1	3400154	SR	0.91	0.96	24	3595097	SR	0.55	0.56
2	3400158	SR	0.93	0.93	25	3595095	SR	0.63	0.63
3	3451476	SR	0.84	0.85	32	3588376	SR	0.69	0.72
4	3451557	SR	0.83	0.84	33	3588377	SR	0.48	0.51
5	3451558	SR	0.89	0.91	34	3588378	SR	0.72	0.73
6	**3470061**	**SR**	**0.65**	**0.76**	35	3595087	SR	0.87	0.87
8	**3470060**	**SR**	**0.56**	**0.60**	36	3588367	SR	0.61	0.62
9	**3470054**	**SR**	**0.69**	**0.77**	37	3588366	SR	0.82	0.84
11	**3470058**	**SR**	**0.78**	**0.87**	38	3588369	SR	0.53	0.48
12	**3489335**	**SR**	**0.88**	**0.94**	39	3588368	SR	0.87	0.88
14	**3489334**	**SR**	**0.68**	**0.75**	40	3588392	SR	0.79	0.80
15	**3489336**	**SR**	**0.60**	**0.66**	41	3588396	SR	0.34	0.27
17	**3489337**	**SR**	**0.61**	**0.65**	42	3588393	SR	0.64	0.59
18	3588360	SR	0.64	0.74	43	3588395	SR	0.50	0.54
19	3588361	SR	0.62	0.73					
20	3595083	SR	0.76	0.83					
21	3588362	SR	0.63	0.69					
22	3595094	SR	0.66	0.72					
23	3595099	SR	0.81	0.89					

Note. Bold-faced items are sessions 2 (Literary) and 3 (Informational) items.

Descriptive Statistics for Year-to-Year Linking Common Items: Grade 8 Form B

Grade	Year	No. of Items	M	SD
8	2007	33	0.70	0.14
	2009	33	0.73	0.16

Validation Check with the 2009 Operational BCR Items

To collect information about how much the same BCR items that appeared in both 2007and 2009 changed in terms of item difficulty, indices such as the classical p-value and Rasch item difficulty were calculated.

These items were first field-tested on the 2007 assessment and appeared as operational test items on the 2009 assessment, as shown in Table 1.23. The item numbers in Tables 1.24 through 1.59 were assigned based on the 2009 assessment. Detailed information about the specific test design and construction of Year 2009 can be obtained from section 1.4, *Test Structure of the 2009 MSA-Reading*.

While the 2007 p-value was calculated with a field test sample, the 2009 p-value was calculated with a statewide population. The p-value of a BCR item was the mean item score divided by the item score range. The percentage of "Omits" response to each CR item was low and indicated that a small number of students did not respond at all. In general, the item p-value analysis results indicated that most of the 2009 p-values were almost the same or somewhat increased compared to those in previous years across all the grades except for grade 6 form B.

With respect to Rasch item calibration and equating, it should be noted that we coded "Omit" of each item as "missing" before we ran the data with the Rasch model. In general, the level of the 2009 item difficulties stayed almost the same or became a little lower compared to that of the 2007 assessment across all the grades except for grade 6 form B. It should be noted that all of the Rasch item and step difficulty parameters were on a common scale (i.e., linked to the 2003 or 2004 assessment).

In conclusion, both p-value and Rasch item difficulty results reflected the same phenomenon, indicating that the level of item difficulty stayed the same or became a little lower across all the grades except for grade 6 form B.

Table 1.23 Form Identification for Items Appearing in both 2007 and 2009: Grades 3 through 8

Grade	Year 2007	Year 2009
3	Form 1, 2	Form A
	Form 7, 10	Form B
4	Form 1, 2	Form A
	Form 8, 9	Form B
5	Form 4, 7	Form A
	Form 8, 9	Form B
6	Form 1, 10	Form A
	Form 2, 3	Form B
7	Form 1, 4	Form A
	Form 9, 10	Form B
8	Form 1, 6	Form A
	Form 9, 10	Form B

Table 1.24 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 3 Form A

Item Number	CID	Item Type	Year 07	Year 09
11	3492389	BCR	0.40	0.40
14	3492393	BCR	0.36	0.40
17	3471505	BCR	0.29	0.35
20	3471506	BCR	0.30	0.40
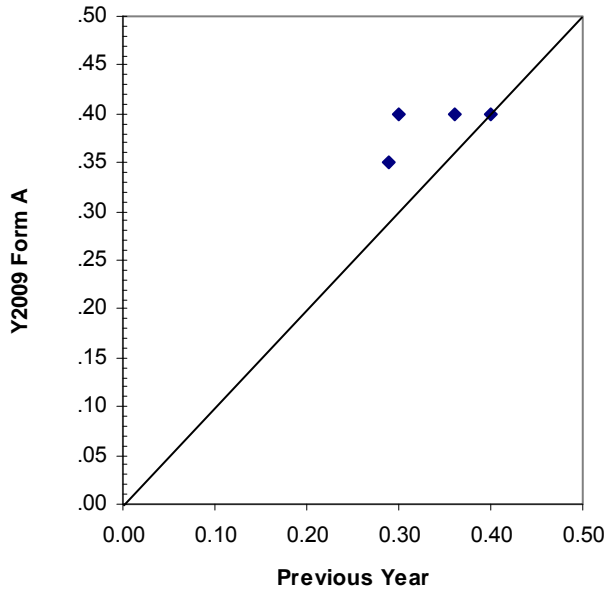
Table 1.25 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 3 Form A

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	11	3492389	BCR	2,341	1.19	0.63	10.04	58.65	29.35	0.64	1.32
2007	14	3492393	BCR	2,341	1.07	0.63	13.58	63.05	20.55	0.94	1.88
2007	17	3471505	BCR	2,292	0.88	0.66	26.79	55.54	15.75	0.22	1.70
2007	20	3471506	BCR	2,292	0.89	0.66	24.91	55.54	16.54	0.17	2.84
2009	11	3492389	BCR	26,900	1.19	0.66	12.87	55.20	30.75	0.62	0.56
2009	14	3492393	BCR	26,900	1.20	0.62	8.88	61.51	27.54	1.22	0.86
2009	17	3471505	BCR	26,900	1.05	0.66	18.57	57.41	23.05	0.50	0.47
2009	20	3471506	BCR	26,900	1.19	0.67	13.07	55.16	30.04	1.15	0.58

Table 1.26 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 3 Form A

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	11	3492389	BCR	2.4226	-3.8304	-0.2899	4.1204
2007	14	3492393	BCR	2.5163	-3.5826	0.1865	3.3961
2007	17	3471505	BCR	3.3416	-3.2847	-0.4582	3.7429
2007	20	3471506	BCR	3.3992	-3.4335	-0.5794	4.0129
2009	11	3492389	BCR	2.8042	-3.5604	-0.5136	4.0741
2009	14	3492393	BCR	2.4570	-3.5613	-0.0615	3.6228
2009	17	3471505	BCR	3.0745	-3.3108	-0.2529	3.5638
2009	20	3471506	BCR	2.5785	-3.2384	-0.3404	3.5788

Note. Rasch item and step difficulties were placed on a common scale.
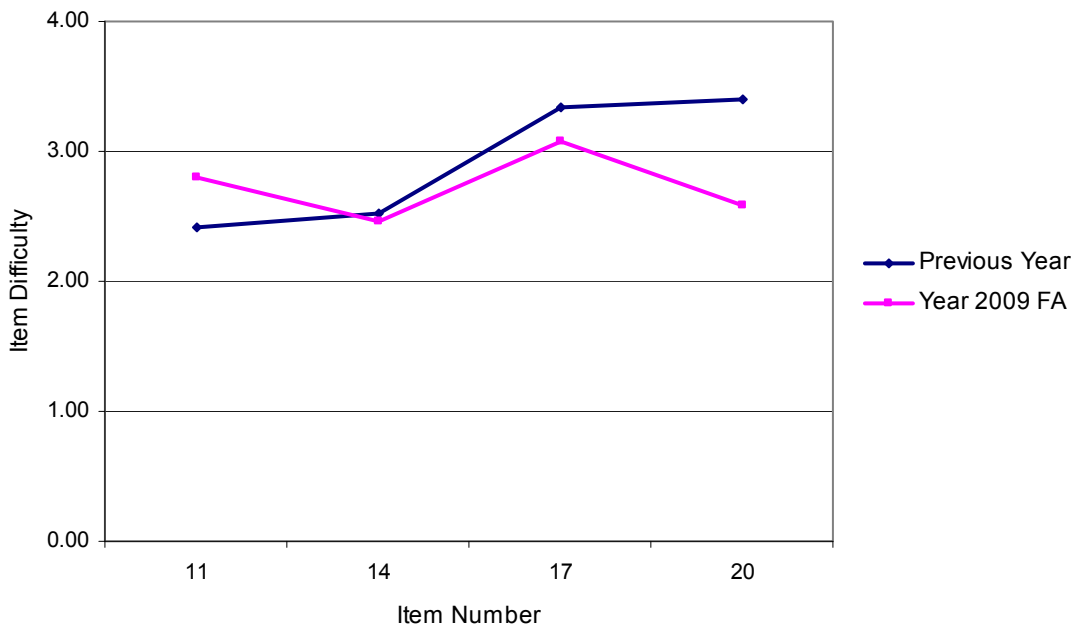
Figure 1.3 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 3 Form A

Table 1.27 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 3 Form B

Item Number	CID	Item Type	Year 07	Year 09
11	3497784	BCR	0.42	0.46
14	3497783	BCR	0.52	0.54
17	3490497	BCR	0.33	0.45
20	3490494	BCR	0.43	0.51
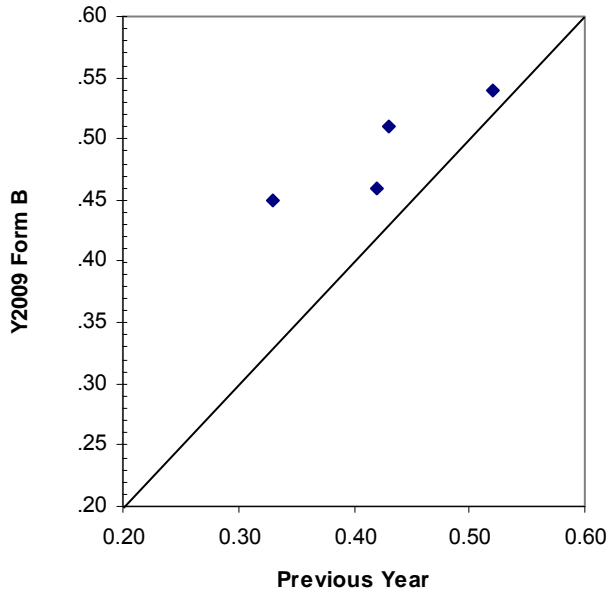
Table 1.28 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 3 Form B

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	11	3497784	BCR	2,166	1.25	0.65	9.28	53.83	34.53	0.65	1.71
2007	14	3497783	BCR	2,166	1.57	0.76	5.68	37.26	46.31	9.10	1.66
2007	17	3490497	BCR	2,138	1.00	0.68	19.97	54.21	22.73	0.23	2.85
2007	20	3490494	BCR	2,138	1.28	0.75	11.74	50.42	31.24	5.00	1.59
2009	11	3497784	BCR	26,903	1.38	0.65	8.39	45.52	45.20	0.59	0.30
2009	14	3497783	BCR	26,903	1.62	0.62	3.23	33.48	59.07	3.32	0.90
2009	17	3490497	BCR	26,903	1.35	0.65	7.94	50.11	40.19	1.56	0.19
2009	20	3490494	BCR	26,903	1.54	0.70	3.55	43.44	44.55	7.17	1.30

Table 1.29 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 3 Form B

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	11	3497784	BCR	2.2807	-3.6737	-0.4378	4.1115
2007	14	3497783	BCR	0.9306	-2.6508	-0.0901	2.7409
2007	17	3490497	BCR	3.0534	-3.3480	-0.6442	3.9921
2007	20	3490494	BCR	1.6020	-2.5315	0.1732	2.3582
2009	11	3497784	BCR	2.3012	-3.2529	-0.9743	4.2273
2009	14	3497783	BCR	1.3125	-3.1596	-0.6624	3.8220
2009	17	3490497	BCR	2.1899	-3.3766	-0.4784	3.8550
2009	20	3490494	BCR	1.0425	-3.1669	0.2284	2.9385

Note. Rasch item and step difficulties were placed on a common scale.
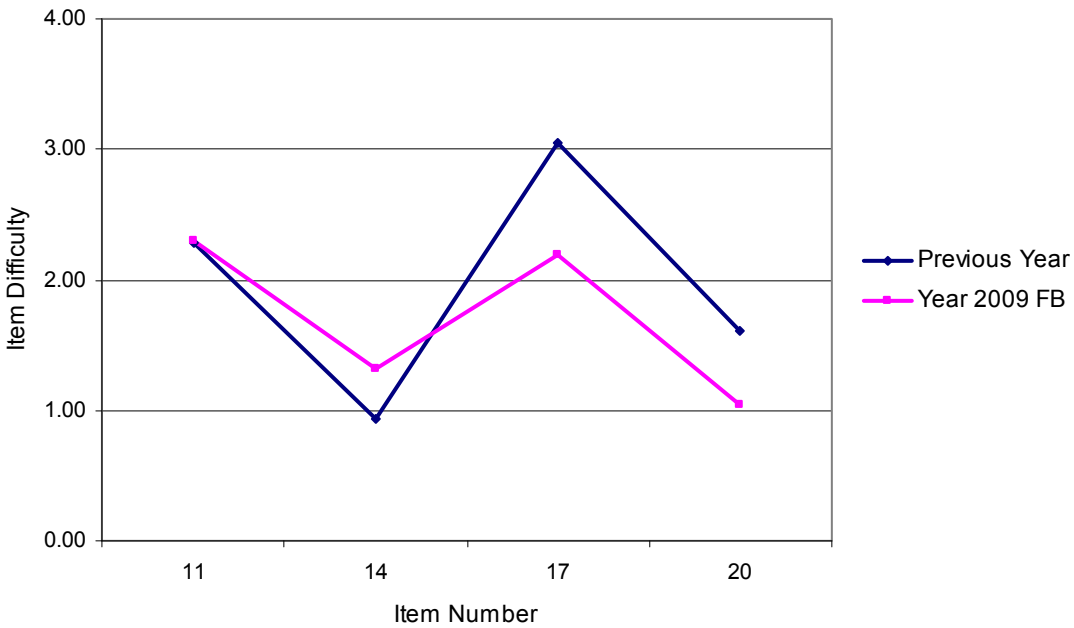
Figure 1.4 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 3 Form B

Table 1.30 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 4 Form A

Item Number	CID	Item Type	Year 07	Year 09
11	3497929	BCR	0.43	0.51
14	3497931	BCR	0.31	0.42
17	3470329	BCR	0.47	0.49
20	3470328	BCR	0.50	0.47
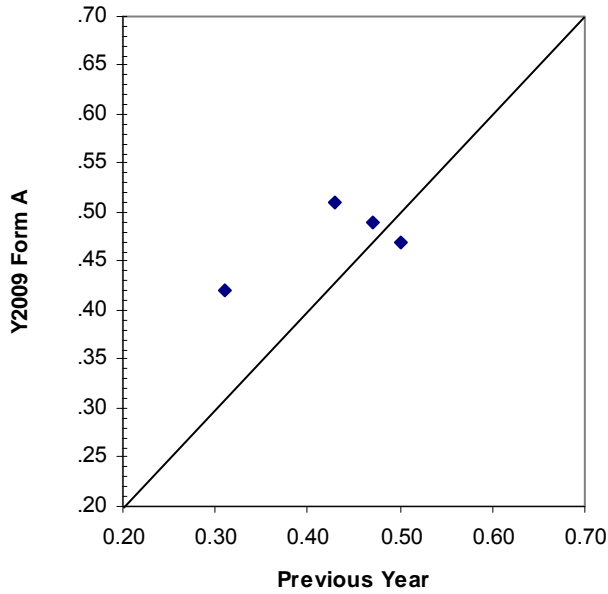
Table 1.31 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 4 Form A

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	11	3497929	BCR	2,358	1.29	0.59	4.71	60.22	32.65	1.02	1.40
2007	14	3497931	BCR	2,358	0.93	0.60	19.25	64.93	12.93	0.64	2.25
2007	17	3470329	BCR	2,340	1.42	0.66	5.26	48.38	42.39	2.99	0.98
2007	20	3470328	BCR	2,340	1.50	0.71	7.69	31.75	55.68	2.35	2.52
2009	11	3497929	BCR	29,449	1.53	0.64	6.51	33.89	58.11	0.89	0.60
2009	14	3497931	BCR	29,449	1.26	0.64	6.95	58.24	31.18	1.90	1.73
2009	17	3470329	BCR	29,449	1.46	0.77	11.39	35.28	47.74	5.02	0.58
2009	20	3470328	BCR	29,449	1.42	0.73	9.31	39.42	46.10	3.37	1.81

Table 1.32 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 4 Form A

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	11	3497929	BCR	2.1815	-4.0390	0.0636	3.9754
2007	14	3497931	BCR	3.1493	-3.3472	0.4526	2.8946
2007	17	3470329	BCR	1.7142	-3.3129	-0.0713	3.3842
2007	20	3470328	BCR	1.8388	-2.6916	-0.9951	3.6867
2009	11	3497929	BCR	2.4003	-3.5824	-1.4379	5.0203
2009	14	3497931	BCR	2.2747	-3.4363	0.0236	3.4127
2009	17	3470329	BCR	1.7568	-2.0543	-0.7715	2.8258
2009	20	3470328	BCR	1.9270	-2.5007	-0.6058	3.1064

Note. Rasch item and step difficulties were placed on a common scale.
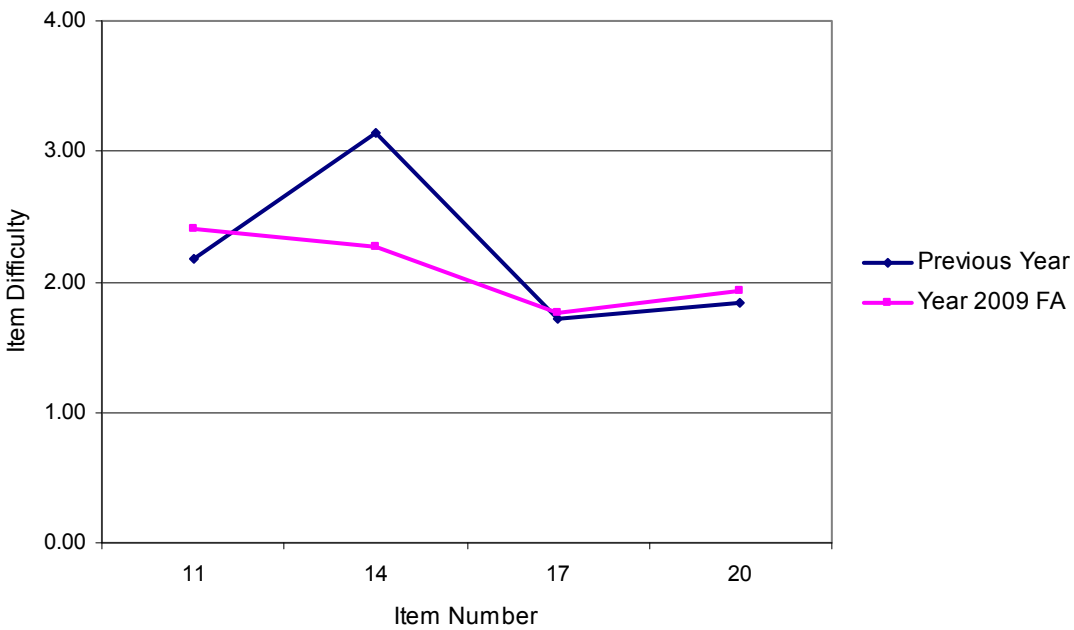
Figure 1.5 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 4 Form A

Table 1.33 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 4 Form B

Item Number	CID	Item Type	Year 07	Year 09
11	3488817	BCR	0.36	0.35
14	3488816	BCR	0.45	0.49
17	3497919	BCR	0.35	0.30
20	3497917	BCR	0.39	0.39
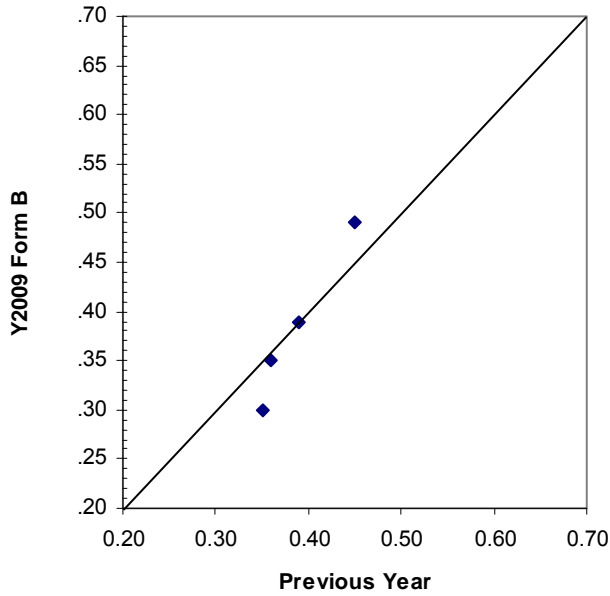
Table 1.34 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 4 Form B

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	11	3488817	BCR	2,155	1.07	0.70	19.30	51.97	26.73	0.60	1.39
2007	14	3488816	BCR	2,155	1.34	0.61	6.36	52.58	39.77	0.46	0.84
2007	17	3497919	BCR	2,140	1.05	0.74	22.15	50.33	24.44	1.82	1.26
2007	20	3497917	BCR	2,140	1.16	0.67	14.16	56.12	27.99	1.36	0.37
2009	11	3488817	BCR	29,266	1.04	0.77	25.10	43.70	28.61	0.99	1.60
2009	14	3488816	BCR	29,266	1.46	0.61	4.04	44.65	48.98	1.12	1.22
2009	17	3497919	BCR	29,266	0.90	0.83	36.73	36.69	23.74	2.00	0.85
2009	20	3497917	BCR	29,266	1.17	0.69	14.51	54.45	28.87	1.75	0.42

Table 1.35 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 4 Form B

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	11	3488817	BCR	2.9076	-2.9471	-0.4764	3.4236
2007	14	3488816	BCR	2.4251	-3.8636	-0.5811	4.4446
2007	17	3497919	BCR	2.7550	-2.5443	-0.1159	2.6603
2007	20	3497917	BCR	2.6612	-3.1431	-0.1371	3.2802
2009	11	3488817	BCR	3.0282	-2.4597	-0.6250	3.0847
2009	14	3488816	BCR	2.1630	-3.7566	-0.6292	4.3858
2009	17	3497919	BCR	3.0116	-1.8045	-0.5460	2.3505
2009	20	3497917	BCR	2.5184	-2.8116	-0.0477	2.8593

Note. Rasch item and step difficulties were placed on a common scale.
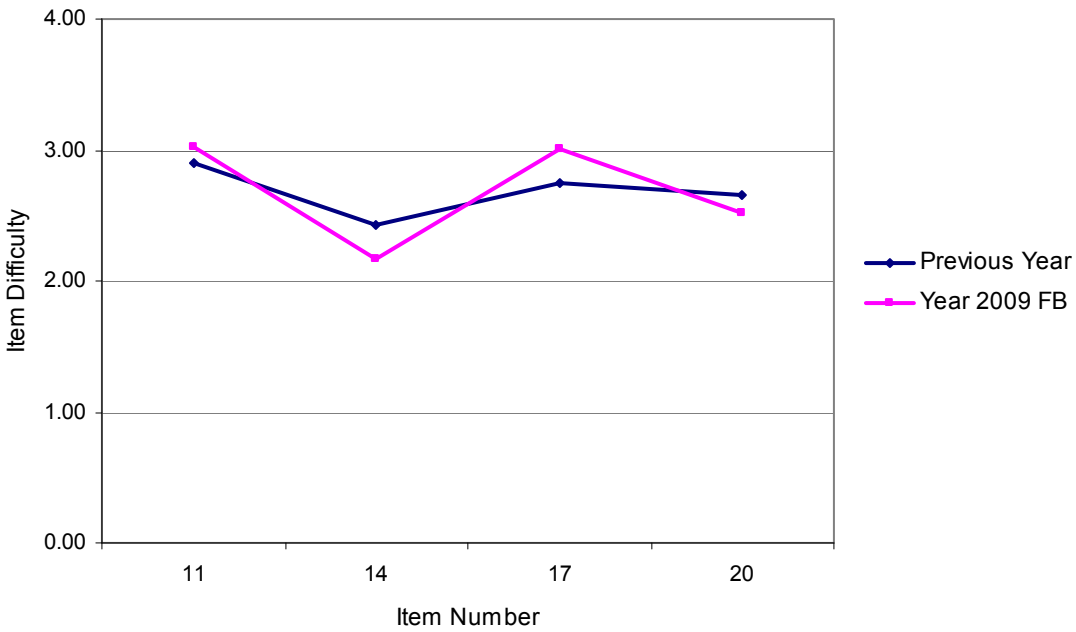
Figure 1.6 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 4 Form B

Table 1.36 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 5 Form A

Item Number	CID	Item Type	Year 07	Year 09
11	3486368	BCR	0.55	0.60
14	3486369	BCR	0.36	0.45
17	3468082	BCR	0.47	0.49
20	3468083	BCR	0.33	0.39
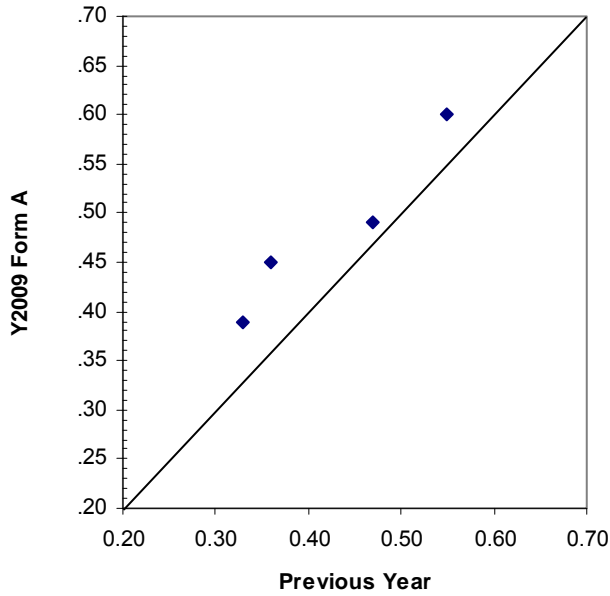
Table 1.37 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 5 Form A

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	11	3486368	BCR	2,184	1.64	0.58	1.79	33.61	60.99	2.66	0.96
2007	14	3486369	BCR	2,184	1.08	0.76	21.66	45.92	29.21	1.33	1.88
2007	17	3468082	BCR	2,240	1.40	0.61	5.58	49.24	44.38	0.58	0.22
2007	20	3468083	BCR	2,240	1.00	0.68	20.00	54.96	21.70	0.45	2.90
2009	11	3486368	BCR	30,193	1.80	0.51	0.37	23.62	71.26	4.46	0.28
2009	14	3486369	BCR	30,193	1.34	0.80	16.90	33.20	46.17	2.95	0.77
2009	17	3468082	BCR	30,193	1.48	0.59	3.55	46.13	48.68	1.39	0.25
2009	20	3468083	BCR	30,193	1.16	0.65	12.31	59.46	26.23	1.23	0.77

Table 1.38 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 5 Form A

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	11	3486368	BCR	0.6585	-3.5450	-0.4872	4.0323
2007	14	3486369	BCR	2.1154	-2.3974	-0.4757	2.8732
2007	17	3468082	BCR	1.8398	-3.8217	-0.6623	4.4839
2007	20	3468083	BCR	2.7151	-3.1640	-0.3744	3.5384
2009	11	3486368	BCR	0.3206	-4.3169	-0.3328	4.6497
2009	14	3486369	BCR	2.1384	-2.1325	-0.9141	3.0466
2009	17	3468082	BCR	1.8843	-3.6346	-0.6491	4.2837
2009	20	3468083	BCR	2.5891	-3.1967	-0.0013	3.1980

Note. Rasch item and step difficulties were placed on a common scale.
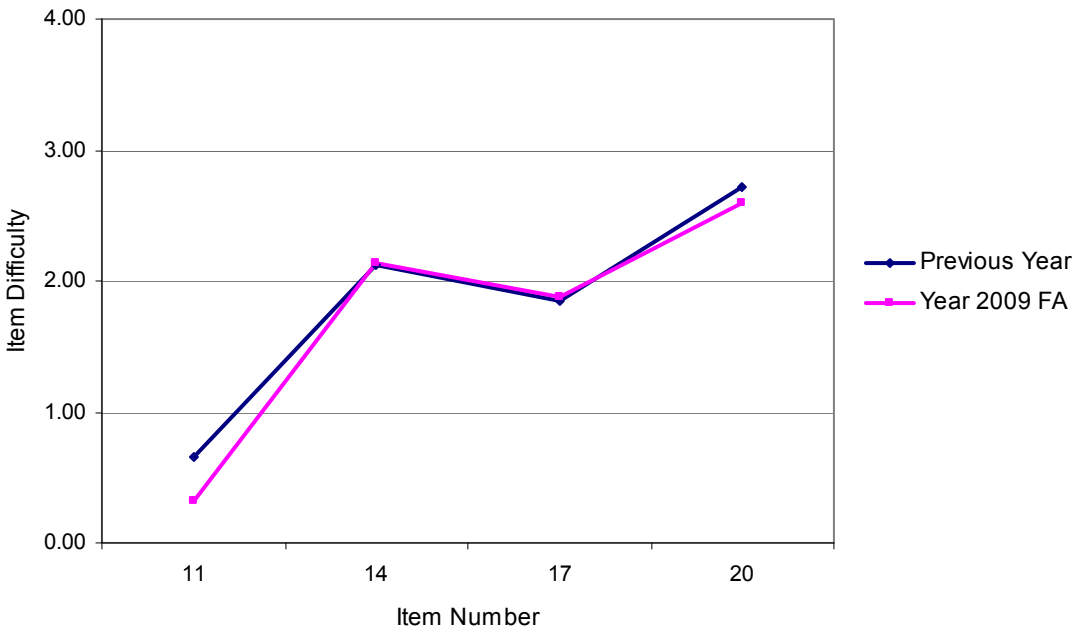
Figure 1.7 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 5 Form A

Table 1.39 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 5 Form B

Item Number	CID	Item Type	Year 07	Year 09
11	3296564	BCR	0.48	0.52
14	3296565	BCR	0.56	0.58
17	3486188	BCR	0.31	0.31
20	3486190	BCR	0.28	0.26
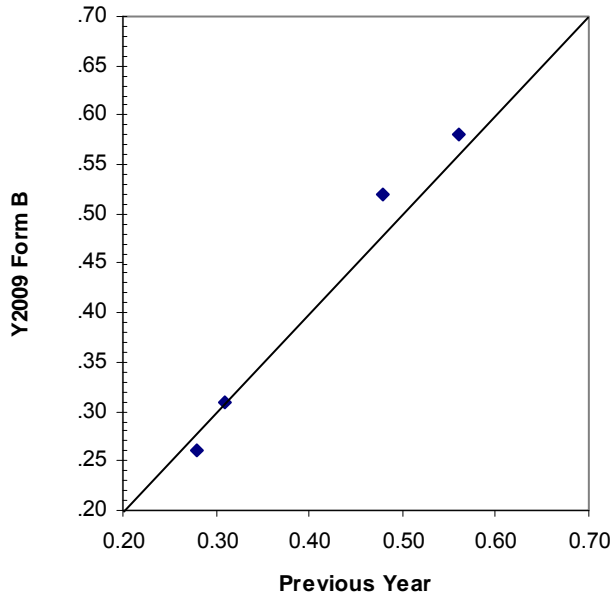
Table 1.40 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 5 Form B

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	11	3296564	BCR	2,196	1.43	0.53	1.37	54.64	43.44	0.32	0.23
2007	14	3296565	BCR	2,196	1.69	0.51	1.14	26.96	70.77	0.23	0.91
2007	17	3486188	BCR	2,176	0.92	0.76	30.42	45.17	21.23	1.33	1.84
2007	20	3486190	BCR	2,176	0.85	0.67	27.34	54.00	14.66	0.46	3.54
2009	11	3296564	BCR	29,986	1.56	0.55	1.22	42.86	54.39	1.39	0.14
2009	14	3296565	BCR	29,986	1.74	0.48	0.35	26.28	71.66	1.53	0.19
2009	17	3486188	BCR	29,986	0.92	0.75	30.30	46.36	21.05	1.24	1.06
2009	20	3486190	BCR	29,986	0.79	0.69	35.08	50.20	13.21	0.74	0.77

Table 1.41 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 5 Form B

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	11	3296564	BCR	1.6248	-4.9990	-0.3491	5.3481
2007	14	3296565	BCR	1.4227	-4.5535	-1.5788	6.1323
2007	17	3486188	BCR	2.4624	-2.2193	-0.3325	2.5518
2007	20	3486190	BCR	2.8860	-2.8858	-0.1152	3.0010
2009	11	3296564	BCR	1.3236	-4.3522	-0.4184	4.7706
2009	14	3296565	BCR	0.8486	-4.5717	-0.7313	5.3030
2009	17	3486188	BCR	2.9082	-2.2503	-0.2926	2.5429
2009	20	3486190	BCR	3.4047	-2.5754	-0.0174	2.5928

Note. Rasch item and step difficulties were placed on a common scale.
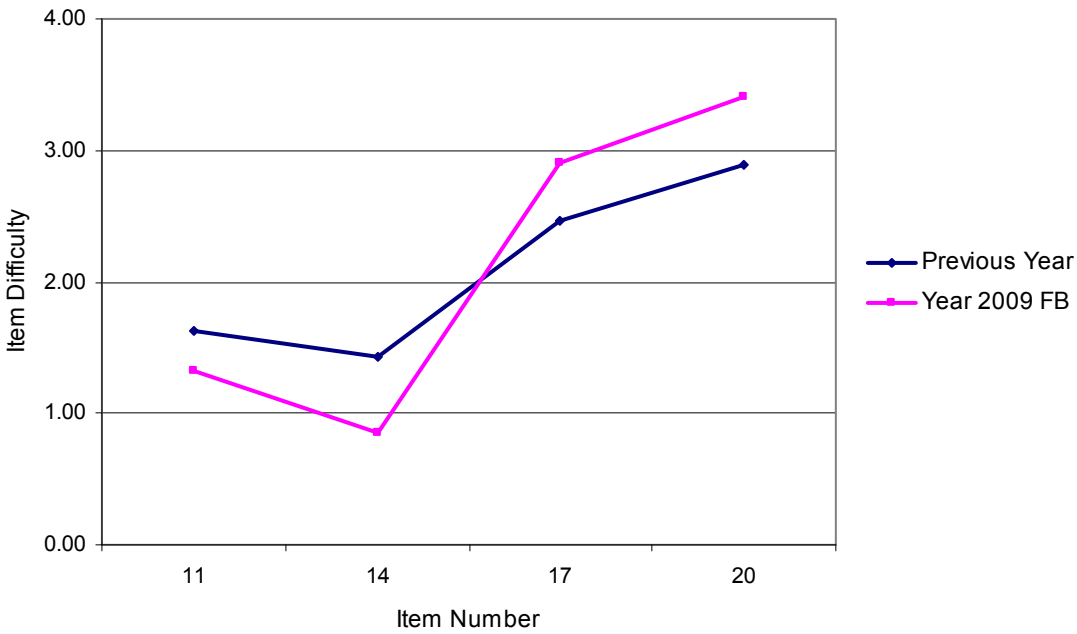
Figure 1.8 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 5 Form B

Table 1.42 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 6 Form A

Item Number	CID	Item Type	Year 07	Year 09
11	3470028	BCR	0.55	0.58
14	3470029	BCR	0.43	0.54
17	3498432	BCR	0.43	0.45
20	3498435	BCR	0.40	0.43
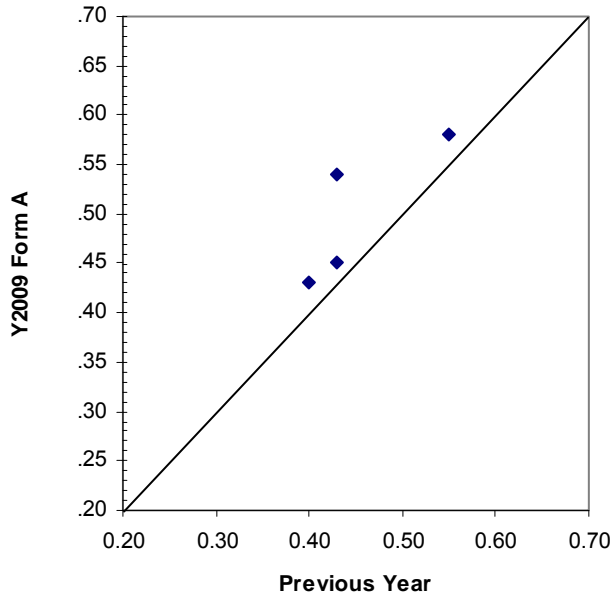
Table 1.43 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 6 Form A

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	11	3470028	BCR	2,421	1.64	0.69	5.04	28.58	59.11	5.58	1.69
2007	14	3470029	BCR	2,421	1.29	0.74	12.80	40.15	42.75	0.95	3.35
2007	17	3498432	BCR	2,166	1.29	0.57	3.74	62.33	31.53	1.29	1.11
2007	20	3498435	BCR	2,166	1.19	0.62	8.73	58.40	30.01	0.28	2.59
2009	11	3470028	BCR	29,751	1.73	0.58	3.24	22.57	70.54	3.26	0.39
2009	14	3470029	BCR	29,751	1.62	0.62	3.98	30.31	62.31	2.42	0.97
2009	17	3498432	BCR	29,751	1.36	0.57	1.70	62.17	33.29	2.36	0.47
2009	20	3498435	BCR	29,751	1.29	0.55	1.83	67.64	27.34	2.16	1.03

Table 1.44 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 6 Form A

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	11	3470028	BCR	0.8972	-2.6134	-0.7275	3.3408
2007	14	3470029	BCR	2.1533	-2.9458	-0.9954	3.9412
2007	17	3498432	BCR	1.5488	-3.9655	0.3399	3.6256
2007	20	3498435	BCR	2.4180	-3.8242	-0.4813	4.3056
2009	11	3470028	BCR	1.1024	-2.6691	-1.1491	3.8183
2009	14	3470029	BCR	1.4032	-2.7761	-1.1685	3.9446
2009	17	3498432	BCR	1.3735	-4.4358	0.7564	3.6794
2009	20	3498435	BCR	1.4715	-4.5049	0.9811	3.5239

Note. Rasch item and step difficulties were placed on a common scale.
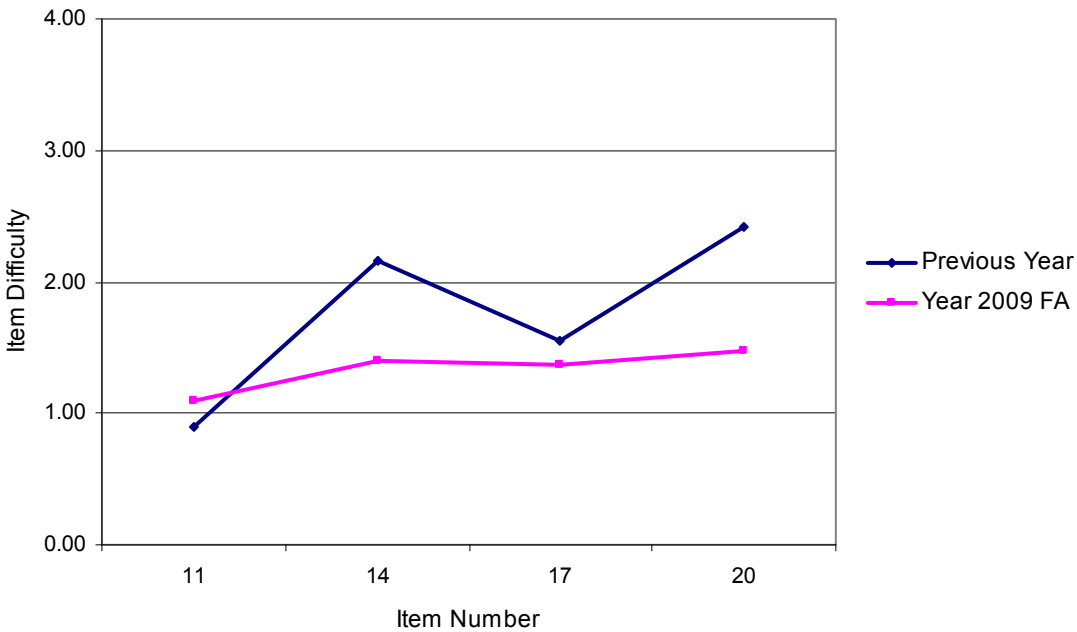
Figure 1.9 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 6 Form A

Table 1.45 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 6 Form B

Item Number	CID	Item Type	Year 07	Year 09
11	3470041	BCR	0.49	0.49
14	3470039	BCR	0.59	0.58
17	3489694	BCR	0.56	0.49
20	3489696	BCR	0.51	0.50
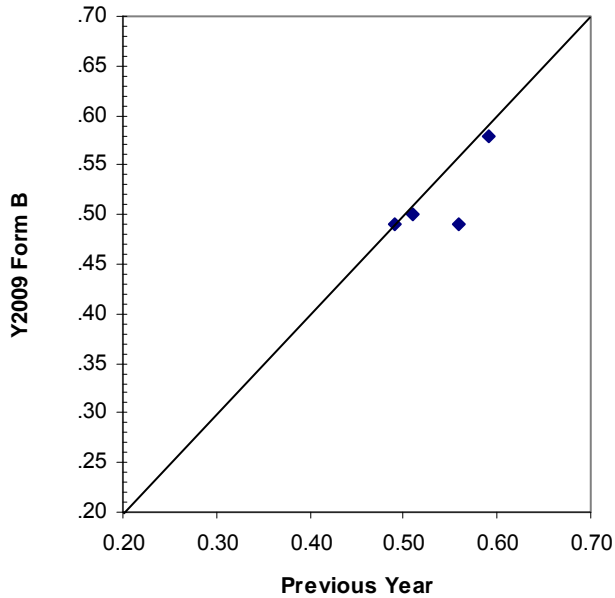
Table 1.46 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 6 Form B

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	11	3470041	BCR	2,377	1.46	0.77	10.14	35.34	47.67	5.26	1.60
2007	14	3470039	BCR	2,377	1.78	0.59	2.57	18.93	72.07	4.96	1.47
2007	17	3489694	BCR	2,179	1.68	0.56	1.47	30.56	64.53	2.85	0.60
2007	20	3489696	BCR	2,179	1.52	0.62	2.25	43.41	49.75	2.89	1.70
2009	11	3470041	BCR	29,070	1.47	0.70	8.36	38.98	48.73	3.43	0.50
2009	14	3470039	BCR	29,070	1.74	0.57	3.21	21.61	71.80	2.90	0.49
2009	17	3489694	BCR	29,070	1.48	0.55	0.81	51.83	45.42	1.65	0.29
2009	20	3489696	BCR	29,070	1.49	0.58	1.04	51.35	44.46	2.75	0.41

Table 1.47 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 6 Form B

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	11	3470041	BCR	1.3304	-2.2681	-0.5478	2.8159
2007	14	3470039	BCR	0.6282	-2.6404	-1.1747	3.8150
2007	17	3489694	BCR	0.6439	-3.7005	-0.5408	4.2413
2007	20	3489696	BCR	0.9453	-3.7393	-0.0646	3.8039
2009	11	3470041	BCR	1.5577	-2.4112	-0.6607	3.0719
2009	14	3470039	BCR	1.0770	-2.8849	-1.1457	4.0306
2009	17	3489694	BCR	1.0755	-4.5144	0.1215	4.3928
2009	20	3489696	BCR	0.9476	-4.4842	0.4649	4.0192

Note. Rasch item and step difficulties were placed on a common scale.
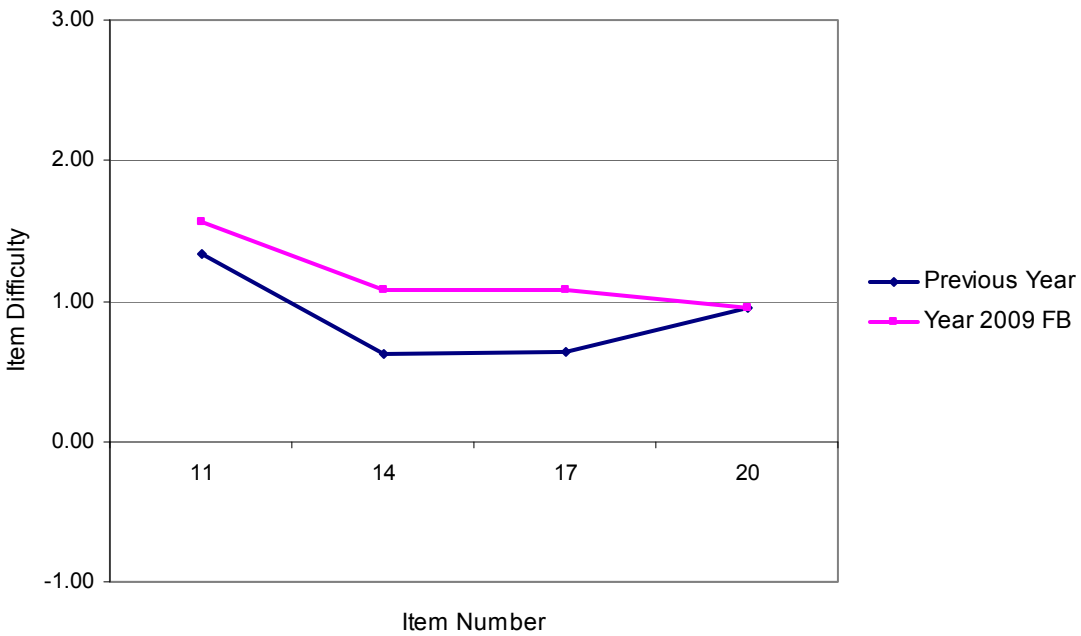
Figure 1.10 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 6 Form B

Table 1.48 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 7 Form A

Item Number	CID	Item Type	Year 07	Year 09
7	3470050	BCR	0.62	0.58
10	3470051	BCR	0.40	0.52
13	3468879	BCR	0.40	0.37
16	3468877	BCR	0.51	0.55
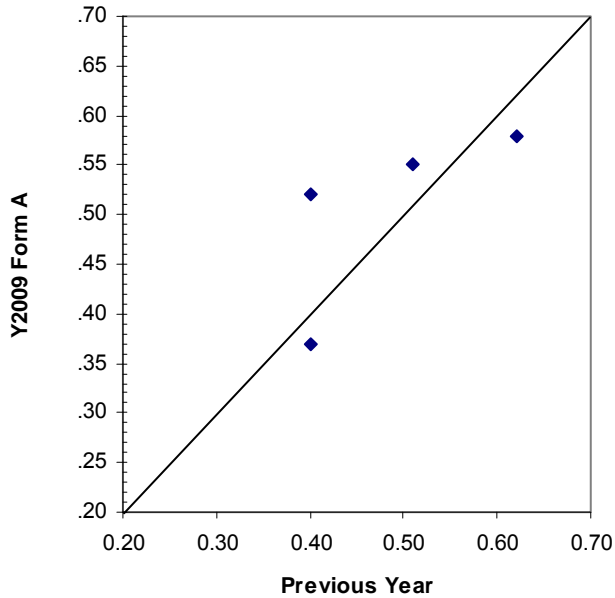
Table 1.49 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 7 Form A

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	7	3470050	BCR	2,436	1.87	0.66	2.59	18.27	65.93	12.19	1.03
2007	10	3470051	BCR	2,436	1.21	0.87	21.67	29.76	41.05	2.96	4.56
2007	13	3468879	BCR	2,187	1.20	0.80	15.50	47.01	28.94	5.03	3.52
2007	16	3468877	BCR	2,187	1.53	0.68	1.51	46.91	42.16	7.13	2.29
2009	7	3470050	BCR	30,046	1.74	0.56	0.63	29.12	65.02	4.83	0.40
2009	10	3470051	BCR	30,046	1.56	0.68	4.94	34.57	54.77	4.05	1.67
2009	13	3468879	BCR	30,046	1.10	0.80	23.26	43.95	28.59	2.90	1.31
2009	16	3468877	BCR	30,046	1.64	0.62	1.23	37.27	54.79	5.85	0.86

Table 1.50 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 7 Form A

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	7	3470050	BCR	0.0144	-2.2692	-0.8359	3.1051
2007	10	3470051	BCR	1.7408	-1.7946	-1.0423	2.8368
2007	13	3468879	BCR	1.5702	-2.3257	0.0583	2.2674
2007	16	3468877	BCR	0.4958	-3.6492	0.5098	3.1394
2009	7	3470050	BCR	0.4728	-4.1484	-0.2496	4.3980
2009	10	3470051	BCR	1.3428	-3.1612	-0.6117	3.7729
2009	13	3468879	BCR	2.4622	-2.2283	-0.2021	2.4304
2009	16	3468877	BCR	0.7640	-4.1250	0.2255	3.8995

Note. Rasch item and step difficulties were placed on a common scale.
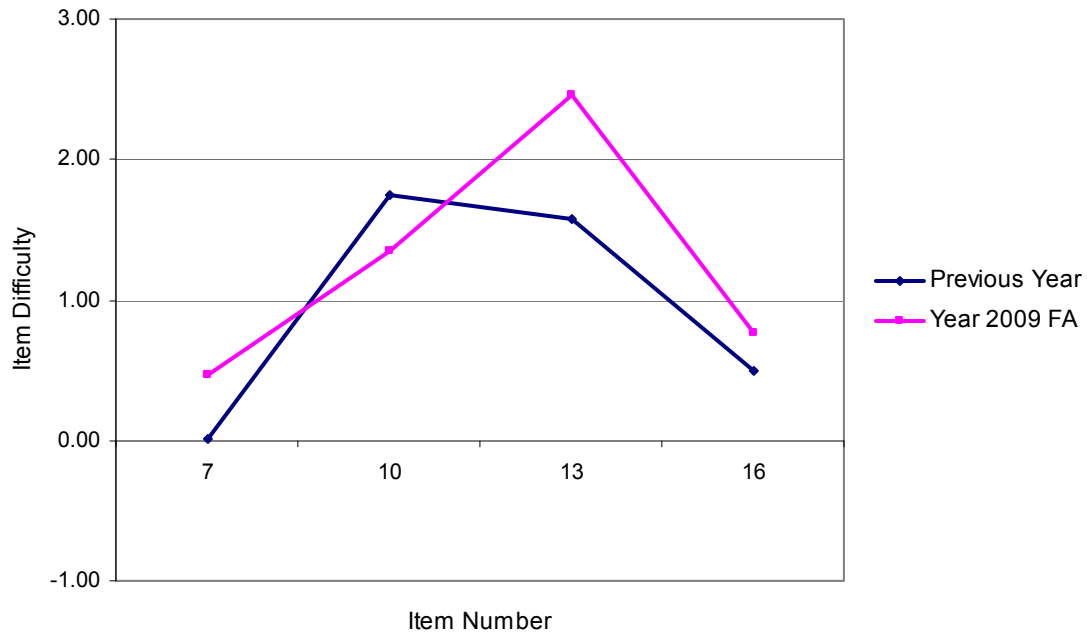
Figure 1.11 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 7 Form A

Table 1.51 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 7 Form B

Item Number	CID	Item Type	Year 07	Year 09
7	3497797	BCR	0.45	0.48
10	3497798	BCR	0.42	0.44
13	3468867	BCR	0.29	0.35
16	3468866	BCR	0.54	0.59
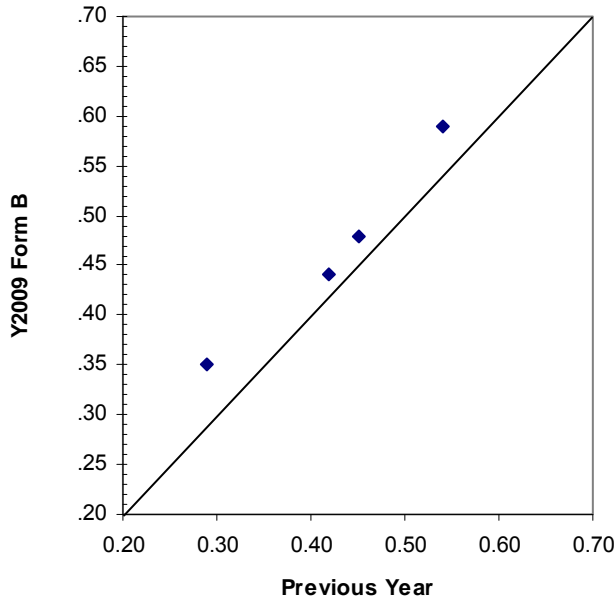
Table 1.52 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 7 Form B

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	7	3497797	BCR	2,217	1.34	0.57	1.89	60.22	34.82	1.26	1.80
2007	10	3497798	BCR	2,217	1.27	0.62	5.19	58.37	32.43	1.22	2.80
2007	13	3468867	BCR	2,191	0.87	0.82	36.42	35.78	23.46	1.51	2.83
2007	16	3468866	BCR	2,191	1.61	0.83	6.25	33.36	43.95	13.28	3.15
2009	7	3497797	BCR	29,541	1.45	0.56	0.42	55.09	41.41	2.47	0.61
2009	10	3497798	BCR	29,541	1.31	0.53	1.00	66.32	30.66	1.28	0.74
2009	13	3468867	BCR	29,541	1.06	0.87	31.63	30.14	34.82	2.12	1.29
2009	16	3468866	BCR	29,541	1.76	0.77	2.26	34.22	45.10	17.09	1.32

Table 1.53 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 7 Form B

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	7	3497797	BCR	1.2870	-4.4535	0.2650	4.1885
2007	10	3497798	BCR	1.6206	-3.8434	0.0369	3.8065
2007	13	3468867	BCR	2.4933	-1.8749	-0.697	2.5719
2007	16	3468866	BCR	0.5711	-2.1601	-0.0661	2.2261
2009	7	3497797	BCR	0.8441	-5.4570	0.8736	4.5834
2009	10	3497798	BCR	1.4321	-5.1787	0.9201	4.2586
2009	13	3468867	BCR	2.5970	-1.6856	-0.9921	2.6777
2009	16	3468866	BCR	0.5434	-3.0723	0.5310	2.5413

Note. Rasch item and step difficulties were placed on a common scale.
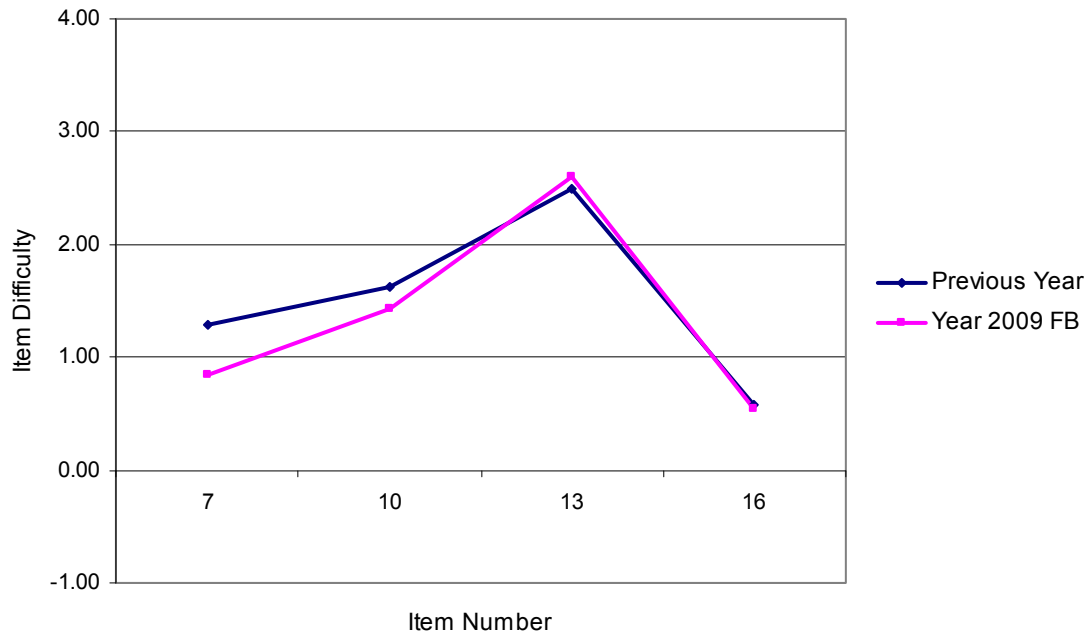
Figure 1.12 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 7 Form B

Table 1.54 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 8 Form A

Item Number	CID	Item Type	Year 07	Year 09
7	3514210	BCR	0.46	0.50
10	3514209	BCR	0.40	0.46
13	3327522	BCR	0.44	0.41
16	3327523	BCR	0.37	0.35
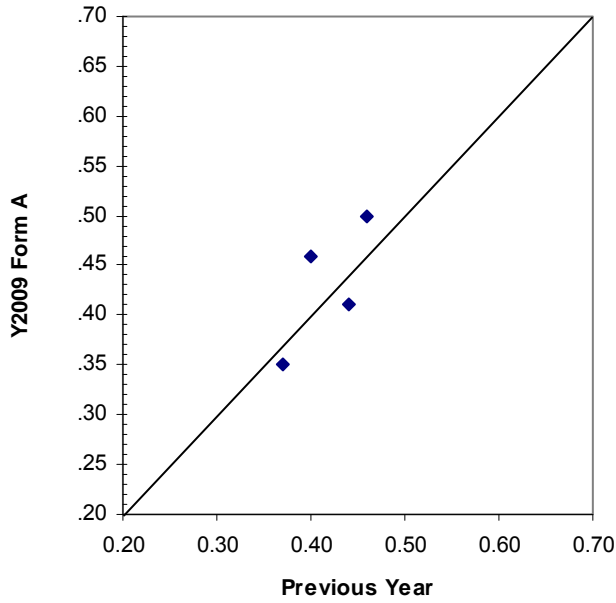
Table 1.55 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 8 Form A

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	7	3514210	BCR	2,245	1.39	0.66	5.21	47.93	42.18	2.27	2.41
2007	10	3514209	BCR	2,245	1.20	0.78	16.84	43.07	34.30	2.76	3.03
2007	13	3327522	BCR	2,204	1.33	0.78	11.57	42.88	37.93	4.67	2.95
2007	16	3327523	BCR	2,204	1.11	0.73	15.43	53.54	24.55	2.77	3.72
2009	7	3514210	BCR	30,717	1.51	0.66	4.07	43.88	47.07	4.33	0.64
2009	10	3514209	BCR	30,717	1.38	0.71	10.59	40.70	45.68	2.11	0.91
2009	13	3327522	BCR	30,717	1.23	0.68	12.48	50.53	35.41	0.61	0.97
2009	16	3327523	BCR	30,717	1.06	0.64	15.30	60.86	21.72	0.64	1.47

Table 1.56 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 8 Form A

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	7	3514210	BCR	1.2866	-3.2991	-0.2057	3.5049
2007	10	3514209	BCR	1.7496	-2.3321	-0.4262	2.7583
2007	13	3327522	BCR	1.3792	-2.2408	-0.1764	2.4172
2007	16	3327523	BCR	1.7986	-2.4663	0.1969	2.2694
2009	7	3514210	BCR	1.1815	-3.1976	0.0552	3.1424
2009	10	3514209	BCR	1.7222	-2.4424	-0.4761	2.9186
2009	13	3327522	BCR	2.5193	-2.9607	-0.5414	3.5021
2009	16	3327523	BCR	2.5818	-3.0308	0.0831	2.9476

Note. Rasch item and step difficulties were placed on a common scale.
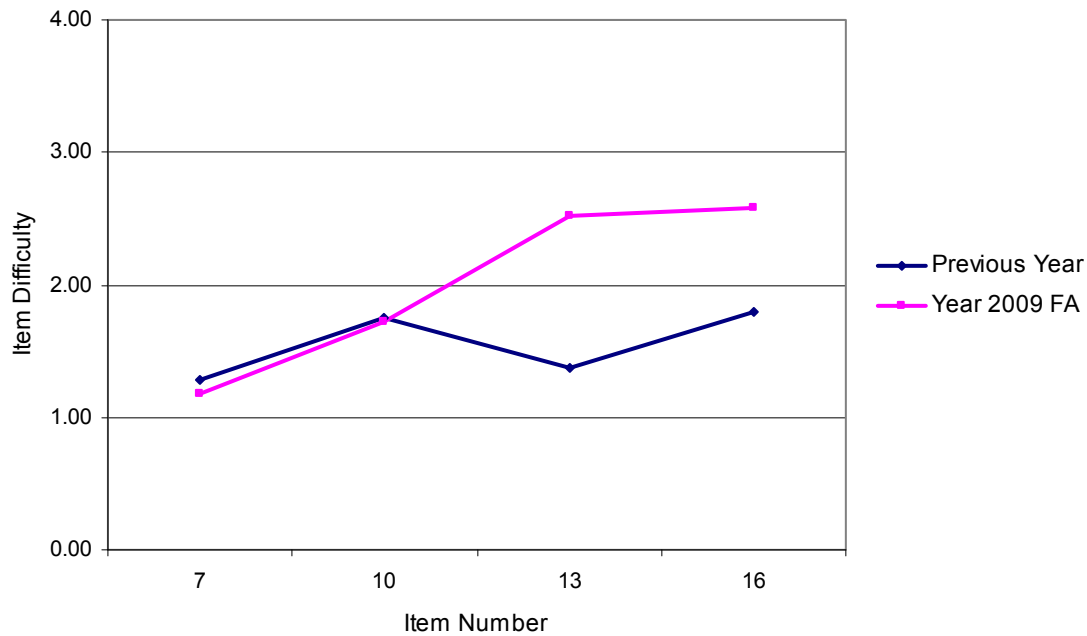
Figure 1.13 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 8 Form A

Table 1.57 P-Value Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 8 Form B

Item Number	CID	Item Type	Year 07	Year 09
7	3470065	BCR	0.32	0.36
10	3470063	BCR	0.42	0.44
13	3489342	BCR	0.44	0.45
16	3489340	BCR	0.38	0.38
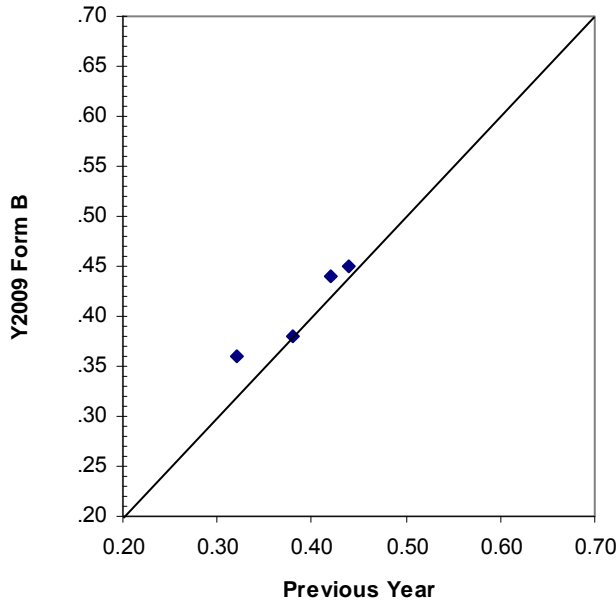
Table 1.58 Score-Point Distribution Comparisons of BCR Items for Year 2007 vs. Year 2009:

Grade 8 Form B

Year	Item #	CID	Item Type	N	Mean	SD	Score-Point Distribution (%)				
							0	1	2	3	Omit
2007	7	3470065	BCR	2,165	0.97	0.78	26.37	44.20	24.34	1.43	3.65
2007	10	3470063	BCR	2,165	1.26	0.67	8.64	51.55	35.80	0.79	3.23
2007	13	3489342	BCR	2,190	1.32	0.60	2.97	60.32	32.83	2.01	1.87
2007	16	3489340	BCR	2,190	1.13	0.59	6.76	65.34	23.06	0.59	4.25
2009	7	3470065	BCR	30,235	1.07	0.76	21.89	48.21	26.63	1.92	1.34
2009	10	3470063	BCR	30,235	1.31	0.58	4.65	58.56	35.06	0.75	0.98
2009	13	3489342	BCR	30,235	1.36	0.53	0.98	61.88	35.67	0.82	0.65
2009	16	3489340	BCR	30,235	1.13	0.52	5.60	73.50	19.01	0.62	1.27

Table 1.59 Rasch Item and Step Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 8 Form B

Year	Item #	CID	Item Type	Rasch Difficulty	Step 0-1	Step 1-2	Step 2-3
2007	7	3470065	BCR	2.3157	-2.1770	-0.3799	2.5569
2007	10	3470063	BCR	1.9832	-3.3219	-0.4688	3.7907
2007	13	3489342	BCR	1.2063	-3.7760	0.4545	3.3215
2007	16	3489340	BCR	1.9975	-3.7463	0.2146	3.5318
2009	7	3470065	BCR	2.4400	-2.2582	-0.1749	2.4331
2009	10	3470063	BCR	1.9256	-3.8668	0.1164	3.7504
2009	13	3489342	BCR	1.1781	-5.0342	0.7254	4.3088
2009	16	3489340	BCR	2.2508	-4.0963	0.8369	3.2594

Note. Rasch item and step difficulties were placed on a common scale.
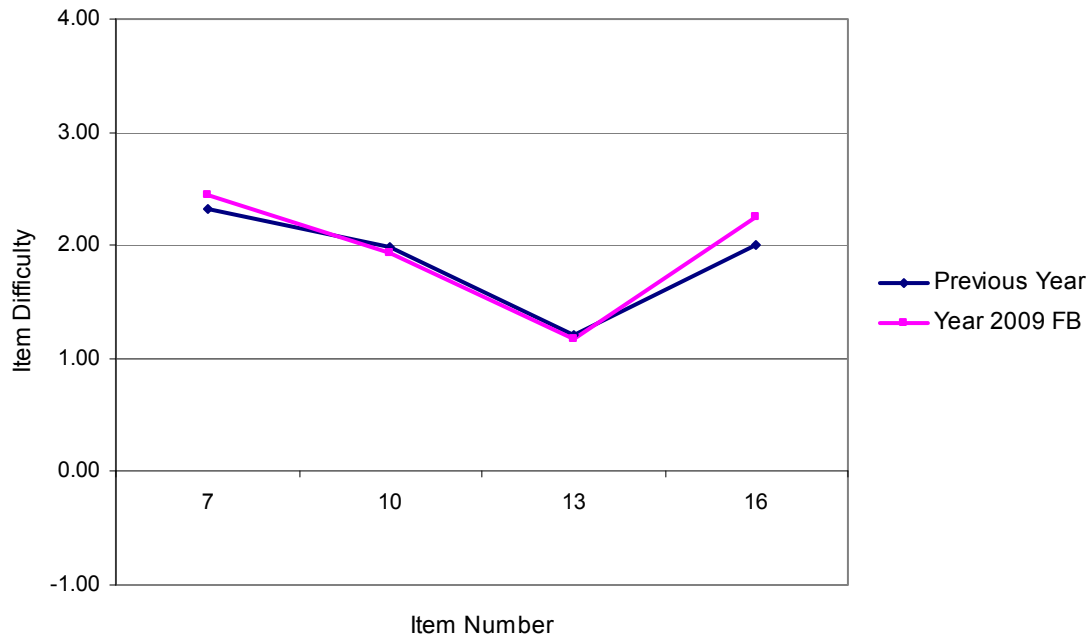
Figure 1.14 Rasch Item Difficulty Comparisons of BCR Items for Year 2007 vs. Year 2009: Grade 8 Form B

1.9 Linking, Equating, and Scaling Procedures

For the purpose of year-to-year linking and equating, we constructed a 2009 linking pool: we included only operational selected-response (SR) items (i.e., multiple choice items) that appeared in both years (i.e., 2007 and 2009). It should be noted that all the classical and Rasch analyses of the 2007 assessment were conducted with field-test samples. After setting up the linking pool, we then conducted a stability check of linking items and decided which items should be excluded from or which item should remain in the linking pool. During the calibration and equating process, we kept and fixed the original operational Rasch item difficulty parameters (i.e., 2007) of any linking items that remained through the stability check to put the 2009 assessment on a common scale. Accordingly, scale scores of the 2009 assessment were linked back to the 2003 (i.e., grades 3, 5, and 8) or 2004 assessment (i.e., 4, 6, and 7) and all the scale scores of different years were comparable within each content and grade.

Stratified Random Sampling Procedures

To select equating samples, a stratified random sampling method was applied in the 2009 state examinee population. To verify that the sample was representative of the statewide examinee population, the distributions of LEA, gender, and ethnicity of the 2009 sample were compared with those of the 2009 population. Appendix A, *The 2009 MSA-Reading Stratified Random Sampling*, provides the results of 2009 sampling. The results indicated that the equating samples were well representative of the statewide examinee population in terms of LEA, gender, and ethnicity.

Robust Z Procedures

Robust z values were calculated using the following calculations (South Carolina Department of Education, 2001):

- The mean and standard deviation of the linking pool's item difficulties for each operational form
- The ratio of the standard deviations between operational form A and form B
- The correlation between operational form A and B item difficulties
- The difference between operational form A and B for each item in the linking pool
- The mean of the differences calculated above
- The median of the differences calculated above
- The interquartile range of the differences calculated above
- The robust z is defined as (the difference between the test form1 and other test form item difficulty minus the median of the differences) / (interquartile range multiplied by 0.74).

Guidelines for Selecting Year-to-Year Linking Items

Once the above calculations were made, the following guidelines were followed in determining form-to-form or year-to-year common items used for Rasch linking and equating:

- Conform to the following "Protocol Criteria:" A correlation greater than 0.95 and a standard deviation ratio between 0.9 and 1.1. For example, use all the possible linking items as anchors if an original set of linking items meets these two criteria.
- Try not to include items with an absolute value of robust z exceeding 1.645.
- If one item difficulty on one form of the current year is eliminated from the linking pool, other item difficulties of the other forms should not be included.
- Should not eliminate more than 20 percent of the linking pool items.

Figure 1.15 depicts how we applied the anchor stability guidelines into the 2009 MSA-Reading equating.

Form-to-Form Linking Procedures

The stability of the common items appearing on both operational forms was verified at each grade level:

- Calibrate the two operational test forms separately
- Calculate robust z values of Rasch item difficulties for forms A and B
- Correlate Rasch item difficulties between form A and form B
- Calculate standard deviation ratio between two forms

After examining the robust z values, correlation coefficient, and standard deviation ratio between the two separate calibrations, it was determined that the common item difficulties were consistent across the two forms for all items and could be included as form-to-form linking items in the fixed calibration of the two forms.

Year-to-Year Linking Procedures

The two 2009 operational forms included a set of year-to-year linking common items that appeared on both current and previous operational forms. We utilized the Rasch item fixed equating method for all of the operational items to be placed on a common scale within each grade. The stability of the linking common items was evaluated using robust z values, correlation coefficients, and standard deviation ratios.

Tables 1.60 through 1.65 include Rasch item difficulties used for calculating robust z values, correlation coefficients, and standard deviations. Figures 1.16 through 1.27 depict item difficulty plots between current and previous years. It should be noted that the item difficulties of the 2009 operational forms were obtained from independent calibration, and those of previous assessments were on a common scale (i.e., linked to the 2003 or 2004 assessment).

Calculate

- o **Robust Z values**
- o **Correlation Coefficient**
- o **Standard Deviation Ratio**

Is the correlation higher than 0.95 and SD ratio between 0.9 and 1.1?

Yes

Stop! Keep the remaining items

No

Are at least 80% of the original anchor items still available?

No

Yes

Identify the item with the largest Robust Z value and drop it.

Re-compute the correlation and SD ratio excluding the dropped item (don't recalculate Robust Z values).

Figure 1.15 Anchor Evaluation Steps Chart for MSA-Reading

Table 1.60 Rasch Item Difficulties and Robust Z Values for Previous Year vs. Year 2009: Grade 3

Item Seq No.	Previous Year	Y2009 Form A	Robust Z	Item Seq No.	Previous Year	Y2009 Form B	Robust Z
1	-1.3708	-1.9877	-2.8338	1	-1.3708	-1.9568	-3.6815
2	-3.3089	-3.2452	.3652	2	-3.3089	-3.2466	-.2753
3	-0.1994	0.0594	1.2823	3	-0.1994	0.0266	.5848
4	-1.1969	-1.2702	-.2787	4	-1.1969	-1.1682	-.4519
5	-1.4394	-1.4803	-.1264	5	-1.4394	-1.4897	-.8669
6	-2.1425	-2.1551	.0066	6	-2.1425	-2.2075	-.9442
7	0.1005	0.2326	.6867	7	0.1005	0.2928	.4077
8	0.4026	0.3155	-.3436	8	0.4026	0.4108	-.5596
9	-0.3764	-0.3244	.3102	9	-0.3764	-0.2493	.0652
22	-0.3948	-0.5623	-.7215	22	-0.3948	-0.5862	-1.6083
23	-0.021	-0.3393	-1.4303	23	-0.0210	-0.2944	-2.0391
24	0.2441	0.1219	-.5086	24	0.2441	0.2353	-.6489
25	1.051	1.0790	.1974	25	1.0510	1.1684	.0142
26	-0.0453	-0.0593	.0000	26	-0.0453	-0.0036	-.3835
27	1.1168	1.2998	.9260	27	1.1168	1.4137	.9573
28	-0.7649	-0.6491	.6101	28	-0.7649	-0.5580	.4844
29	0.2949	0.2763	-.0216	29	0.2949	0.4096	.0000
36	0.5978	0.6616	.3657	36	0.5978	0.8932	.9494
37	-1.387	-1.1954	.9664	37	-1.3870	-1.2002	.3788
38	-0.8873	-0.7730	.6031	38	-0.8873	-0.7483	.1277
39	-0.5402	-0.2787	1.2949	39	-0.5402	-0.3090	.6121
40	0.829	1.1165	1.4172	40	0.8290	1.0869	.7524
41	-0.5329	-0.4129	.6298	41	-0.5329	-0.3839	.1802
42	0.3757	0.5821	1.0360	42	0.3757	0.5942	.5454
43	0.5816	0.7467	.8418	43	0.5816	0.8732	.9294
10A	-1.0069	-1.3060	-1.3401	10B	-0.0200	-0.2932	-2.0381
12A	-0.3612	-0.4883	-.5316	12B	-0.6084	-0.2975	1.0309
13A	-0.3214	-0.4743	-.6529	13B	-0.0259	-0.2030	-1.5331
15A	0.3988	0.1948	-.8931	15B	-0.1183	-0.2341	-1.2111
16A	0.8294	0.3166	-2.3445	16B	0.9690	0.9405	-.7524
18A	-0.0978	-0.4528	-1.6028	18B	0.3083	0.3779	-.2370
19A	0.0727	-0.1107	-.7962	19B	-0.5740	-0.4055	.2827
21A	0.2195	-0.2519	-2.1499	21B	0.2044	-0.0506	-1.9424

Note. The 2009 item sequence number was used to indicate that it was the same item appearing across years.

Note. Item parameters of the current year were independently calibrated with a live, stratified random sample.

Note. Item parameters of the previous year were estimated with the 2007 field test equating sample and were on a common scale.

Note. Characters A and B were used to indicate that they were tested in sessions 2 (Literary Reading) and 3 (Informational Reading). Although these linking items appeared in the same position on each operational form they are unique items.

Form Statistics

Form Statistics	Previous Base Form	2009 Form A	Previous Base Form	2009 Form B
Mean	-.281	-.328	-.269	-.217
SD	.950	.983	.948	1.011

	2009 Form A	2009 Form B
Correlation	**.972**	**.980**
SD Ratio	**103%**	**107%**

	2009 Form A	2009 Form B
Mean Diff	-.046	.052
Median Diff	-.014	.115
IQR Diff	.288	.257

Based on correlation coefficients, SD ratios, robust z values, and item difficulty plot, none of the linking common items were dropped from the linking pool.

Rasch Item Difficulties of Common Items: Grade 3 Form A
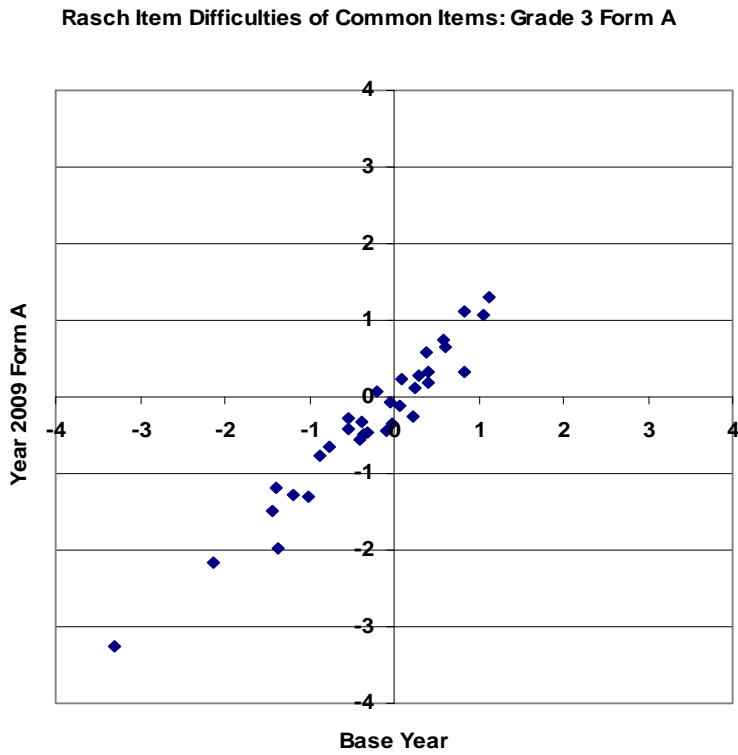
Figure 1.16 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 3 Form A

Rasch Item Difficulties of Common Items: Grade 3 Form B
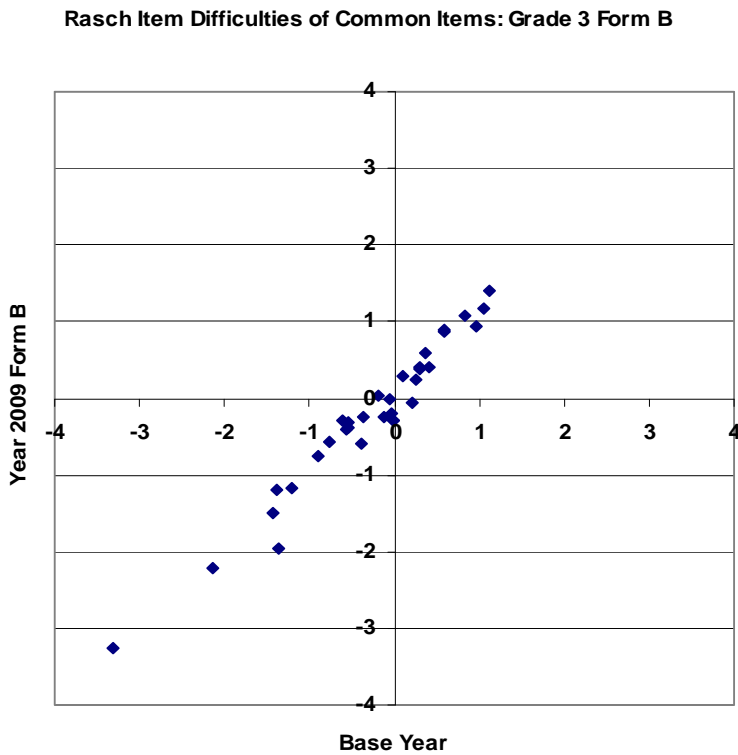
Figure 1.17 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 3 Form B

Table 1.61 Rasch Item Difficulties and Robust Z Values for Previous Year vs. Year 2009: Grade 4

Item Seq No.	Previous Year	Y2009 Form A	Robust Z	Item Seq No.	Previous Year	Y2009 Form B	Robust Z
1	0.8485	0.3571	-.0152	1	0.8485	0.2796	.0146
2	-0.2773	-0.6124	.6817	2	-0.2773	-0.6946	.7289
3	-0.0474	-0.5057	.1324	3	-0.0474	-0.6161	.0155
4	-1.694	-2.2060	-.1070	4	-1.6940	-2.2923	-.1239
5*	**-1.3091**	**-2.5919**	**-3.5436**	**5***	**-1.3091**	**-2.7488**	**-4.0885**
6*	**-1.4119**	**-2.8926**	**-4.4259**	**6***	**-1.4119**	**-2.8638**	**-4.1459**
7	1.2863	0.8432	.2002	7	1.2863	0.7578	.2050
8	-1.7138	-2.4408	-1.0656	8	-1.7138	-2.5214	-1.1101
9	-0.9493	-1.6549	-.9702	9	-0.9493	-1.7223	-.9471
22	1.0781	0.3584	-1.0330	22	1.0781	0.2745	-1.0913
23	0.5162	-0.4655	-2.2011	23	0.5162	-0.4750	-1.9752
24	0.7249	0.1186	-.5274	24	0.7249	0.0802	-.3425
25	1.3574	1.2125	1.5297	25	1.3574	1.2224	2.0591
26	0.9364	0.5327	.3758	26	0.9364	0.4857	.5715
27	1.4992	0.8864	-.5564	27	1.4992	0.8232	-.4900
28	1.2577	0.8905	.5386	28	1.2577	0.8268	.6648
29	0.1196	-0.3717	-.0147	29	0.1196	-0.4706	-.0858
36	0.6644	0.2234	.2095	36	0.6644	0.2478	.7322
37	0.9481	0.7480	1.2836	37	0.9481	0.7148	1.5959
38	0.7393	0.3082	.2537	38	0.7393	0.3336	.7836
39	-0.0274	-0.5066	.0392	39	-0.0274	-0.6360	-.1725
40	1.0705	0.6680	.3812	40	1.0705	0.7749	1.3023
41	0.0061	-0.3150	.7441	41	0.0061	-0.3027	1.2402
42	0.081	-0.2768	.5805	42	0.0810	-0.3803	.5216
43	1.4931	1.2033	.8837	43	1.4931	1.0755	.7275
10A	0.0996	-0.6344	-1.0968	10B	0.3535	-0.4312	-1.0022
12A	0.2402	-0.6939	-1.9889	12B	0.3765	-0.2578	-.2935
13A	0.3033	-0.5334	-1.5547	13B	-0.2149	-0.9341	-.6936
15A	0.4782	0.4322	1.9706	15B	1.2219	0.6496	-.0014
16A	1.9046	1.3277	-.3964	16B	1.1396	0.4219	-.6865
18A	0.9083	0.4311	.0482	18B	1.4526	0.8806	.0000
19A	0.7115	0.2235	.0000	19B	0.4873	-0.0743	.0490
21A	0.1834	-0.4925	-.8377	21B	-0.5476	-1.0411	.3699

Note. The 2009 item sequence number was used to indicate that it was the same item appearing across years.

Note. Item parameters of the current year were independently calibrated with a live, stratified random sample.

Note. Item parameters of the previous year were estimated with the 2007 field test equating sample and were on a common scale.

Note. Characters A and B were used to indicate that they were tested in sessions 2 (Literary Reading) and 3 (Informational Reading). Although these linking items appeared in the same position on each operational form they are unique items.

Form Statistics

Form Statistics	Previous Base Form	2009 Form A	Previous Base Form	2009 Form B
Mean	.364	-.195	.347	-.261
SD	.930	1.109	.942	1.117
Correlation Coefficient		.972		.977
SD Ratio		**119%**		**118%**
Mean Diff		-.559		-.608
Median Diff		-.488		-.572
IQR Diff		.303		.287

Based on correlation coefficients, SD ratios, robust z, and item difficulty plot, item number 5 and 6 appearing on both forms were dropped from the linking pool.

The following correlation coefficients and SD ratios were calculated after dropping those items:

Correlation Coefficient		**.974**		**.982**
SD Ratio		**109%**		**108%**

Rasch Item Difficulties of Common Items: Grade 4 Form A
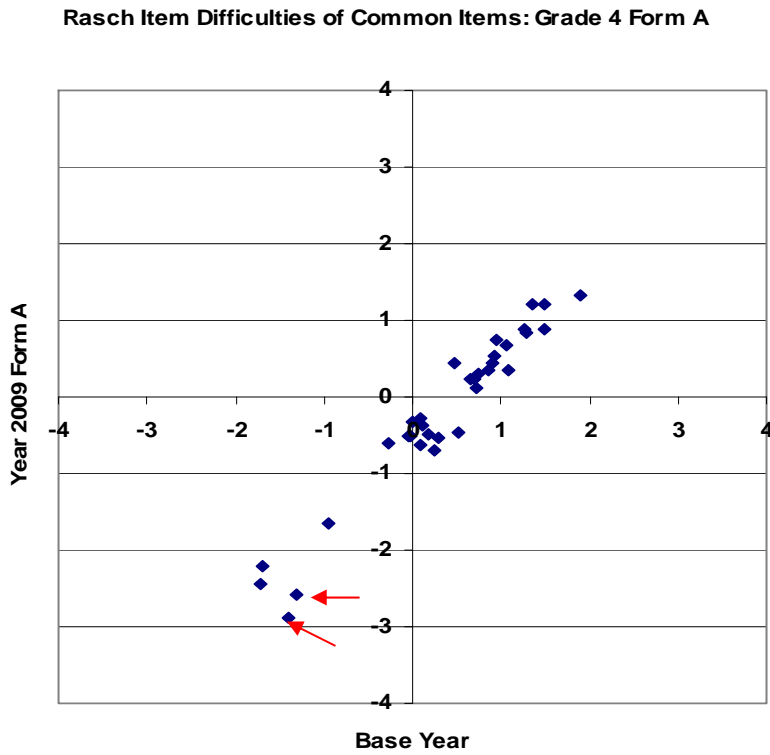
Figure 1.18 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 4 Form A

Rasch Item Difficulties of Common Items: Grade 4 Form B
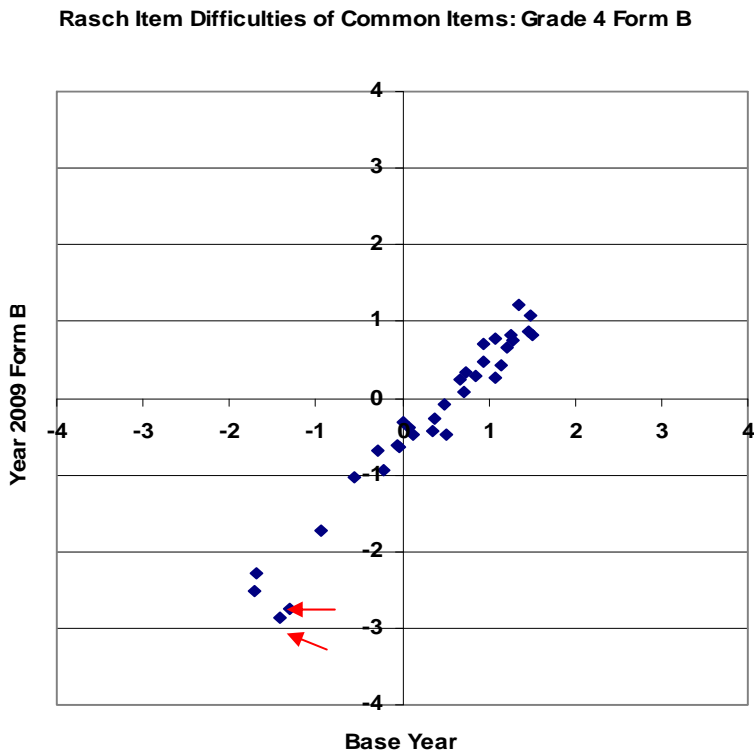
Figure 1.19 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 4 Form B

Table 1.62 Rasch Item Difficulties and Robust Z Values for Previous Year vs. Year 2009: Grade 5

Item Seq No.	Previous Year	Y2009 Form A	Robust Z	Item Seq No.	Previous Year	Y2009 Form B	Robust Z
1	-0.6371	-0.8749	-.4379	1	-0.6371	-1.0027	-.4716
2	-0.2093	-0.4176	-.3291	2	-0.2093	-0.4800	-.1503
3	-1.2263	-1.4995	-.5685	3	-1.2263	-1.6520	-.6750
4	-1.4827	-1.8174	-.7954	4	-1.4827	-2.0212	-1.0568
5	-1.3213	-1.6520	-.7806	5	-1.3213	-1.7098	-.5491
6	-1.8707	-2.2796	-1.0691	6	-1.8707	-2.4124	-1.0677
7	-1.0118	-1.4698	-1.2503	7	-1.0118	-1.4995	-.8849
8	1.4561	1.2817	-.2040	8	1.4561	1.2298	.0000
9	-1.7612	-1.6206	.9581	9	-1.7612	-1.8838	.3510
22	0.1781	0.1932	.4951	22	0.1781	-0.1582	-.3724
23	1.4551	1.0524	-1.0463	23	1.4551	1.0626	-.5626
24	0.3030	-0.0716	-.9426	24	0.3030	-0.1074	-.6232
25	-0.5030	-0.7856	-.6032	25	-0.5030	-1.0467	-1.0744
26	0.2006	0.2362	.5707	26	0.2006	0.1385	.5558
27	0.6870	0.6170	.1811	27	0.6870	0.4813	.0697
28	0.5988	0.3280	-.5597	28	0.5988	0.2341	-.4685
29	0.7593	0.2069	-1.5985	29	0.7593	0.0888	-1.5037
36	0.4436	0.4860	.5958	36	0.4436	0.4276	.7119
37	0.8269	0.4776	-.8493	37	0.8269	0.2336	-1.2423
38	0.7861	0.7265	.2195	38	0.7861	0.5779	.0613
39	1.1761	1.1309	.2726	39	1.1761	0.9393	-.0355
40	0.7230	0.7610	.5796	40	0.7230	0.7118	.7281
41	0.3088	0.4329	.8972	41	0.3088	0.3488	.9015
42	-0.0371	-0.0092	.5423	42	-0.0371	0.0206	.9614
43	-0.1849	0.0280	1.2248	43	-0.1849	-0.1947	.7329
10A	-0.8817	-1.3259	-1.1994	**10B***	**-1.2624**	**-2.0112**	**-1.7687**
12A	0.1471	0.1031	.2771	12B	-0.2621	-0.0500	1.4840
13A	0.1540	0.5166	1.7771	**13B***	**0.0092**	**0.5333**	**2.5402**
15A	0.1906	-0.1333	-.7555	15B	0.1364	0.2353	1.1009
16A	-0.1963	-0.0361	1.0304	16B	-0.2328	-0.0382	1.4248
18A	-1.2429	-1.3620	.0000	18B	0.5029	0.7255	1.5196
19A	0.1071	0.1073	.4401	19B	1.1421	1.0316	.3920
21A	0.1229	0.1893	.6843	21B	-0.4039	-0.4850	.4915

Note. The 2009 item sequence number was used to indicate that it was the same item appearing across years.

Note. Item parameters of the current year were independently calibrated with a live, stratified random sample.

Note. Item parameters of the previous year were estimated with the 2007 field test equating sample and were on a common scale.

Note. Characters A and B were used to indicate that they were tested in sessions 2 (Literary Reading) and 3 (Informational Reading). Although these linking items appeared in the same position on each operational form they are unique items.

Form Statistics

Form Statistics	Previous Year Form A	2009 Form A	Previous Year Form B	2009 Form B
Mean	-.059	-.196	-.022	-.234
SD	.892	.951	.911	1.019
Correlation Coefficient		.972		.960
SD Ratio		107%		**112%**
Mean Diff		-.138		-.213
Median Diff		-.119		-.226
IQR Diff		.366		.399

Based on correlation coefficients, SD ratios, robust z, and item difficulty plot, item number 10 and 13 appearing on Form B were dropped from the linking pool.

The following correlation coefficients and SD ratios were calculated after dropping those items:

Correlation Coefficient		**.972**		**.968**
SD Ratio		**107%**		**109%**

Rasch Item Difficulties of Common Items: Grade 5 Form A
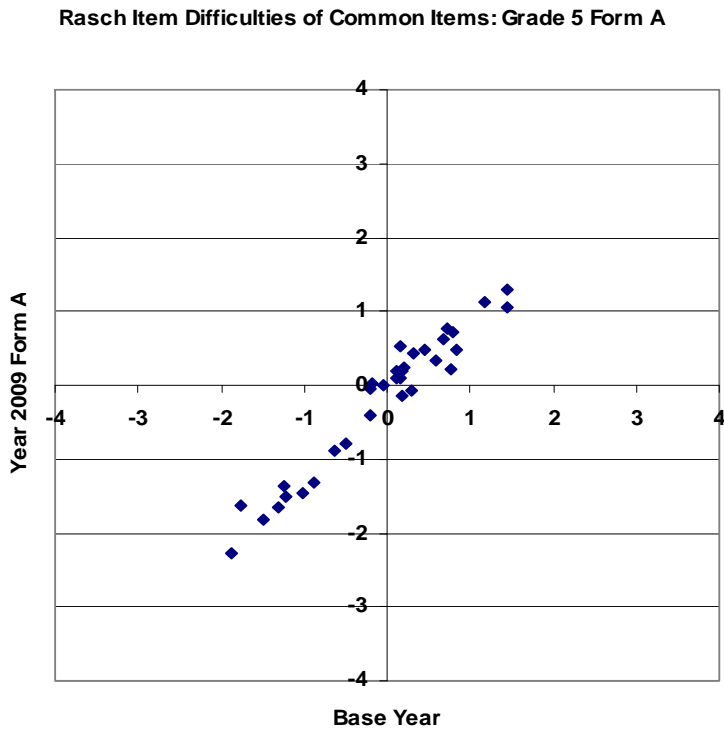
Figure 1.20 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 5 Form A

Rasch Item Difficulties of Common Items: Grade 5 Form B
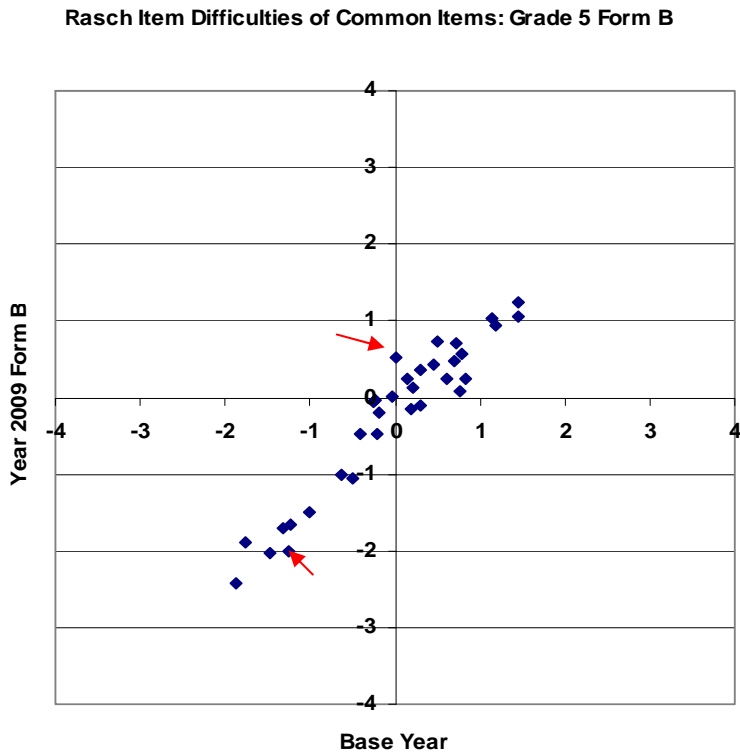
Figure 1.21 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 5 Form B

Table 1.63 Rasch Item Difficulties and Robust Z Values for Previous Year vs. Year 2009: Grade 6

Item Seq No.	Previous Year	Y2009 Form A	Robust Z	Item Seq No.	Previous Year	Y2009 Form B	Robust Z
1	-1.3336	-1.8853	-2.4265	1	-1.3336	-1.7859	-1.6427
2*	**-2.0006**	**-2.8271**	**-3.8168**	**2***	**-2.0006**	**-2.7231**	**-2.8074**
3	-0.9089	-0.7324	1.2578	3	-0.9089	-0.8456	.5798
4	-1.1479	-1.1545	.3314	4	-1.1479	-1.0593	.6888
5	-0.5668	-0.4834	.7867	5	-0.5668	-0.4108	.9794
6	-1.4246	-1.7858	-1.4627	6	-1.4246	-1.7790	-1.2207
7	1.0944	1.3059	1.4348	7	1.0944	1.2956	1.1742
8	-0.485	-0.3826	.8829	8	-0.4850	-0.5464	.0422
9	-1.5147	-1.9450	-1.8123	9	-1.5147	-1.9852	-1.7212
22	1.2935	1.2793	.2929	22	1.2935	1.1158	-.4591
23	-0.9772	-1.0786	-.1482	23	-0.9772	-0.9903	.2504
24	-0.6738	-0.9398	-.9810	24	-0.6738	-1.0217	-1.1927
25	-0.3487	-0.5102	-.4523	25	-0.3487	-0.5592	-.6005
26	1.0501	1.0252	.2388	26	1.0501	0.9625	-.0707
27	0.4286	0.0641	-1.4794	27	0.4286	0.1784	-.7716
28	0.2397	-0.0253	-.9759	28	0.2397	-0.0852	-1.0936
29	1.7013	1.5473	-.4144	29	1.7013	1.4687	-.6957
36	0.5357	0.4986	.1771	36	0.5357	0.4045	-.2586
37	1.2684	1.2882	.4650	37	1.2684	1.3388	.6104
38	0.7073	0.6352	.0000	38	0.7073	0.7039	.2923
39	-0.1523	-0.2091	.0774	39	-0.1523	-0.3529	-.5578
40	-0.8265	-0.8542	.2246	40	-0.8265	-0.8516	.1987
41	0.5323	0.5334	.3703	41	0.5323	0.5757	.4940
42	1.3246	1.2574	.0248	42	1.3246	1.2534	.0000
43	0.8915	0.9937	.8818	43	0.8915	1.0172	.8487
10A	-0.5665	-0.8589	-1.1146	10B	0.7440	0.8439	.7375
12A	0.0720	-0.4183	-2.1158	12B	0.1213	0.3197	1.1621
13A	-0.1510	0.0084	1.1712	13B	-0.0287	-0.4853	-1.6613
15A	0.2778	0.1070	-.4994	15B	0.5913	0.7286	.8987
16A	0.1214	0.3948	1.7480	16B	-0.3767	-0.7530	-1.3151
18A	-0.2321	-0.3501	-.2322	18B	-0.5113	-0.4858	.4168
19A	0.0309	-0.3387	-1.5052	19B	0.4651	0.2473	-.6319
21A	1.0627	0.8135	-.8960	21B	-0.0913	-0.1041	.2517

Note. The 2009 item sequence number was used to indicate that it was the same item appearing across years.

Note. Item parameters of the current year were independently calibrated with a live, stratified random sample.

Note. Item parameters of the previous year were estimated with the 2007 field test equating sample and were on a common scale.

Note. Characters A and B were used to indicate that they were tested in sessions 2 (Literary Reading) and 3 (Informational Reading). Although these linking items appeared in the same position on each operational form they are unique items.

Form Statistics

Form Statistics	Previous Year Form A	2009 Form A	Previous Year Form B	2009 Form B
Mean	-.021	-.152	-.012	-.132
SD	.952	1.076	.951	1.068
Correlation Coefficient		.979		.981
SD Ratio		**113%**		**112%**
Mean Diff		-.132		-.121
Median Diff		-.072		-.071
IQR Diff		.267		.314

Based on correlation coefficients, SD ratios, robust z, and item difficulty plot, item number 2 appearing on both forms was dropped from the linking pool.

The following correlation coefficients and SD ratios were calculated after dropping that item:

Correlation Coefficient		**.979**		**.980**
SD Ratio		**109%**		**109%**

Rasch Item Difficulties of Common Items: Grade 6 Form A
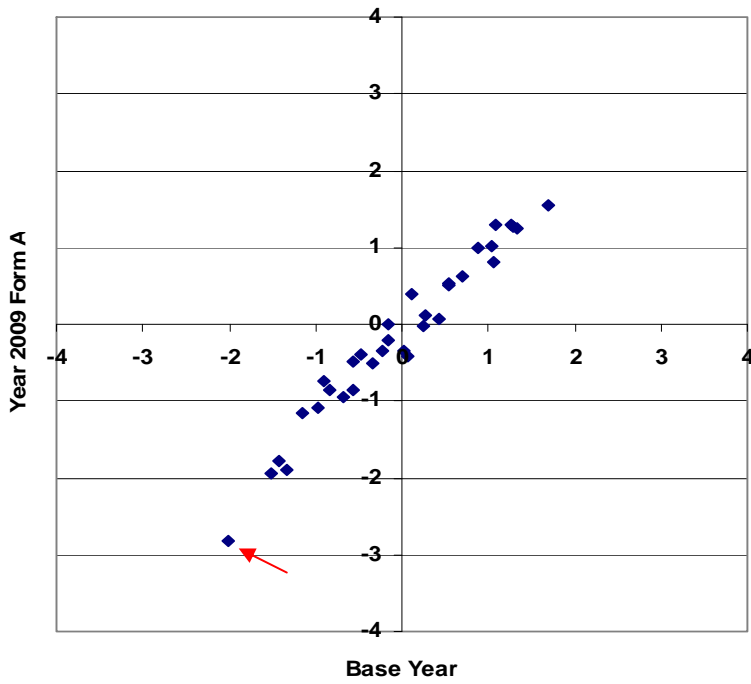
Figure 1.22 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 6 Form A

Rasch Item Difficulties of Common Items: Grade 6 Form B
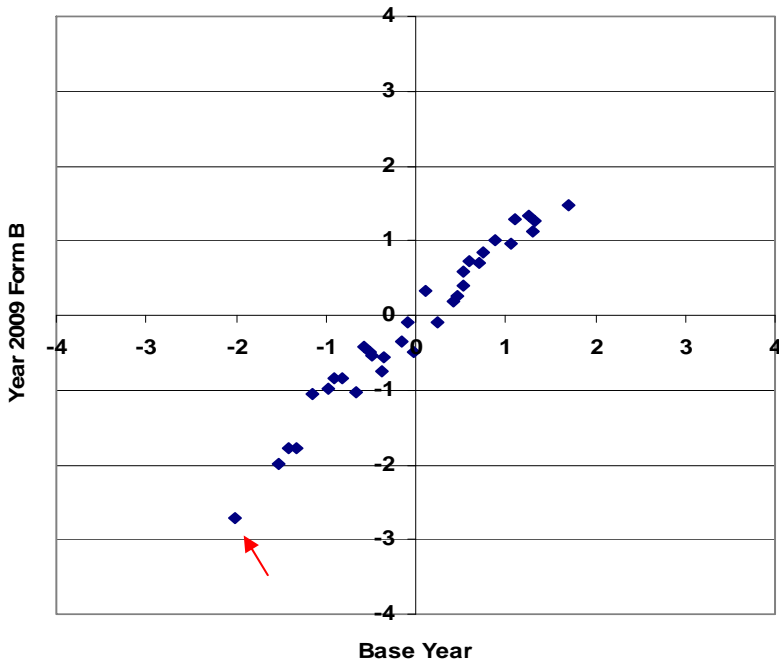
Figure 1.23 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 6 Form B

Table 1.64 Rasch Item Difficulties and Robust Z Values for Previous Year vs. Year 2009: Grade 7

Item Seq No.	Previous Year	Y2009 Form A	Robust Z	Item Seq No.	Previous Year	Y2009 Form B	Robust Z
1*	**-1.9151**	**-2.3631**	**-2.1621**	**1***	**-1.9151**	**-2.2999**	**-1.5900**
2	-1.5468	-1.8213	-1.4252	2	-1.5468	-1.7920	-1.1106
3	-0.5743	-0.3375	.7462	3	-0.5743	-0.3758	.4131
4	-1.1399	-1.2685	-.8056	4	-1.1399	-1.3454	-.9743
5	-1.8025	-2.1041	-1.5403	5	-1.8025	-2.1307	-1.3957
18	0.5791	0.2425	-1.6890	18	0.5791	0.4912	-.5704
19	-0.5545	-0.6753	-.7725	19	-0.5545	-0.8160	-1.1666
20	0.4841	0.6820	.5810	20	0.4841	0.6266	.2208
21	0.6747	0.3294	-1.7259	21	0.6747	0.3462	-1.3967
22	-0.6174	-0.7140	-.6697	22	-0.6174	-0.7571	-.7483
23	0.6158	0.6713	-.0238	23	0.6158	0.6546	-.1353
24	0.5929	0.4357	-.9271	24	0.5929	0.2707	-1.3750
25*	**-1.3746**	**-2.1937**	**-3.7381**	**25***	**-1.3746**	**-2.1963**	**-3.0904**
32	-1.0643	-1.1025	-.4217	32	-1.0643	-1.2075	-.7603
33	0.5496	0.8815	1.1501	33	0.5496	0.8888	.8963
34	-0.0205	0.0574	.0713	34	-0.0205	0.0174	-.1384
35	0.0420	0.0721	-.1317	35	0.0420	0.0580	-.2136
36	0.9240	1.3309	1.4686	36	0.9240	1.2494	.8489
37	0.1653	0.3737	.6256	37	0.1653	0.3241	.2768
38	-0.8093	-0.5692	.7602	38	-0.8093	-0.6336	.3348
39	-0.4818	-0.4051	.0663	39	-0.4818	-0.4335	-.1027
40	-0.1892	0.1819	1.3165	40	-0.1892	0.1789	.9956
41	-0.5607	-0.4307	.2926	41	-0.5607	-0.3491	.4581
42	-0.3731	0.0930	1.7200	42	-0.3731	0.0002	1.0134
43	1.3477	1.4088	.0000	43	1.3477	1.5191	.3201
6A	-0.5886	-0.6997	-.7313	6B	0.4223	0.2404	-.8932
8A	-0.0097	0.0046	-.1988	8B	-0.5513	-0.4731	.0000
9A	-0.9725	-0.7789	.5627	9B	-0.4917	-0.2706	.4907
11A	0.4505	0.5366	.1062	11B	-0.2130	0.2323	1.2607
12A	0.5064	0.5693	.0076	12B	0.4182	0.5961	.3424
14A	0.7000	0.7982	.1576	14B	-0.4213	-0.2175	.4313
15A	0.1619	0.2163	-.0285	15B	0.5905	1.0017	1.1436
17A	1.0169	1.2143	.5788	17B	0.3397	0.7397	1.1051

Note. The 2009 item sequence number was used to indicate that it was the same item appearing across years.

Note. Item parameters of the current year were independently calibrated with a live, stratified random sample.

Note. Item parameters of the previous year were estimated with the 2007 field test equating sample and were on a common scale.

Note. Characters A and B were used to indicate that they were tested in sessions 2 (Literary Reading) and 3 (Informational Reading). Although these linking items appeared in the same position on each operational form they are unique items.

Form Statistics

Form Statistics	Previous Year Form A	2009 Form A	Previous Year Form B	2009 Form B
Mean	-.175	-.163	-.211	-.178
SD	.849	.995	.808	.978
Correlation Coefficient		.970		.965
SD Ratio		**117%**		**121%**
Mean Diff		.013		.033
Median Diff		.061		.078
IQR Diff		.318		.394

Based on correlation coefficients, SD ratios, robust z, and item difficulty plot, item number 1 and 25 appearing on both forms were dropped from the linking pool.

The following correlation coefficients and SD ratios were calculated after dropping those items:

Correlation Coefficient		**.971**		**.963**
SD Ratio		**110%**		**114%**

Rasch Item Difficulties of Common Items: Grade 7 Form A
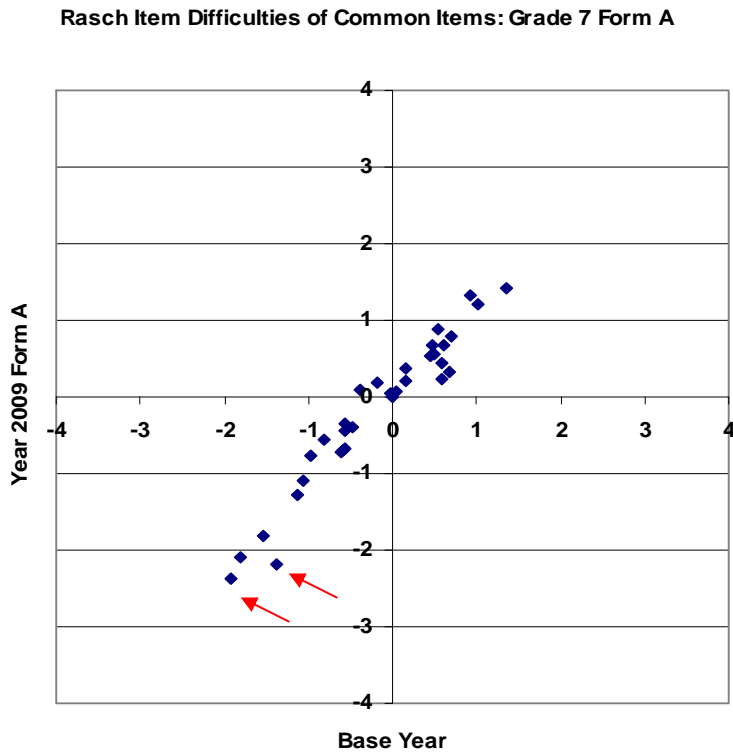
Figure 1.24 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 7 Form A

Rasch Item Difficulties of Common Items: Grade 7 Form B
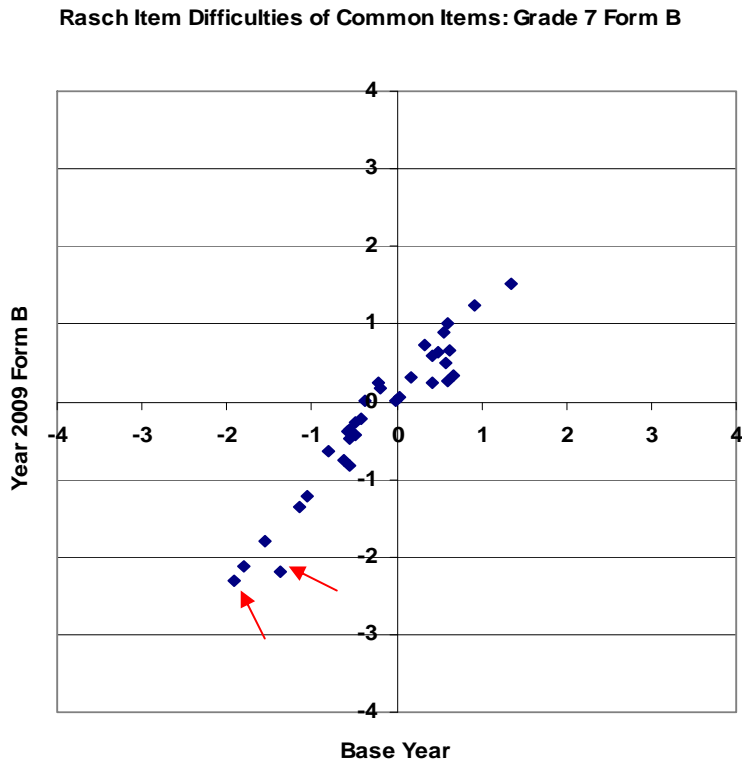
Figure 1.25 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 7 Form B

Table 1.65 Rasch Item Difficulties and Robust Z Values for Previous Year vs. Year 2009: Grade 8

Item Seq No.	Previous Year	Y2009 Form A	Robust Z	Item Seq No.	Previous Year	Y2009 Form B	Robust Z
1*	**-1.7533**	**-2.4341**	**-3.5131**	**1***	**-1.7533**	**-2.6555**	**-2.7904**
2	-1.6274	-1.8488	-.1592	2	-1.6274	-2.0488	-.9164
3	-0.6076	-0.7950	.0891	3	-0.6076	-0.8102	-.0635
4	-0.6192	-0.7059	.8242	4	-0.6192	-0.7487	.2214
5	-1.3966	-1.6379	-.3044	5	-1.3966	-1.5313	.2011
18	0.4748	-0.1668	-3.2269	18	0.4748	-0.0326	-1.2516
19	0.5684	-0.0240	-2.8677	19	0.5684	-0.0100	-1.5283
20	-0.244	-0.7556	-2.2778	20	-0.2440	-0.6813	-.9783
21	0.5198	0.1242	-1.4309	21	0.5198	0.2367	-.3773
22	0.2093	0.0197	.0730	22	0.2093	0.0150	-.0312
23*	**-0.7152**	**-1.4016**	**-3.5540**	**23***	**-0.7152**	**-1.3380**	**-1.7014**
24	0.7855	0.8456	1.8960	24	0.7855	1.0053	1.5829
25	0.3464	0.4471	2.1924	25	0.3464	0.5446	1.4987
32	0.2219	0.0272	.0358	32	0.2219	0.0706	.1364
33	1.2743	1.0233	-.3753	33	1.2743	1.1471	.2304
34	0.0242	-0.1124	.4599	34	0.0242	0.0629	.8770
35	-1.0659	-1.3733	-.7870	35	-1.0659	-1.2522	.0000
36	0.6577	0.4845	.1927	36	0.6577	0.5362	.2526
37	-0.6796	-0.7519	.9294	37	-0.6796	-0.7516	.4455
38	1.0443	1.2212	2.7487	38	1.0443	1.1950	1.3135
39	-1.1736	-1.2959	.5643	39	-1.1736	-1.2900	.2725
40	-0.3586	-0.5700	-.0861	40	-0.3586	-0.5578	-.0503
41*	**2.0260**	**2.4011**	**4.1957**	**41***	**2.0260**	**2.3973**	**2.1734**
42	0.4998	0.7211	3.0728	42	0.4998	0.6987	1.5014
43	1.2325	0.9754	-.4198	43	1.2325	0.9835	-.2444
6A	0.1001	-0.2125	-.8250	6B	0.2076	-0.2111	-.9058
8A	0.2165	0.7875	5.6259	8B	0.5854	0.7023	1.1818
9A	-0.3128	-0.5071	.0387	9B	-0.0110	-0.3169	-.4670
11A	0.1675	-0.0250	.0518	**11B***	**-0.6360**	**-1.2675**	**-1.7341**
12A	-1.2042	-1.4857	-.5979	**12B***	**-1.3280**	**-1.9893**	**-1.8530**
14A	0.2223	-0.1120	-.9834	14B	-0.0090	-0.1986	-.0136
15A	-0.0622	-0.2810	-.1402	15B	0.4904	0.3680	.2491
17A	0.2274	0.0278	.0000	17B	0.3771	0.4277	.9234

Note. The 2009 item sequence number was used to indicate that it was the same item appearing across years.

Note. Item parameters of the current year were independently calibrated with a live, stratified random sample.

Note. Item parameters of the previous year were estimated with the 2007 field test equating sample and were on a common scale.

Note. Characters A and B were used to indicate that they were tested in sessions 2 (Literary Reading) and 3 (Informational Reading). Although these linking items appeared in the same position on each operational form they are unique items.

Form Statistics

Form Statistics	Previous Year Form A	2009 Form A	Previous Year Form B	2009 Form B
Mean	-.030	-.224	-.021	-.221
SD	.875	1.011	.896	1.086
Correlation Coefficient		.967		.975
SD Ratio		**116%**		**121%**
Mean Diff		-.194		-.201
Median Diff		-.200		-.186
IQR Diff		.185		.347

Based on correlation coefficients, SD ratios, robust z, and item difficulty plot, item number 1, 23, and 41 appearing on both forms, item number 11 and 12 appearing on Form B were dropped from the linking pool.

The following correlation coefficients and SD ratios were calculated after dropping those items:

Correlation Coefficient		**.957**		**.969**
SD Ratio		**108%**		**110%**

Rasch Item Difficulties of Common Items: Grade 8 Form A
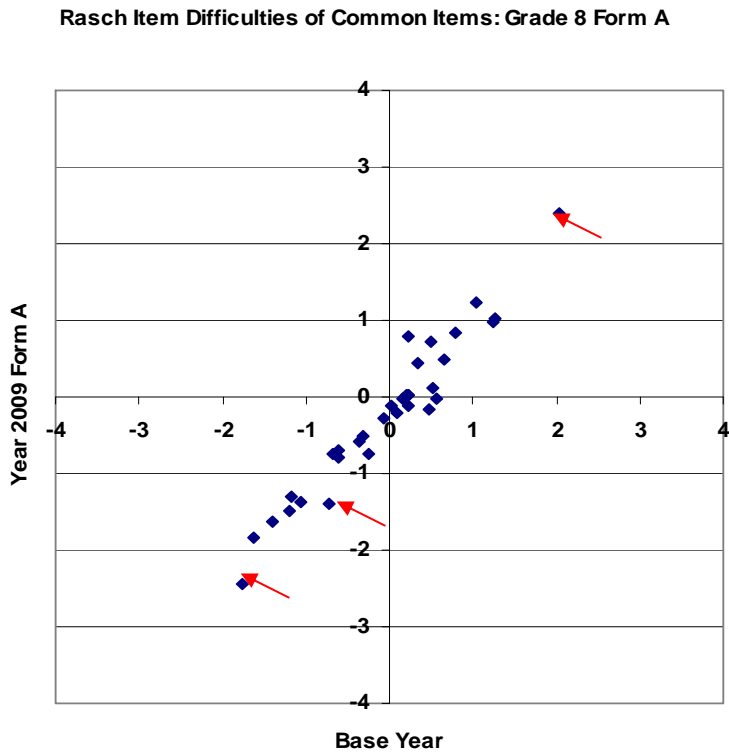
Figure 1.26 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 8 Form A

Rasch Item Difficulties of Common Items: Grade 8 Form B
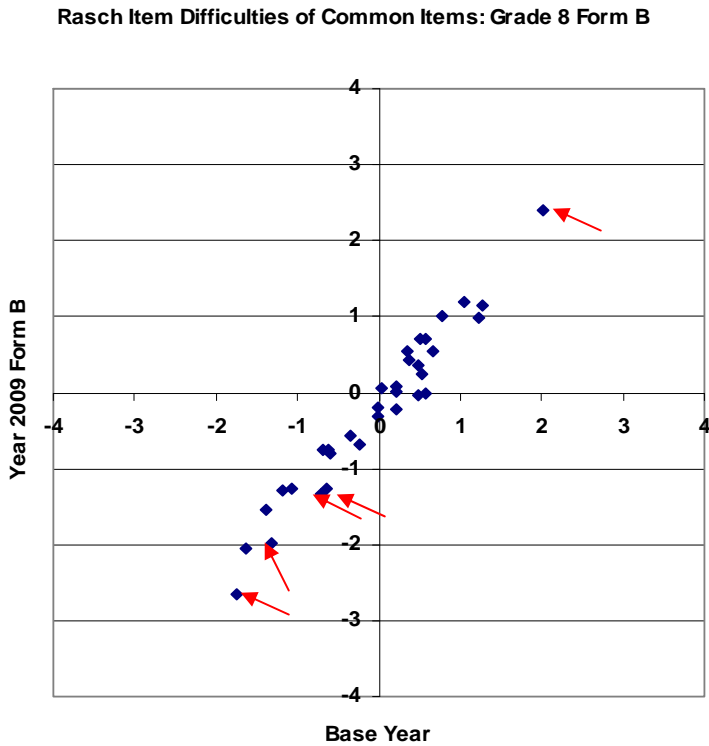
Figure 1.27 Item Difficulty Plot of Previous Year Form vs. Current Year (2009) Form: Grade 8 Form B

Reporting Scale Scores

In order to facilitate the use and interpretation of the results of the 2009 MSA-Reading, the following formula was used to convert each student's ability or theta to the reporting scale score:

$$ReportingAbilityScaleScore = 32.8271 \cdot theta + 362.7449$$

$$ReportingSE = 32.8271 \cdot SE$$

where

$theta$ = the Rasch (i.e., 1-PL *IRT*) ability estimate, and

SE = the conditional standard error of the ability estimate.

The following table contains information about the slopes and intercepts used to generate the 2009 scale scores. It should be noted that these same slopes and intercepts have been used since the 2003 assessment (for grades 3, 5, and 8) or the 2004 assessment (for grades 4, 6, and 7).

Table 1.66 The 2009 MSA-Reading Slope and Intercept: Grades 3 through 8

Grade	Slope	Intercept
3	32.4123	384.8579
4	32.8271	362.7449
5	33.0171	380.0082
6	30.4732	373.0575
7	31.9262	377.0054
8	30.3891	376.8316

1.10 Score Interpretation

To help provide appropriate interpretation of the 2009 MSA-Reading test scores, two types of scores were created: 240-650 scale scores, and performance levels and descriptions.

240-650 Scale Scores

As explained in section 1.9, *Linking, Equating, and Scaling Procedures*, the 2009 MSA-Reading produced scale scores that ranged between 240 and 650. These scale scores have the same meaning within the same grade, but those scores are not comparable across grade levels.

It should be noted that for scale scores, a higher score simply means a higher performance on reading tests. Thus, performance levels and descriptions can give a specific interpretation other than a simple interpretation because they were developed to bring meaning to those scale scores.

Performance Level Descriptors

As previously explained, performance level descriptors provide specific information about students' performance levels and help interpret the 2009 MSA-Reading scale scores. They describe what students at a particular level generally know and can be applicable to all students within each grade level.

Maryland standards are divided into three levels of achievement (*www.marylandpublicshools.org*):

- Advanced is a highly challenging and exemplary level of achievement indicating outstanding accomplishment in meeting the needs of students.
- Proficient is a realistic and rigorous level of achievement indicating proficiency in meeting the needs of students.
- Basic is a level of achievement indicating that more work is needed to attain proficiency in meeting the needs of students.

As Table 2.1 shows a range of scale scores at each performance level; for example, grade 4 reading scale scores from 371 to 436 indicate the level of *Proficient*. Students in this level can read grade-appropriate text and demonstrate the ability to comprehend literature and informational passages. Further information about the 2009 MSA-Reading score interpretation can be obtained from the MSDE.

1.11 Test Validity

As noted in the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999), "validity is the most important consideration in test evaluation."

Messick (1989) defined validity as follows:

> Validity is an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment. (p.5)

This definition implies that test validation is the process of accumulating evidence to support intended use of test scores. Consequently, test validation is a series of ongoing and independent processes that are essential investigations of the appropriate use or interpretation of test scores from a particular measurement procedure (Suen, 1990).

In addition, test validation embraces all of the experimental, statistical, and philosophical means by which hypotheses and scientific theories can be evaluated. This is the reason that validity is now recognized as a unitary concept (Messick, 1989).

To investigate the validity evidence of the 2009 MSA-Reading, content-related evidence, item development procedures, DIF analysis on gender and ethnicity, and evidence from internal structure were collected.

Content-Related Evidence

Content validity is frequently defined in terms of the sampling adequacy of test items. That is, content validity is the extent to which the items in a test adequately represent the domain of items or the construct of interest (Suen, 1990). Consequently, content validity provides judgmental evidence in support of the domain relevance and representativeness of the content in the test (Messick, 1989).

The 2009 MSA-Reading blueprints provide extensive evidence regarding the alignment between the content in the 2009 MSA-Reading and the *VSC*. It should be noted that the 2009 MSA-Reading operational test forms were built exclusively using a Maryland item bank program which contained both content and statistical information about both operational and field-tested items. Detailed information about the item composition of the operational test forms can be obtained from section 1.4, *Test Form Design, Specifications, Item Type, and Item Roles* and section 1.5, *Operational Test Form Construction Using the Rasch Model*. In addition, the 2009 MSA-Reading blueprints are presented in Appendix D

Item Development

Test development for MSA-Reading is ongoing and continuous. Content specialists, teachers from across Maryland, Pearson, and MSDE were greatly involved in developing and reviewing test items. Committees such as content review, bias review, and vision review reviewed all of the items, which were finally stored in the item bank. Specifically, an internal review by MSDE and Pearson staff for alignment and quality required a great deal of time and energy. More specific information on item (test) development and review can be obtained in section 1.3, *Development and Review of the 2009 MSA-Reading*.

Field test items were embedded and administered in one of ten test forms. Once these items were scored, MSDE and Pearson conducted additional item analysis and content review. Any field test items that exhibited statistical results that suggested potential problems were carefully reviewed by both MSDE and Pearson content specialists. A determination was then made as to whether an item should be eliminated, revised, or field-tested again. Information on statistical analyses for field test items can be obtained in section 1.13, *Field Test Analyses and Item Bank Construction*.

Differential Item Functioning **(DIF)**

1) Bias Review of Items

A separate Bias Review Committee examined each reading item, looking for indications of bias that would impact the performance of an identifiable group of students. They discussed or rejected items on a basis of gender, ethnic, religious, or geographical bias.

2) *DIF* Statistics

For DIF analyses, subgroups were first categorized according to either reference or focal groups. For the 2009 MSA-Reading, males and whites were assigned to the reference group and females and African-Americans were assigned to the focal group.

While the Mantel-Haenszel procedure was used for SR items, the standardized mean difference (SMD) and the standard deviation (SD), along with the Mantel statistic, were calculated for BCR items. All of the items were classified based on Educational Testing Service (ETS) guidelines. It should be noted that DIF analyses on the operational items indicated that all the items were satisfactory. All the DIF results were archived in the 2009 Maryland item bank. More information on *DIF* analyses can be obtained in section 3.7, *Differential Item Functioning*.

Evidence from Internal Structure

The 2009 MSA-Reading contains three reading processes: *General Reading*, *Literary Reading*, and *Informational Reading*. Tables 4.3 through 4.14 show correlations among the reading processes.

1.12 Unidimensionality Analyses

Measurement implies order and magnitude along a single dimension (Andrich, 1989). Consequently, in the case of scholastic achievement, a one-dimensional scale is required to reflect this idea of measurement (Andrich, 1988, 1989). However, unidimensionality cannot be strictly met in a real testing situation because students' cognitive, personality, and test-taking factors usually have a unique influence on their test performance to some level (Andrich, 1988; Hambleton, Swaminathan, & Rogers, 1991). Consequently, what is required for unidimensionality to be met is an investigation of the presence of a dominant factor that influences test performance. This dominant factor is considered as the ability measured by the test (Andrich, 1988; Hambleton et al., 1991; Ryan, 1983).

To check the unidimensionality of the 2009 MSA-Reading, we examined the relative sizes of the eigenvalues associated with a principal component analysis of the item set. First, polychoric correlation coefficients were computed with *LISREL 8.5* (Jöreskog & Sörbom, 1993) because of the polytomously scored reading items. Principal component analysis was then applied to produce eigenvalues. The first and the second principal component eigenvalues were compared *without rotation*. Table 1.67 summarizes the results of the first and second principal component eigenvalues of the 2009 MSA-Reading.

A general rule of thumb in exploratory factor analysis suggests that a set of items may represent as many factors as there are eigenvalues greater than 1 in this analysis because there is one unit of information per item and the eigenvalues sum to the total number of items. However, a set of items may have multiple eigenvalues greater than 1 and still be sufficiently unidimensional for analysis with IRT (Loehlin, 1987; Orlando, 2004). As seen from the following table, the first component extracted a substantially larger eigenvalues across all grades: the size of the eigenvalue of the first component was over ten times that of the second eigenvalue for each form at each grade. As a result, we could conclude that the assumption of unidimensionality for the 2009 MSA-Reading was met.

Table 1.67 The 2009 MSA-Reading Eigenvalues between the First and Second Components

Grade	Form	Number of Items	First Eigenvalue	Second Eigenvalue
3	A	37	12.18	1.42
	B	37	12.17	1.43
4	A	37	12.01	1.36
	B	37	11.86	1.45
5	A	37	11.10	1.44
	B	37	10.14	1.52
6	A	37	10.19	1.49
	B	37	10.04	1.57
7	A	37	11.82	1.54
	B	37	11.54	1.43
8	A	37	10.25	1.24
	B	37	9.90	1.28

1.13 Field Test Analyses and Item Bank Construction

All field test items embedded in operational forms were subjected to rigorous analyses for their properties in order to provide information about which items may be included as operational items in the future. All statistical results concerning field test items were preserved in the 2009 item bank. The following field test analyses were conducted:

- Classical item analyses for *SR* and *BCR* items
- *Differential item functioning* (*DIF*) analyses
- *IRT* analyses

Classical Item Analyses for *SR* and *BCR* items

Classical item analyses for *SR* and *BCR* items were conducted within each field test form.

SR items were flagged for further scrutiny if:

- An item distractor was not selected by any students (i.e., nonfunctional distractor)
- An item was selected by a high proportion of high-ability students while being selected by a low proportion of low-ability students (i.e., ambiguous distractor)
- An item *p*-value was less than .20 or greater than .90.
- An item point-biserial was less than .10 (i.e., poorly discriminating). If an item point-biserial was close to zero or negative, the item was checked for a miskeyed answer.

BCR items were flagged for further scrutiny if:

- An item did not elicit the full range of rubric scores.
- The ratio of mean item score to maximum score was less than .20 or greater than .90.
- An item-total correlation was less than .10.

All items required a careful decision. For example, an item that was flagged as being difficult (*p*-value less than .20) and poorly discriminating (point-biserial less than .10) was considered for being dropped as a possible operational item. However, if the item represented important content that had not been extensively taught, a justification could have been made for including it in an operational test form.

Differential Item Functioning Analyses

Analyses of *Differential item functioning* (*DIF*) are intended to compare the performance of different subgroups of the population on specific items, when the groups have been statistically matched on their tested proficiency.

In present analyses, the gender reference group was males, and the ethnic reference group was Caucasians. The gender focal group was females and the ethnic focal group was African-Americans. For each operational form, the student's total score was used as the matching variable.

Any *SR* and *BCR* items that were flagged as showing *DIF* were subjected to further examination. For each of these items, for example, reading experts judged whether the differential difficulty of the item was unfairly related to group membership using the following criteria:

- If the differential difficulty of the item is related to group membership, and the difference is deemed unfair, then the item should not be used at all.

- If the differential difficulty of the item is related to group membership, but the difference is not deemed unfair, then the item should only be used if there is no other item matching the test blueprint.

It should be noted that DIF analysis results on all the field test items were archived in the 2009 Maryland item bank. In addition, detailed information about the *DIF* procedures can be found in section 3.7, *Differential Item Functioning*.

Item Response Theory (IRT) **Analyses**

To put the 2009 field test items on a common scale (i.e., the 2003 scale for grades 3, 5, and 8 and the 2004 scale for grades 4, 6, and 7), each field test item was freely calibrated after fixing the Rasch item and step difficulty parameters of the 2009 operational items that had been already placed on the base scale during the 2009 operational calibration and equating. For example, each unique field test item appearing on one of five reading test forms (i.e., 1, 3, 5, 7, and 9) was independently calibrated after fixing the same operational items appearing across the field test forms with the same Rasch item and step difficulties because these unique field test forms all correspond to the same operational form (i.e., operational form A). The Rasch item difficulties, step difficulties, and fit statistics (i.e., Rasch Infit and Outfit indices) of the field test items were archived in the 2009 Maryland item bank. These field test items are eligible to be used as operational items in subsequent years.

Item Bank Construction

The number of test forms constructed each year and the need to replace items that are released to the public necessitates the availability of a large pool of items. The 2009 MSA-Reading item bank continues to be maintained by Pearson in the form of computer files and paper copies. This enables the test items to be readily available to both Pearson and MSDE staff for reference, test construction, test book design, and printing.

1.14 Quality Control Procedures

A standard quality procedure at Pearson Assessment, Inc. was to create a test deck for MSA programs. The test deck began when Quality Assurance entered mock data into the enrollment system, which was transferred to the materials requisition system; the order was packaged by our Distribution Center, and shipped to the Quality Assurance Department. We then reviewed the packing list against the data entered, the materials algorithms applied, the materials packaged against the packing list, and the actual packaging of the documents. These documents were then used to create a test deck of mock data, along with advance copies of documents that were received from the printer. Advance printer copies were inclusive of documents throughout the print run to assure we were randomly testing printed documents. The Maryland test deck was a comprehensive set of all documents that:

- Verified all scan positions for item responses and demographics to verify scanning setup and scan densities
- Verified all constructed response score points, zoning of image, reader scoring, reader resolution, and reader check scores
- Verified the handling of blank documents through the system
- Tested all demographic and item edits
- Verified pre-id bar code read, match and no-match
- Verified attemptedness rules applied by subtest
- Verified duplicate student handling (same test duplicate, different test duplicate)
- Verified duplicate student with different demographics rules applied
- Verified the document counts to the enrollment, pre-id and actual document receipt
- Verified pre-id matching and application to student record
- Verified various raw score points and access to dummy and live scoring tables
- Verified cut scores applied
- Verified valid score on one subtest and invalid score on other subtest
- Verified scoring applied to Braille and Large Print
- Verified valid multiple choice and invalid constructed response
- Verified valid constructed response and invalid multiple choice
- Verified all special scoring rules
- Verified all summary programs for rounding
- Verified summary inclusion and exclusion (Braille, standard and non-standard student summarization)
- Verified each scoring level for group reporting
- Verified all reporting programs for accuracy in all text and data presented
- Verified class, school, district, and state summary data on home reports
- Verified all data file programs to assure valid information in every field

- Verified data descriptions for accuracy against data file
- Created compare programs to allow for update of files

The Maryland test deck was the first order processed through the Maryland system to verify all aspects of the materials packaging, scanning, editing, scoring, summary, and reporting. Pre-determined conditions were included in the test deck to assure the programs were processing all data to meet the requirements of the program with zero defects. Processing of live orders could not proceed until each phase of the test deck had been approved by our Quality Assurance Department. An Issues Log with sign-off approvals was utilized to assure we were addressing any issues that arose in the review of the test deck data across all functional groups at Pearson.

Prior to release of any order for reporting we received a preliminary file from Scoring Operations to run a key check TRIAN to assure that all scoring keys had been determined and applied accurately. Any item that was not performing as expected was flagged and reviewed by our content specialist and psychometrician. Upon completion of the key check, we proceeded to run the pilot level reports.

We ran the pilot district utilizing live data. The pilot district included multiple buildings, all grades, and any unique accommodations. A formal pilot review process was conducted with Pearson staff experts prior to release of the information to MSDE.

Upon completion of the processing of all district-level data, Pearson Scoring Operations provided the Quality Assurance Department with one or more state-level data files, along with state data for review and approval. Pearson Quality Assurance programmers duplicated all data independently to ensure accurate interpretation of the expected results. A series of SAS programs were run on these files to ensure 100% accuracy. These included but were not limited to:

- Statewide Duplicate Student
- Statewide FD of Demographic Variables
- District/Building/N-Count
- Statewide RS/SS/Cut Score tables
- Proc Means to verify summary statistics
- Item Response listing to verify all constructed responses were scored and within the valid range
- Normative data check for all raw scores
- Reader Resolution report to verify all readings and resolution combinations

Upon complete review and approval by Quality Assurance, we posted the statewide student files to a secure FTP site for review by MSDE.

2. CURRENT RESULTS OF THE 2009 MSA-READING

This section provides information about academic achievement results of Maryland students in grades 3 through 8. Table 2.1 contains information about the cutoff score of each performance level, and Table 2.2 contains information about the pass rate of each grade. It should be noted that the same cutoff scores have been applied since 2003 (for grades 3, 5, and 8) and 2004 (for grades 4, 6, and 7).

We also analyzed the performance rate of each grade based on key student subgroups such as gender, ethnicity, and LEA. Tables 2.3 though 2.10 contain information about the pass rate of each subgroup.

Table 2.1 MSA-Reading Cut Scores: Grades 3 through 8

Grade	Cut Score of Performance Level	
	Proficient	Advanced
3	388	456
4	371	437
5	384	425
6	381	421
7	385	425
8	391	425

Note. These cut scores have been applied since the 2003 assessment (for grades 3, 5, and 8) or the 2004 assessment (for grades 4, 6, and 7).

Table 2.2 The 2009 MSA-Reading Pass Rates: Grades 3 through 8

Grade	N	Percentage of Performance Level			
		Basic	Proficient	Advanced	Proficient + Advanced
3	59,646	15.05	62.96	21.99	84.95
4	58,715	13.32	59.86	26.83	86.69
5	60,179	10.43	39.9	49.67	89.57
6	58,821	15.43	43.58	40.99	84.57
7	59,587	16.78	38.38	44.84	83.22
8	60,952	18.38	43.77	37.85	81.62

Note. Percentages may not add to 100% due to rounding.

Note. Analysis was conducted with a statewide population.

Table 2.3 The 2009 MSA- Reading Pass Rates by Gender: Grades 3 through 8

Grade	Gender	N	Basic	Proficient	Advanced	Proficient + Advanced
03	Male	30,571	0.17	0.64	0.19	0.83
	Female	29,075	0.12	0.62	0.25	0.88
04	Male	30,156	15.62	61.17	23.21	84.38
	Female	28,558	10.88	58.47	30.64	89.11
05	Male	30,693	12.34	41.88	45.79	87.67
	Female	29,483	8.44	37.84	53.73	91.57
06	Male	30,062	17.52	45.39	37.09	82.48
	Female	28,755	13.24	41.69	45.07	86.76
07	Male	30,079	20.51	40.38	39.11	79.49
	Female	29,508	12.98	36.34	50.68	87.02
08	Male	30,997	22.32	46.45	31.23	77.68
	Female	29,955	14.30	41.00	44.70	85.70

Table 2.4 The 2009 MSA- Reading Pass Rates by Ethic: Grades 3 through 8

Grade	Ethnicity	N	Basic	Proficient	Advanced	Proficient + Advanced
03	American Indian	247	0.10	0.70	0.20	0.90
	Asian/Pacific Islander	3,759	0.07	0.56	0.38	0.93
	African American	22,330	0.23	0.65	0.12	0.77
	White	27,442	0.08	0.61	0.31	0.92
	Hispanic	5,868	0.21	0.68	0.10	0.79
04	American Indian	227	9.69	70.04	20.26	90.30
	Asian/Pacific Islander	3,485	5.34	48.84	45.82	94.66
	African American	22,389	21.16	65.52	13.32	78.84
	White	27,148	6.70	55.10	38.19	93.29
	Hispanic	5,465	19.27	66.90	13.83	80.73
05	American Indian	225	6.22	46.22	47.56	93.78
	Asian/Pacific Islander	3,593	4.90	25.77	69.33	95.10
	African American	22,896	16.59	49.52	33.89	83.41
	White	28,046	5.17	32.04	62.80	94.84
	Hispanic	5,414	15.44	49.02	35.54	84.56
06	American Indian	220	15.00	47.27	37.73	85.00
	Asian/Pacific Islander	3,542	6.75	31.71	61.55	93.26
	African American	22,076	23.54	50.58	25.88	76.46
	White	27,613	8.50	38.17	53.33	91.50
	Hispanic	5,366	23.41	50.34	26.26	76.60
07	American Indian	183	19.13	39.89	40.98	80.87
	Asian/Pacific Islander	3,512	6.78	25.71	67.51	93.22
	African American	22,107	26.38	45.68	27.94	73.62
	White	28,504	9.15	33.31	57.55	90.86
	Hispanic	5,281	24.41	43.57	32.02	75.59
08	American Indian	233	18.45	48.50	33.05	81.55
	Asian/Pacific Islander	3,460	7.14	34.08	58.79	92.87
	African American	22,852	28.37	47.09	24.54	71.63
	White	29,311	10.51	41.30	48.19	89.49
	Hispanic	5,096	26.45	49.51	24.04	73.55

Table 2.5 The 2009 MSA- Reading Pass Rates by LEA: Grades 3

LEA	N	Basic	Proficient	Advanced	Proficient + Advanced
01	643	0.19	0.63	0.19	0.81
02	5,417	0.10	0.62	0.27	0.90
03	7,367	0.12	0.63	0.25	0.88
04	1,152	0.08	0.63	0.29	0.92
05	407	0.17	0.63	0.20	0.83
06	1,940	0.10	0.65	0.25	0.90
07	1,131	0.16	0.64	0.20	0.84
08	1,775	0.19	0.63	0.18	0.81
09	327	0.26	0.63	0.11	0.74
10	2,847	0.10	0.67	0.23	0.90
11	319	0.15	0.69	0.16	0.85
12	2,846	0.13	0.65	0.22	0.87
13	3,468	0.09	0.58	0.33	0.91
14	165	0.13	0.67	0.20	0.87
15	9,860	0.11	0.61	0.28	0.89
16	8,575	0.26	0.63	0.11	0.74
17	542	0.11	0.63	0.26	0.89
18	1,142	0.11	0.64	0.25	0.89
19	210	0.20	0.71	0.09	0.80
20	293	0.12	0.69	0.19	0.88
21	1,639	0.13	0.65	0.23	0.87
22	1,162	0.16	0.66	0.18	0.84
23	430	0.07	0.55	0.38	0.93
24	92	0.67	0.33	0.00	0.33
30	5,897	0.23	0.65	0.12	0.77

Table 2.6 The 2009 MSA- Reading Pass Rates by LEA: Grades 4

LEA	N	Basic	Proficient	Advanced	Proficient + Advanced
01	629	12.72	63.28	24.01	87.29
02	5,296	8.69	55.74	35.57	91.31
03	7,413	12.96	60.35	26.68	87.03
04	1,200	5.75	52.33	41.92	94.25
05	350	13.43	59.71	26.86	86.57
06	1,877	8.04	62.01	29.94	91.95
07	1,154	13.26	63.34	23.40	86.74
08	1,694	15.47	63.75	20.78	84.53
09	293	25.60	62.46	11.95	74.41
10	2,785	8.94	62.48	28.58	91.06
11	313	14.70	64.22	21.09	85.31
12	2,748	10.63	62.48	26.89	89.37
13	3,419	6.41	47.97	45.63	93.60
14	147	6.80	73.47	19.73	93.20
15	9,629	9.36	55.24	35.40	90.64
16	8,439	22.49	64.17	13.34	77.51
17	540	9.26	60.56	30.19	90.75
18	1,164	11.43	59.79	28.78	88.57
19	195	14.87	73.85	11.28	85.13
20	280	8.21	63.21	28.57	91.78
21	1,574	9.34	62.77	27.89	90.66
22	1,130	14.87	62.30	22.83	85.13
23	457	7.66	50.33	42.01	92.34
24	157	63.06	35.67	1.27	36.94
30	5,832	21.64	66.26	12.11	78.37

Table 2.7 The 2009 MSA- Reading Pass Rates by LEA: Grades 5

LEA	N	Basic	Proficient	Advanced	Proficient + Advanced
01	672	12.35	42.86	44.79	87.65
02	5,409	6.27	35.39	58.35	93.74
03	7,388	9.52	40.17	50.31	90.48
04	1,244	4.42	30.63	64.95	95.58
05	359	9.75	42.06	48.19	90.25
06	2,019	5.55	37.05	57.40	94.45
07	1,211	11.23	46.24	42.53	88.77
08	1,888	12.13	42.43	45.44	87.87
09	275	19.64	44.73	35.64	80.37
10	2,898	5.35	38.13	56.52	94.65
11	311	5.47	45.66	48.87	94.53
12	2,889	7.86	36.79	55.35	92.14
13	3,729	5.52	28.29	66.18	94.47
14	143	11.19	48.95	39.86	88.81
15	9,828	6.88	32.88	60.25	93.13
16	8,680	18.78	49.34	31.88	81.22
17	533	6.57	41.46	51.97	93.43
18	1,156	9.00	40.48	50.52	91.00
19	165	8.48	44.24	47.27	91.51
20	289	13.84	42.91	43.25	86.16
21	1,609	8.20	42.26	49.53	91.79
22	1,125	11.56	46.31	42.13	88.44
23	455	9.01	34.73	56.26	90.99
24	186	65.05	30.11	4.84	34.95
30	5,718	17.23	49.44	33.33	82.77

Table 2.8 The 2009 MSA- Reading Pass Rates by LEA: Grades 6

LEA	N	Basic	Proficient	Advanced	Proficient + Advanced
01	660	14.39	45.61	40.00	85.61
02	5,231	11.11	38.58	50.32	88.90
03	7,065	16.86	45.65	37.49	83.14
04	1,280	8.13	38.52	53.36	91.88
05	409	16.38	44.01	39.61	83.62
06	1,983	7.82	42.61	49.57	92.18
07	1,164	21.65	46.65	31.70	78.35
08	1,978	17.39	46.41	36.20	82.61
09	356	24.16	42.70	33.15	75.85
10	2,895	11.05	42.66	46.29	88.95
11	290	13.79	42.07	44.14	86.21
12	2,842	10.59	42.22	47.19	89.41
13	3,665	7.86	36.92	55.23	92.15
14	163	12.88	44.17	42.94	87.11
15	9,683	10.56	38.16	51.28	89.44
16	8,507	22.13	50.38	27.48	77.86
17	558	10.75	40.50	48.75	89.25
18	1,189	13.37	42.05	44.58	86.63
19	186	23.12	45.16	31.72	76.88
20	304	16.78	46.05	37.17	83.22
21	1,627	11.00	43.82	45.18	89.00
22	984	17.17	45.33	37.50	82.83
23	461	7.38	37.96	54.66	92.62
24	153	62.75	33.99	3.27	37.26
30	5,117	29.72	51.30	18.98	70.28
32	71	18.31	50.70	30.99	81.69

Table 2.9 The 2009 MSA- Reading Pass Rates by LEA: Grades 7

LEA	N	Basic	Proficient	Advanced	Proficient + Advanced
01	610	18.20	40.98	40.82	81.80
02	5,277	12.98	35.44	51.58	87.02
03	7,224	17.44	39.30	43.26	82.56
04	1,286	9.49	37.79	52.72	90.51
05	344	17.73	38.08	44.19	82.27
06	2,101	9.19	37.08	53.74	90.82
07	1,167	19.19	39.25	41.56	80.81
08	1,969	18.69	42.97	38.34	81.31
09	310	22.26	38.06	39.68	77.74
10	2,927	10.66	36.93	52.41	89.34
11	320	11.25	42.81	45.94	88.75
12	2,877	13.59	39.14	47.27	86.41
13	3,784	7.06	28.65	64.30	92.95
14	132	17.42	52.27	30.30	82.57
15	9,986	9.85	32.92	57.23	90.15
16	8,615	26.29	44.91	28.80	73.71
17	620	12.58	38.55	48.87	87.42
18	1,181	16.93	38.27	44.79	83.06
19	201	18.41	49.75	31.84	81.59
20	316	16.77	35.13	48.10	83.23
21	1,606	12.76	36.05	51.18	87.23
22	919	20.78	39.83	39.39	79.22
23	456	10.53	33.55	55.92	89.47
24	204	67.65	24.51	7.84	32.35
30	5,155	32.59	46.34	21.07	67.41

Table 2.10 The 2009 MSA- Reading Pass Rates by LEA: Grades 8

LEA	N	Basic	Proficient	Advanced	Proficient + Advanced
01	651	17.51	49.77	32.72	82.49
02	5,485	15.53	44.59	39.87	84.46
03	7,474	16.11	44.98	38.91	83.89
04	1,376	10.10	43.53	46.37	89.90
05	382	17.80	43.72	38.48	82.20
06	2,124	10.08	46.23	43.69	89.92
07	1,191	22.75	47.02	30.23	77.25
08	2,072	19.40	46.09	34.51	80.60
09	294	25.17	43.88	30.95	74.83
10	3,049	12.00	43.39	44.60	87.99
11	347	23.34	48.99	27.67	76.66
12	2,967	13.14	45.16	41.69	86.85
13	4,028	8.61	36.40	54.99	91.39
14	153	22.22	52.29	25.49	77.78
15	10,015	10.94	39.80	49.26	89.06
16	8,717	29.85	46.77	23.38	70.15
17	566	14.13	45.41	40.46	85.87
18	1,160	17.07	43.62	39.31	82.93
19	224	31.25	50.00	18.75	68.75
20	308	17.86	43.51	38.64	82.15
21	1,531	14.04	43.37	42.59	85.96
22	897	22.63	44.93	32.44	77.37
23	458	6.55	37.34	56.11	93.45
24	313	63.90	31.95	4.15	36.10
30	5,170	36.69	45.78	17.52	63.30

3. OVERVIEW OF STATISTICAL SUMMARIES

This section provides general information about statistical and psychometric summaries used for the 2009 MSA-Reading program. Actual statistical results described in this section appear in section 4 and the appendices.

3.1 Classical Descriptive Statistics

Table 4.1 contains the classical descriptive statistics of each form for each grade and includes:

- Number of items
- Numbers of students (These numbers were based on a whole population.)
- Means and standard deviations of raw scores
- Stratified Cronbach's Alpha
- Standard error of measurement (SEM)

Stratified Cronbach's Alpha

The 2009 MSA-Reading included *SR and BCR* items. Consequently, it was necessary to use an adequate reliability coefficient that addressed the different item types. The following formula depicts the reliability coefficient, *Stratified Cronbach Alpha*:

$$Stratified\ a = 1 - \frac{((\sigma_{SR}^2(1-\rho_{SR}) + (\sigma_{BCR}^2(1-\rho_{BCR}))}{\sigma_t^2}$$

where

σ_{SR}^2 = variance of score on SR items

σ_{BCR}^2 = variance of score on BCR items

σ_t^2 = variance of total score

ρ_{SR} = reliability coefficient of score on SR items, and

ρ_{BCR} = reliability coefficient of score on BCR items.

Standard Error of Measurement (Based on Classical Test Theory)

The *standard error of measurement* (*SEM*) is commonly used in interpreting and reporting individual test scores and score differences on tests (Harvill, 1991).

Classical test theory is based on the following assumptions (Andrich & Luo, 2004):

- Each person v has a true score on the construct, usually denoted by the variable T_v
- The best overall indicator of the person's true score is the sum of the scores on the items and is usually denoted by the variable X_v
- This observed score will have an error for each person which is usually denoted by E_v
- These errors are not correlated with the true score
- Across a population of people, the errors sum to 0 and they are normally distributed.

From these assumptions, the following equations can be derived:

$$X_v = T_v + E_v.$$

Therefore,

$$\sigma_x^2 = \sigma_t^2 + \sigma_e^2$$

where

σ_x^2 = the variance of the observed score in a population of persons,

σ_t^2 = the variance of their true score variance, and

σ_e^2 = the error variance.

The reliability coefficient of the test can be calculated by the following formula:

$$\rho_x = \frac{\sigma_t^2}{\sigma_x^2} = \frac{\sigma_x^2 - \sigma_e^2}{\sigma_x^2}.$$

Thus, the *SEM* is calculated by the following formula:

$$\sigma_e = \sigma_x \sqrt{1 - \rho_x}.$$

For example, consider a student with a score of 90 from a sample of students with a mean score of 60 and variance of 225 on a test with reliability of 0.80. According to the formulas provided above, the obtained score is 90, and its *SEM* is 6.71. Thus, an approximate 68% score band for estimating this students' true score is from 83.29 (90 - 6.71) to 96.71 (90 + 6.71).

Note that this equation is only useful to estimate true score when the test reliability is reasonably high and the obtained score for the examinee is not an extreme deviate from the mean of the appropriate reference group. When we use this equation, consequently, we should be careful with statements so that they do not imply greater precision than is actually involved (Harvill, 1991).

Conditional Standard Error of Ability Estimate (Based on the Rasch Model)

Under the Rasch model, the conditional standard error (*SE*, $\sigma_{\hat{\beta}}$) for each person is as follows (Andrich & Luo, 2004):

$$\sigma_{\hat{\beta}} = \frac{1}{\sqrt{\sum_{i=1}^{L} p_{vi}(1 - p_{vi})}}$$

where

v = subscript for a person,

i = subscript for an item,

L = length of the test,

$\hat{\beta}$ = ability estimate, and

p_{vi} = the probability that a person answers an item correctly and defined as follows:

$$p_{vi} = \frac{e^{\beta_v - \delta_i}}{1 + e^{\beta_v - \delta_i}}$$ where β_v is person's ability and δ_i is item's difficulty.

A confidence band can be found for use in interpreting the ability estimate. For example, an approximate 68% confidence interval for $\hat{\beta}$ is given by

$$\hat{\beta} \pm SE$$

3.2 Scale Score Descriptive Statistics

Table 4.2 provides information about scale score descriptive statistics of each form for each grade and includes:

- Numbers of students (These numbers were calculated based on a whole population.)
- Mean and standard deviation of scale scores
- 10% quantile (P10), 25% quantile (Q1), median (P50), 75% quantile (Q3), 90% quantile, and IQR (Interquantile Range= Q3-Q1)
- Conditional *standard errors* (*SE*) for the proficient and advanced cut scores

In addition, Appendix B provides frequency distributions and histograms of the scale scores of the 2009 MSA-Reading as well as the 2003 or 2004 MSA-Reading (i.e., base year assessment).

3.3 Classical and Rasch (1-Parameter Logistic IRT) Item Parameters

Appendix C provides both classical and Rasch (1-parameter logistic IRT) item parameters and includes:

- Item type (*SR* or *BCR*)
- *P*-value: in order for *p*-values of the *BCR* items to be comparable with *p*-values of the *SR* items they were calculated as modified proportions of the maximum obtainable domain scores.

- Point-biserial correlation: a Pearson's *r* between the scored item and the total score

- Rasch item difficulty estimate (D_i)

- Conditional standard error of Rasch item difficulty estimate

- Rasch step difficulty estimate (or structure calibration estimate, F_{ij})

- Mean-square infit

- Mean-square outfit

First of all, it should be noted that all the Rasch item and step difficulty parameters were placed on a common scale (i.e., the 2003 scale for grades 3, 5, and 8; the 2004 scale for grades 4, 6, and 7).

Second, the following formula shows how structure measure estimate (D_{ij}) is calculated from both D_i and F_{ij} directly obtained from a run of Winsteps:

$$D_{ij} = D_i + F_{ij},$$

where D_{ij} = structure measure estimate

D_i = item difficulty estimate,

F_{ij} = structure calibration estimate (i.e., step difficulty estimate).

Finally, the following formulas show how conditional standard error (SE) of item difficulty estimate (D_i) and structure measure estimate (F_{ij}) were driven (Wright & Masters, 1982):

$$SE(D_i) = 1 / \sqrt{\sum_{n=1}^{N} [\sum_{k}^{m_i} k^2 p_{nik} - (\sum_{k} kp_{nik})^2]}$$

$$SE(F_{ij}) = 1 / \sqrt{\sum_{n=1}^{N} (\sum_{k=0}^{j} p_{nik} - (\sum_{k=j+1}^{m_i} p_{nik})^2)}$$

where $P_{nix} = \exp \sum_{j=0}^{x} (\theta_n - D_{ij}) / \sum_{k=0}^{m_i} \left[\exp \sum_{j=0}^{k} (\theta_n - D_{ij}) \right]$

$x = 0, 1, ..., m_i$, and

$k = 1, 2, ..., m_i.$

Fit Statistics for the Rasch Model

Fit statistics are used for evaluating the goodness-of-fit of a model to the data. Fit statistics are calculated by comparing the observed and expected trace lines obtained for an item after parameter estimates are obtained using a particular model. *WINSTEPS* provides two kinds of fit

statistics called *mean-squares* that show the size of the randomness or amount of distortion of the measurement system.

Outfit mean-squares are influenced by outliers and are usually easy to diagnose and remedy. *Infit* mean-squares, on the other hand, are influenced by response patterns and are harder to diagnose and remedy. Table 3.1 provides a guideline for evaluating mean-square fit statistics (Linacre & Wright, 2000).

In general, mean-squares near 1.0 indicate little distortion of the measurement system, while values less than 1.0 indicate observations are too predictable (redundancy, model overfit). Values greater than 1.0 indicate unpredictability (unmodeled noise, model underfit).

Table 3.1 Criteria to Evaluate Mean-Square Fit Statistics

Mean-Square	Interpretation
> 2.0	Distorts or degrades the measurement system
1.5 – 2.0	Unproductive for construction of measurement, but not degraded
0.5 – 1.5	Productive for measurement
< 0.5	Unproductive for measurement, but not degrading. May produce misleadingly good reliabilities and separations

3.4 Inter-Rater Reliability

Tables 4.21 through 4.26 contain information about the scoring agreement between two ratings received for each item. When the two Readers assigned the same score to a student's answer, the scores were in perfect agreement. Scores differing by one score point were adjacent, and scores differing by two or more score points were in discrepancy. For further information about inter-rater agreement, please see section 1.7, *Scoring Procedures of the 2009 MSA-Reading*. For the 2009 MSA-Reading, the adjacent agreement rates were above 97%, and perfect agreement rates were above 70% except for grade 4 form A.

3.5 Correlations among Reading Processes

The 2009 MSA-Reading consisted of three subscore reporting standards (processes): *General Reading*, *Literary Reading*, and *Informational Reading*. Tables 4.3 through 4.14 contain correlation coefficients among these reading processes.

3.6 Decision Accuracy and Consistency at the Cut Scores

Tables 4.15 through 4.20 contain the results of analyses performed to estimate the accuracy and consistency of the decisions for passing (proficient) on the 2009 MSA-Reading. The analyses make use of the methods outlined and implemented in Livingston and Lewis (1995), Haertel (1996), and Young and Yoon (1998).

The *accuracy* of a decision is the extent to which it would agree with the decisions that would be made if each student could somehow be tested with all possible parallel forms of the assessments. The *consistency* of a decision is the extent to which it would agree with the decisions that would be made if the students had taken a different form of the examination, equal in difficulty and covering the same content as the form they actually took.

Students can be misclassified in one of two ways. Students who were below the proficiency cut score, but were classified (on the basis of the assessment) as being above a cut score, are considered to be *false positives*. Students who were above the proficiency cut score, but were classified as being below a cut score, are considered to be *false negatives*.

For the 2009 MSA-Reading, Tables 4.15 through 4.20 include:

- Performance level
- Accuracy classifications
- False positives
- False negatives
- Consistency classifications

The tables illustrate the general rule that decision consistency is less than decision accuracy.

3.7 Differential Item Functioning

This section provides information about *differential item functioning* (*DIF*) analyses used for the 2009 MSA-Reading. For the 2009 MSA-Reading *DIF* analyses, the *reference* group was either male or Caucasian students, and the *focal* group was either female or African-American students. DIF analyses on the 2009 operational items indicated that all the items were satisfactory. All the DIF results were archived in the 2009 Maryland item bank.

Since the 2009 MSA-Reading was a mixed-format examination, comprised of both *SR* and *BCR* items, the *DIF* procedure used consists of the Mantel Chi-square (Mantel, 1963) for the *BCR* items and the Mantel-Haenszel procedure (Mantel & Haenszel, 1959) for the *SR* items.

Brief Constructed Response (BCR) Items

To help interpret the Mantel Chi-square (Mantel χ^2), the Educational Testing Service (ETS) *DIF* procedure uses the Mantel statistic in conjunction with the *standardized mean difference* (*SMD*).

Mantel Statistic

The Mantel χ^2 is simply a conditional mean comparison of the ordered response categories for reference and focal groups combined over values of the matching variable score. By "ordered" we mean that a response of 1 on an item is higher than 0, a response of 2 is higher than 1, and so on. "Conditional," on the other hand, refers to the comparison of members from the two groups who received the same score on the matching variable, i.e., the total test score in our analysis.

Table 3.2 shows a $2 \times T \times K$ contingency table, where T is the number of response categories and K is the number of levels of the matching variable. The values, y_1, y_2, …, y_T are the T

scores that can be gained on the item. The values, n_{Ftk} and n_{Rtk}, represent the numbers of focal and reference groups who are at the kth level of the matching variable and gain an item score of y_t. The "+" indicates total number over a particular index (Zwick, Donoghue, & Grima, 1993).

Table 3.2 2 × T Contingency Table at the kth level

Group	Item Score				Total
	y_1	y_2		y_T	
Reference	n_{R1k}	n_{R2k}	...	n_{RTk}	n_{R+k}
Focal	n_{F1k}	n_{F2k}	...	n_{FTk}	n_{F+k}
Total	n_{+1k}	n_{+2k}	...	n_{+Tk}	n_{++k}

Note. This table was cited from Zwick, et al. (1993)

The Mantel statistic is defined as the following formula:

$$\text{Mantel } \chi^2 = \frac{\left(\sum_k F_k - \sum_k E(F_k)\right)^2}{\sum_k Var(F_k)}$$

where

F_k = the sum of scores for the focal group at the kth level of the matching variable and is defined as follows:

$$F_k = \sum_t y_t n_{Ftk},$$

The expectation of F_k under the null hypothesis is

$$E(F_k) = \frac{n_{F+k}}{n_{++k}} \sum_t y_t n_{+tk}.$$

And, the variance of F_k under the null hypothesis is as follows:

$$Var(F_k) = \frac{n_{R+k} n_{F+k}}{n_{++k}^2 (n_{++k}-1)} \left[\left(n_{++k} \sum_t y_t^2 n_{+tk}\right) - \left(\sum_t y_t n_{+tk}\right)^2 \right].$$

Under H_0, the Mantel statistic has a chi-square distribution with one degree of freedom. In *DIF* applications, rejecting H_0 suggests that the students of the reference and focal groups who are similar in overall test performance tend to differ in their mean performance. In the case of dichotomous items, on the other hand, the statistic is identical to the Mantel-Haenszel (1959) statistic without the continuity correction (Zwick, Donoghue, & Grima, 1993).

Standardized Mean Difference (SMD)

A summary statistic to accompany the Mantel approach is the *standardized mean difference* (*SMD*) between the reference and focal groups proposed by Dorans and Schmitt (1991). This statistic compares the means of the reference and focal groups, adjusting for differences in the distribution of the reference and focal group members across the values of the matching variable.

$$SMD = \sum_k p_{Fk} m_{Fk} - \sum_k p_{Fk} m_{Rk}$$

where

$p_{Fk} = \dfrac{n_{F+k}}{n_{F++}}$, the proportion of the focal group members who are at the kth level of the matching variable,

$m_{RK} = \dfrac{1}{n_{F+k}} \times (\sum_t y_t n_{Ftk})$, the mean item score of the focal group members at the kth level, and

m_{Rk} = the analogous value for the reference group.

As can be seen from the equation above, the *SMD* is the difference between the unweighted item mean of the focal group and the weighted item mean of the reference group. The weights for the reference group are applied to make the weighted number of the reference group students the same as in the focal group within the same ability. A negative *SMD* value implies that the focal group has a lower mean item score than the reference group, conditional on the matching variable.

DIF classification for BCR items

The *SMD* is divided by the total group item standard deviation to obtain an effect-size value for the *SMD*. This effect-size *SMD* is then examined in conjunction with the Mantel χ^2 to obtain *DIF* classifications that are depicted in Table 3.3 below.

Table 3.3 DIF Classification for BCR Items

Category	Description	Criterion
AA	No *DIF*	Non-significant Mantel χ^2 or Significant Mantel χ^2 and |SMD/SD| ≤ .17
BB	Weak *DIF*	Significant Mantel χ^2 and .17 < |SMD/SD| ≤ .25
CC	Strong *DIF*	Significant Mantel χ^2 and .25 < |SMD/SD|

Note. SD is the total group standard deviation of the item score in its original metric.

Selected Response (SR) Items

For the *SR* items, the Mantel-Haenszel Chi-square (M-H χ^2) is used in conjunction with the M-H odds ratio transferred to what ETS calls the *delta scale* (D).

The Odds Ratio

The odds of a correct response (proportion passing divided by proportion failing) are *P/Q* or *P/(1-P)*. The odds ratio, on the other hand, is simply the odds of a correct response of the reference group divided by the odds of a correct response of the focal group.

For a given item, the odds ratio is defined as follows:

$$\alpha_{M-H} = \frac{P_r / Q_r}{P_f / Qf}.$$

The corresponding null hypothesis is that the odds of getting the item correct are equal for the two groups. Thus, the odds ratio is equal to 1:

$$H_0: \alpha_{M-H} = \frac{P_r / Q_r}{P_f / Qf} = 1.$$

The Delta Scale

In order to make the odds ratio symmetrical around zero with its range being in the interval $-\infty$ to $+\infty$, the odds ratio is transformed into a log odds ratio as per the following:

$$\beta_{M-H} = \ln(\alpha_{M-H}).$$

The simple natural logarithm transformation of this odds ratio is symmetrical about zero in which zero has the interpretation of equal odds. This *DIF* measure is a signed index where a positive value signifies *DIF* in favor of the reference group while a negative value indicates *DIF* in favor of the focal group. β_{M-H} also has the advantage of being transformed linearly to other interval scale metrics (Camilli & Shepard, 1994). This fact is utilized by ETS in creating their delta scale (D), which is defined as follows:

$$D = -2.35 \cdot \beta_{M-H}.$$

DIF classification for SR items

The following table depicts *DIF* classifications for SR items to examine the M-H χ^2 in conjunction with the delta scale (D):

Table 3.4 DIF Classification for SR Items

Category	Description	Criterion
A	No *DIF*	Non-significant M-H χ^2 or |D| < 1.0
C	Strong *DIF*	Significant M-H χ^2 and |D| $\geq$ 1.5
B	Weak *DIF*	Otherwise classified as B

3.8 Equating and Scaling

Tables 4.27 through 4.54 contain the 2009 MSA-Reading total and subtotal raw score to scale score (RS/SS) conversion tables. It should be noted that the total RS/SS tables for verbatim students were created after excluding general reading items (16 items for grade 3 and 15 items for grade 4). Because of these procedures verbatim students did not receive general reading raw scores and scale scores. Conditional standard errors for the total and subtotal scale scores are also included.

The Rasch and Partial Credit Models

The most basic expression of the Rasch model is in the *item characteristic curve* (ICC). It shows the probability of a correct response to an item as a function of the ability level. The probability of a correct response is bounded by 1 (certainty of a correct response) and 0 (certainty of an incorrect response).
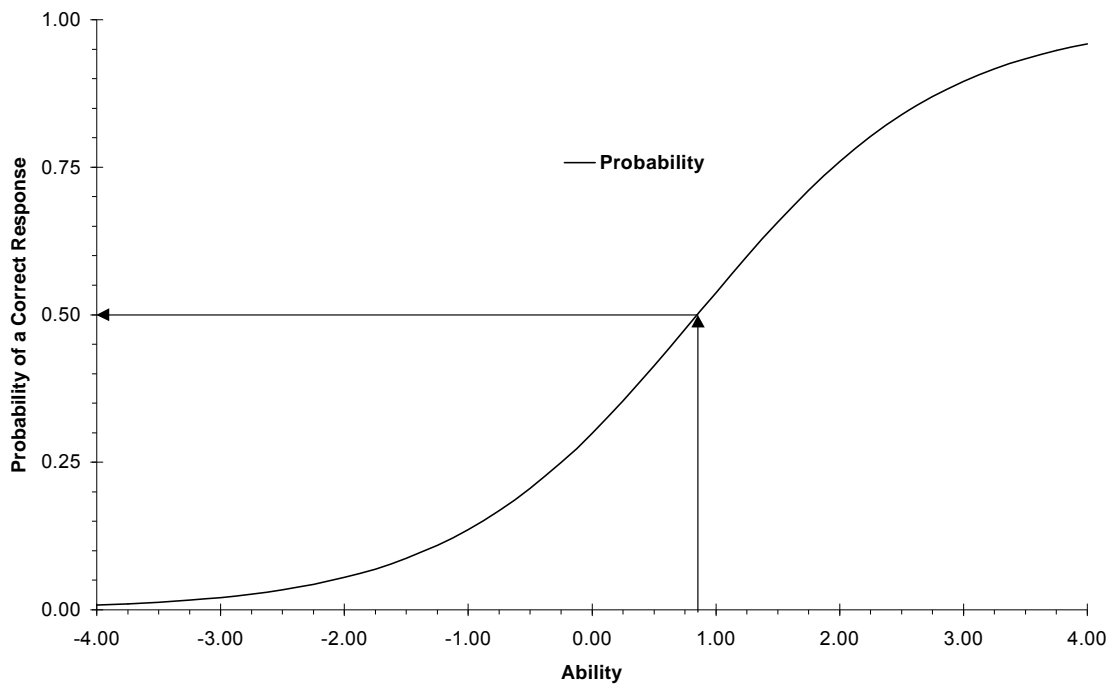
Figure 3.1 Item Characteristic Curve

As an example, consider Figure 3.1, which depicts an item that falls at approximately 0.85 on the ability (horizontal) scale. When a person answers an item at the same level as their ability, then that person has a probability of roughly 50% of answering the item correctly. Another way of expressing this is that if we have a group of 100 people, all of whom have an ability of 0.85, we would expect about 50% of them to answer the item correctly. A person whose ability was above 0.85 would a higher probability of getting the item right, while a person whose ability is below 0.85 would have a lower probability of getting the item right. This makes intuitive sense and is the basic formulation of Rasch measurement for test items having only 2 possible categories (i.e., wrong or right).
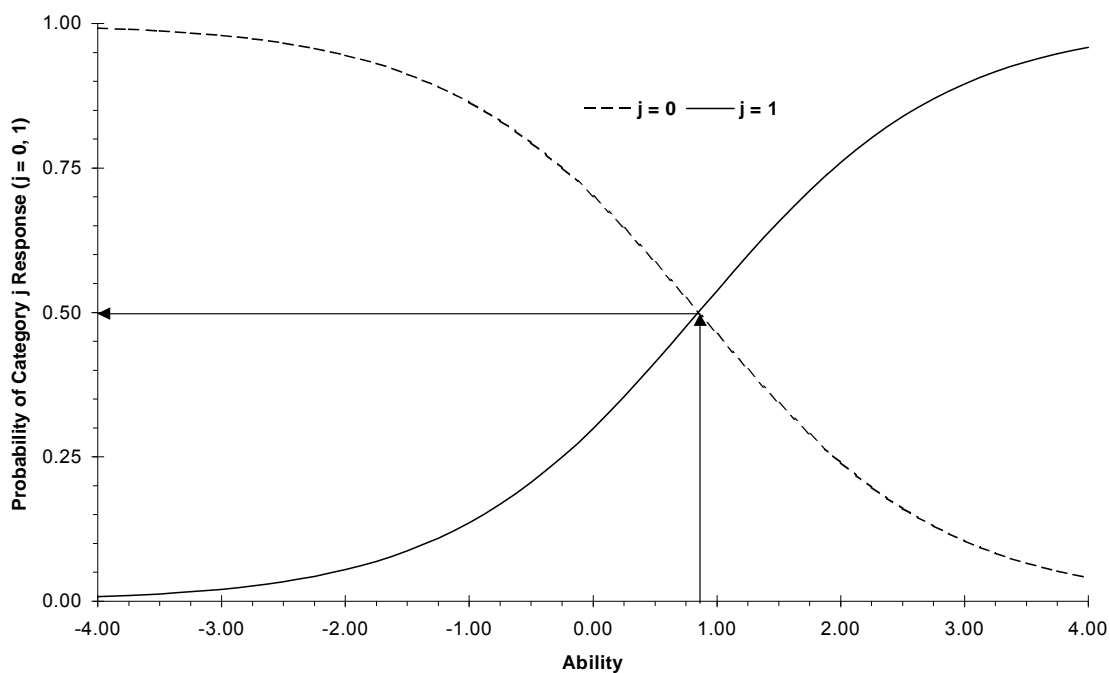
Figure 3.2 Category Response Curves for a One-Step Item

Figure 3.2 extends this formulation to show the probabilities of obtaining a wrong answer or a right answer. The curve on the left ($j = 0$) shows the probability of getting a score of "0" while the curve on the right ($j = 1$) shows the probability of getting a score of "1." The point at which the two curves cross indicates the transition point on the ability scale where the most likely response changes from a "0" to a "1." Here, the probability of answering the item correctly is 50%.

The key step in the formulation, and the point at which the Rasch dichotomous model merges with the PCM, requires us to assume an additional response category. Suppose that, rather than scoring items as completely wrong or completely right, we add a category representing answers

that, though not totally correct, are still clearly not totally incorrect. These relationships are shown in Figure 3.3.

The left-most curve ($j = 0$) in Figure 3.3 represents the probability for all examinees getting a score of "0" (completely incorrect) on the item, given their ability. Those of very low ability (i.e., below - 2) are very likely to be in this category and, in fact, are more likely to be in this category than the other two. Those receiving a "1" (partial credit) tend to fall in the middle range of abilities (the middle curve, $j = 1$). The final, right-most curve ($j = 2$) represents the probability for those receiving scores of "2" (completely correct). Very high-ability people are clearly more likely to be in this category than in any other, but there are still some of average and low ability that can get full credit for the item.
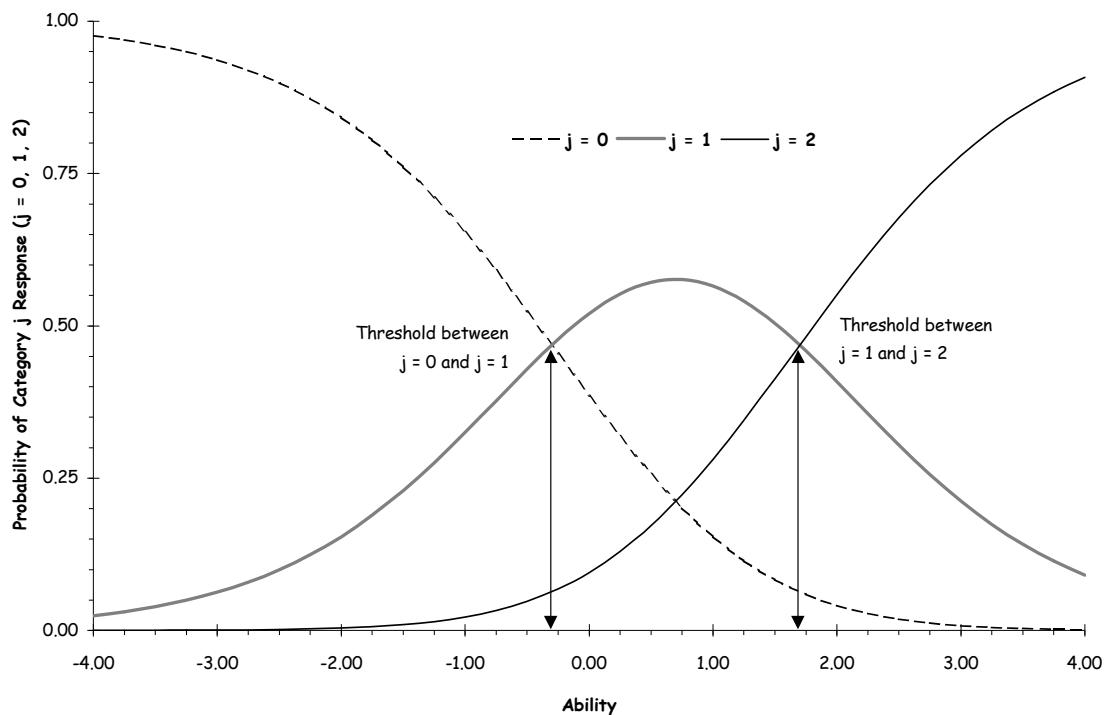
Figure 3.3 Category Response Curves for a Two-Step Item

Although the actual computations are quite complex, the points at which lines cross each other have a similar interpretation as for the dichotomous case. Consider the point at which the $j = 0$ line crosses the $j = 1$ line, indicated by the left arrow. For abilities to the left of (or less than) this point, the probability is greatest for a "0" response. To the right of (or above) this point, and up to the point at which the $j = 1$ and $j = 2$ lines cross (marked by the right arrow), the most likely response is a "1". For abilities to the right of this point, the most likely response is a "2".

Note that the probability of scoring a "1" response ($j = 1$) declines in both directions as ability decreases to the low extreme or increases to the high extreme. These points, then, may be thought of as the difficulties of crossing the *thresholds* between categories.

An important implication of the formulation can be summarized as follows: If the commonly used Rasch model applied to dichotomously (right/wrong) scored items can be thought of as simply a special case of the PCM, then the act of scaling multiple-choice items together with polytomous items, whether they have three or more response categories, is a straightforward process of applying the measurement model. The quality of the scaling can then be assessed in terms of known procedures.

One important property of the PCM is its ability to separate the estimation of item/task parameters from the person parameters. With the PCM, as with the Rasch model, the total score given by the sum of the categories in which a person responds is a sufficient statistic for estimating person ability (i.e., no additional information need be estimated). The total number of responses across examinees in a particular category is a sufficient statistic for estimating the step difficulty for that category. Thus with PCM, the same total score will yield the same ability estimate for different examinees.

The PCM is a direct extension of the dichotomous one-parameter logistic *IRT* model developed by Rasch (Rasch, 1980). For an item/task involving m_i score categories, one general expression for the probability of scoring x on item/task i is given by

$$P_{nix} = \exp \sum_{j=0}^{x} (\theta_n - D_{ij}) / \sum_{k=0}^{m_i} \left[\exp \sum_{j=0}^{k} (\theta_n - D_{ij}) \right] \qquad x = 0, 1, ..., m_i,$$

where $\sum_{j=0}^{0} (\theta - D_{ij}) = 0$ and

$$\exp \sum_{j=0}^{0} (\theta - D_{ij}) = 1.$$

The above equation gives the probability of scoring x on the i-th test item as a function of ability (θ) and the difficulty of the m_i steps of the task (Masters, 1982).

According to this model, the probability of an examinee scoring in a particular category (step) is the sum of the logit (log-odds) differences between θ and D_{ij} of all the completed steps, divided by the sum of the differences of all the steps of a task. Thissen and Steinberg (1986) refers to this model as a divide-by-total model. The parameters estimated by this model are (1) an ability estimate for each person (or ability estimate at each raw score level) and (2) m_i threshold (difficulty) estimates for each task with $m_i + 1$ score categories.

4. THE 2009 MSA-READING STATISTICAL SUMMARY

This chapter summarizes statistical results of the 2009 MSA-Reading. It includes descriptive statistics of the 2009 reading test based on raw scores and scale scores, accuracy and consistency of the 2009 reading test, rater agreement rates, correlation coefficients among reporting standards, and total and subtotal RS/SS conversion tables.

Table 4.1 Classical Descriptive Statistics for the 2009 MSA-Reading: Grades 3 through 8

Grade	Form	N	Total number of Items	Mean	SD	Reliability	SEM
3	A	26,900	37	29.92	6.85	0.88	2.37
	B	26,903	37	30.97	6.96	0.88	2.41
4	A	29,449	37	28.91	7.48	0.88	2.59
	B	29,266	37	27.78	7.54	0.88	2.61
5	A	30,193	37	30.55	6.65	0.86	2.49
	B	29,986	37	29.31	6.30	0.84	2.52
6	A	29,751	37	30.21	6.34	0.85	2.46
	B	29,070	37	30.19	6.31	0.85	2.44
7	A	30,046	37	31.13	6.92	0.88	2.40
	B	29,541	37	30.76	6.78	0.87	2.44
8	A	30,717	37	29.31	6.52	0.85	2.53
	B	30,235	37	29.00	6.13	0.84	2.45

Note. Analysis was conducted with a statewide population.

Table 4.2 The 2009 MSA-Reading Scale Score Descriptive Statistics: Grades 3 through 8

Grade	Form	*N*	*M*	*SD*	*P10*	*Q1*	*Mdn*	*Q3*	*P90*	*IQR*	*SE* at Cut-Points	
											Prof.	Adv.
3	A	29,986	421.7	44.5	360	392	423	453	471	61	11	17
	B	29,660	421.4	43.3	364	392	421	451	479	59	11	17
	Overall	59,646	421.6	43.9	364	392	423	451	479	59	N/A	N/A
4	A	29,449	413.6	38.2	365	388	413	440	464	52	11	15
	B	29,266	414.0	38.1	365	386	415	440	462	54	12	14
	Overall	58,715	413.8	38.1	365	388	413	440	462	52	N/A	N/A
5	A	30,193	427.6	37.1	381	401	428	454	472	53	11	13
	B	29,986	425.8	34.9	385	401	424	447	471	46	12	13
	Overall	60,179	426.7	36.0	381	401	424	447	472	46	N/A	N/A
6	A	29,751	414.3	33.4	372	391	413	435	459	44	11	13
	B	29,070	412.9	32.2	375	391	412	433	456	42	11	13
	Overall	58,821	413.6	32.8	372	391	413	435	456	44	N/A	N/A
7	A	30,046	421.8	39.5	372	396	419	443	471	47	11	14
	B	29,541	420.7	37.4	373	394	421	444	471	50	11	13
	Overall	59,587	421.3	38.5	373	396	421	444	471	48	N/A	N/A
8	A	30,717	416.1	30.8	376	395	415	435	456	40	11	13
	B	30,235	416.1	31.0	379	395	417	439	453	44	11	13
	Overall	60,952	416.1	30.9	376	395	417	435	456	40	N/A	N/A

Note. Analyses were conducted with a whole population.

Table 4.3 The 2009 MSA-Reading Standard Correlations: Grade 3 Form A

Cluster	*N*	Mean	*SD*	1	2	3
1. General Reading	26,900	12.76	2.78	1.00		
2. Literary Reading	26,900	8.33	2.55	0.7	1.00	
3. Information Reading	26,900	8.83	2.41	0.64	0.61	1.00

Note. Analysis was conducted with a statewide population.

Table 4.4 The 2009 MSA-Reading Standard Correlations: Grade 3 Form B

Cluster	*N*	Mean	*SD*	1	2	3
1. General Reading	26,903	12.79	2.78	1.00		
2. Literary Reading	26,903	8.83	2.49	0.68	1.00	
3. Information Reading	26,903	9.35	2.56	0.67	0.63	1.00

Note. Analysis was conducted with a statewide population.

Table 4.5 The 2009 MSA-Reading Standard Correlations: Grade 4 Form A

Cluster	*N*	Mean	*SD*	1	2	3
1. General Reading	29,449	11.54	2.63	1.00		
2. Literary Reading	29,449	9.02	2.85	0.70	1.00	
3. Information Reading	29,449	8.34	2.93	0.66	0.70	1.00

Note. Analysis was conducted with a statewide population.

Table 4.6 The 2009 MSA-Reading Standard Correlations: Grade 4 Form B

Cluster	*N*	Mean	*SD*	1	2	3
1. General Reading	29,266	11.49	2.61	1.00		
2. Literary Reading	29,266	8.60	2.85	0.70	1.00	
3. Information Reading	29,266	7.69	3.00	0.67	0.71	1.00

Note. Analysis was conducted with a statewide population.

Table 4.7 The 2009 MSA-Reading Standard Correlations: Grade 5 Form A

Cluster	N	Mean	SD	1	2	3
1. General Reading	30,193	11.73	2.28	1.00		
2. Literary Reading	30,193	9.62	2.76	0.64	1.00	
3. Information Reading	30,193	9.19	2.54	0.62	0.69	1.00

Note. Analysis was conducted with a statewide population.

Table 4.8 The 2009 MSA-Reading Standard Correlations: Grade 5 Form B

Cluster	N	Mean	SD	1	2	3
1. General Reading	29,986	11.78	2.26	1.00		
2. Literary Reading	29,986	9.72	2.43	0.62	1.00	
3. Information Reading	29,986	7.81	2.62	0.58	0.63	1.00

Note. Analysis was conducted with a statewide population.

Table 4.9 The 2009 MSA-Reading Standard Correlations: Grade 6 Form A

Cluster	N	Mean	SD	1	2	3
1. General Reading	29,751	11.9	2.41	1.00		
2. Literary Reading	29,751	9.57	2.51	0.67	1.00	
3. Information Reading	29,751	8.75	2.37	0.61	0.64	1.00

Note. Analysis was conducted with a statewide population.

Table 4.10 The 2009 MSA-Reading Standard Correlations: Grade 6 Form B

Cluster	N	Mean	SD	1	2	3
1. General Reading	29,070	11.89	2.39	1.00		
2. Literary Reading	29,070	8.97	2.53	0.63	1.00	
3. Information Reading	29,070	9.32	2.35	0.63	0.63	1.00

Note. Analysis was conducted with a statewide population.

Table 4.11 The 2009 MSA-Reading Standard Correlations: Grade 7 Form A

Cluster	N	Mean	SD	1	2	3
1. General Reading	30,046	11.74	2.49	1.00		
2. Literary Reading	30,046	9.98	2.71	0.69	1.00	
3. Information Reading	30,046	9.42	2.61	0.64	0.7	1.00

Note. Analysis was conducted with a statewide population.

Table 4.12 The 2009 MSA-Reading Standard Correlations: Grade 7 Form B

Cluster	N	Mean	SD	1	2	3
1. General Reading	29,541	11.77	2.45	1.00		
2. Literary Reading	29,541	9.39	2.66	0.68	1.00	
3. Information Reading	29,541	9.61	2.60	0.63	0.67	1.00

Note. Analysis was conducted with a statewide population.

Table 4.13 The 2009 MSA-Reading Standard Correlations: Grade 8 Form A

Cluster	N	Mean	SD	1	2	3
1. General Reading	30,717	12.00	2.46	1.00		
2. Literary Reading	30,717	8.39	2.45	0.61	1.00	
3. Information Reading	30,717	8.93	2.58	0.64	0.66	1.00

Note. Analysis was conducted with a statewide population.

Table 4.14 The 2009 MSA-Reading Standard Correlations: Grade 8 Form B

Cluster	N	Mean	SD	1	2	3
1. General Reading	30,235	12.00	2.42	1.00		
2. Literary Reading	30,235	8.00	2.46	0.60	1.00	
3. Information Reading	30,235	9.00	2.25	0.59	0.64	1.00

Note. Analysis was conducted with a statewide population.

Table 4.15 The 2009 MSA-Reading Decision Accuracy and Consistency Indices: Grade 3

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	*B : PA*	0.93	0.03	0.05	0.90
	BP : A	0.92	0.05	0.03	0.88
B	*B : PA*	0.92	0.03	0.05	0.89
	BP : A	0.92	0.04	0.04	0.89

Note. B:PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.16 The 2009 MSA-Reading Decision Accuracy and Consistency Indices: Grade 4

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	*B : PA*	0.94	0.02	0.04	0.91
	BP : A	0.91	0.05	0.04	0.88
B	*B : PA*	0.94	0.03	0.04	0.91
	BP : A	0.91	0.05	0.03	0.88

Note. B:PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.17 The 2009 MSA-Reading Decision Accuracy and Consistency Indices: Grade 5

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	*B : PA*	0.93	0.02	0.04	0.91
	BP : A	0.88	0.06	0.06	0.83
B	*B : PA*	0.93	0.02	0.05	0.90
	BP : A	0.87	0.07	0.06	0.82

Note. B:PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.18 The 2009 MSA-Reading Decision Accuracy and Consistency Indices: Grade 6

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	*B : PA*	0.91	0.03	0.06	0.87
	BP : A	0.89	0.07	0.05	0.84
B	*B : PA*	0.91	0.03	0.05	0.88
	BP : A	0.88	0.06	0.06	0.84

Note. B:PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.19 The 2009 MSA-Reading Decision Accuracy and Consistency Indices: Grade 7

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	*B : PA*	0.92	0.03	0.05	0.88
	BP : A	0.89	0.06	0.05	0.85
B	*B : PA*	0.91	0.04	0.05	0.88
	BP : A	0.89	0.06	0.05	0.84

Note. B:PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.20 The 2009 MSA-Reading Decision Accuracy and Consistency Indices: Grade 8

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	*B : PA*	0.91	0.04	0.05	0.88
	BP : A	0.88	0.06	0.06	0.84
B	*B : PA*	0.91	0.04	0.06	0.87
	BP : A	0.88	0.06	0.06	0.83

Note. B:PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.21 The 2009 MSA-Reading Score Difference between Rater 1 and Rater 2: Grade 3

Form	Item No.	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	%	N	%	N	%	N	%
A	11	3492389	21,589	80.26	5,277	19.62	34	0.13	26,900	100.00
	14	3492393	22,097	82.14	4,669	17.36	134	0.50	26,900	100.00
	17	3471505	20,009	74.38	6,671	24.80	220	0.82	26,900	100.00
	20	3471506	19,917	74.04	6,868	25.53	115	0.43	26,900	100.00
B	11	3497784	20,216	75.14	6,605	24.55	82	0.30	26,903	100.00
	14	3497783	22,177	82.43	4,713	17.52	13	0.05	26,903	100.00
	17	3490497	20,907	77.71	5,914	21.98	82	0.30	26,903	100.00
	20	3490494	22,281	82.82	4,617	17.16	5	0.02	26,903	100.00

Note. Analyses were conducted with a statewide population.

Table 4.22 The 2009 MSA-Reading Score Difference between Rater 1 and Rater 2: Grade 4

Form	Item No.	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	%	N	%	N	%	N	%
A	11	3497929	23,711	80.52	5,538	18.81	200	0.68	29,449	100.00
	14	3497931	22,517	76.46	6,869	23.33	63	0.21	29,449	100.00
	17	3470329	20,494	69.59	8,749	29.71	206	0.70	29,449	100.00
	20	3470328	20,088	68.21	9,066	30.79	295	1.00	29,449	100.00
B	11	3488817	23,931	81.77	5,226	17.86	109	0.37	29,266	100.00
	14	3488816	21,720	74.22	7,500	25.63	46	0.16	29,266	100.00
	17	3497919	23,190	79.24	5,700	19.48	376	1.28	29,266	100.00
	20	3497917	21,271	72.68	7,871	26.89	124	0.42	29,266	100.00

Note. Analyses were conducted with a statewide population.

Table 4.23 The 2009 MSA-Reading Score Difference between Rater 1 and Rater 2: Grade 5

Form	Item No.	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	%	N	%	N	%	N	%
A	11	3486368	25,398	84.12	4,788	15.86	6	0.02	30,192	100.00
	14	3486369	22,541	74.66	7,487	24.80	164	0.54	30,192	100.00
	17	3468082	23,353	77.35	6,795	22.51	44	0.15	30,192	100.00
	20	3468083	22,447	74.35	7,666	25.39	79	0.26	30,192	100.00
B	11	3296564	23,001	76.71	6,968	23.24	17	0.06	29,986	100.00
	14	3296565	23,488	78.33	6,470	21.58	28	0.09	29,986	100.00
	17	3486188	23,427	78.13	6,475	21.59	84	0.28	29,986	100.00
	20	3486190	23,680	78.97	6,166	20.56	140	0.47	29,986	100.00

Note. Analyses were conducted with a statewide population.

Table 4.24 The 2009 MSA-Reading Score Difference between Rater 1 and Rater 2: Grade 6

Form	Item No.	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
A	11	3470028	22,981	77.24	6,452	21.69	318	1.07	29,751	100.00
	14	3470029	20,876	70.17	8,693	29.22	182	0.61	29,751	100.00
	17	3498432	23,357	78.51	6,329	21.27	65	0.22	29,751	100.00
	20	3498435	24,952	83.87	4,665	15.68	134	0.45	29,751	100.00
B	11	3470041	20,327	69.92	8,595	29.57	148	0.51	29,070	100.00
	14	3470039	22,331	76.82	6,458	22.22	281	0.97	29,070	100.00
	17	3489694	22,888	78.73	6,147	21.15	35	0.12	29,070	100.00
	20	3489696	24,385	83.88	4,652	16.00	33	0.11	29,070	100.00

Note. Analyses were conducted with a statewide population.

Table 4.25 The 2009 MSA-Reading Score Difference between Rater 1 and Rater 2: Grade 7

Form	Item No.	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
A	7	3470050	21,847	72.71	8,146	27.11	53	0.18	30,046	100.00
	10	3470051	22,359	74.42	7,579	25.22	108	0.36	30,046	100.00
	13	3468879	21,900	72.89	7,812	26.00	334	1.11	30,046	100.00
	16	3468877	21,812	72.60	8,125	27.04	109	0.36	30,046	100.00
B	7	3497797	22,778	77.11	6,704	22.69	59	0.20	29,541	100.00
	10	3497798	24,185	81.87	5,322	18.02	34	0.12	29,541	100.00
	13	3468867	24,572	83.18	4,563	15.45	406	1.37	29,541	100.00
	16	3468866	21,571	73.02	7,855	26.59	115	0.39	29,541	100.00

Note. Analyses were conducted with a statewide population.

Table 4.26 The 2009 MSA-Reading Score Difference between Rater 1 and Rater 2: Grade 8

Form	Item No.	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
A	7	3514210	22,351	72.76	8,232	26.80	134	0.44	30,717	100.00
	10	3514209	23,469	76.40	7,198	23.43	50	0.16	30,717	100.00
	13	3327522	23,025	74.96	7,636	24.86	56	0.18	30,717	100.00
	16	3327523	23,746	77.31	6,781	22.08	190	0.62	30,717	100.00
B	7	3470065	19,442	64.30	10,178	33.66	615	2.03	30,235	100.00
	10	3470063	24,330	80.47	5,876	19.43	29	0.10	30,235	100.00
	13	3489342	23,827	78.81	6,376	21.09	32	0.11	30,235	100.00
	16	3489340	24,264	80.25	5,888	19.47	83	0.27	30,235	100.00

Note. Analyses were conducted with a statewide population.

Table 4.27 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 3 Form A

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	47
1	243	34
2	268	25
3	284	21
4	296	18
5	305	17
6	313	16
7	320	15
8	327	14
9	332	13
10	338	13
11	343	13
12	347	12
13	352	12
14	356	12
15	360	12
16	365	11
17	369	11
18	373	11
19	377	11
20	380	11
21	384	11
22	388	11
23	392	11
24	396	11
25	400	12
26	405	12
27	409	12
28	413	12
29	418	12
30	423	13
31	428	13
32	434	14
33	440	14
34	446	15
35	453	16
36	462	17
37	471	18
38	482	20
39	496	23
40	515	26
41	539	30
42	568	31
43	597	31
44	631	37
45	650[b]	49

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Table 4.28 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 3 Form B

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	47
1	240[a]	34
2	264	25
3	279	21
4	291	18
5	301	17
6	309	16
7	316	15
8	322	14
9	328	13
10	333	13
11	338	13
12	343	12
13	348	12
14	352	12
15	356	12
16	360	11
17	364	11
18	368	11
19	372	11
20	376	11
21	380	11
22	384	11
23	388	11
24	392	11
25	395	11
26	399	11
27	404	12
28	408	12
29	412	12
30	417	12
31	421	13
32	426	13
33	432	13
34	437	14
35	444	15
36	451	16
37	459	17
38	468	18
39	479	20
40	494	23
41	513	27
42	538	30
43	568	33
44	606	39
45	650[b]	50

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Table 4.29 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 3 Form A

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	48
GR	1	258	36
GR	2	287	27
GR	3	305	23
GR	4	320	21
GR	5	333	20
GR	6	344	19
GR	7	355	18
GR	8	365	18
GR	9	375	18
GR	10	385	18
GR	11	396	19
GR	12	408	20
GR	13	421	22
GR	14	439	26
GR	15	465	34
GR	16	650	47
LI	0	240	47
LI	1	300	35
LI	2	327	26
LI	3	346	23
LI	4	361	22
LI	5	375	21
LI	6	389	21
LI	7	402	21
LI	8	417	23
LI	9	434	25
LI	10	455	28
LI	11	484	34
LI	12	534	46
LI	13	597	45
LI	14	650	53
IN	0	240	47
IN	1	310	34
IN	2	336	26
IN	3	354	22
IN	4	368	20
IN	5	380	20
IN	6	392	19
IN	7	404	20
IN	8	416	20
IN	9	430	22
IN	10	445	24
IN	11	465	27
IN	12	492	33
IN	13	538	43
IN	14	595	44
IN	15	650	52

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.30 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 3 Form B

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	48
GR	1	258	36
GR	2	287	27
GR	3	305	23
GR	4	320	21
GR	5	333	20
GR	6	344	19
GR	7	355	18
GR	8	365	18
GR	9	375	18
GR	10	385	18
GR	11	396	19
GR	12	408	20
GR	13	421	22
GR	14	439	26
GR	15	465	34
GR	16	650	47
LI	0	240	48
LI	1	296	35
LI	2	324	26
LI	3	342	23
LI	4	357	21
LI	5	370	20
LI	6	383	20
LI	7	395	20
LI	8	408	21
LI	9	422	22
LI	10	440	25
LI	11	465	32
LI	12	511	45
LI	13	576	47
LI	14	650	55
IN	0	240	48
IN	1	294	36
IN	2	323	27
IN	3	342	23
IN	4	358	21
IN	5	371	20
IN	6	383	20
IN	7	395	20
IN	8	407	20
IN	9	420	21
IN	10	434	22
IN	11	451	24
IN	12	472	29
IN	13	504	36
IN	14	556	46
IN	15	650	56

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.31 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table for Verbatim Students: Grade 3 Form A

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240	47
1	280	33
2	305	24
3	320	21
4	332	18
5	342	17
6	350	16
7	357	15
8	365	15
9	371	15
10	378	14
11	384	14
12	390	14
13	397	14
14	403	15
15	410	15
16	417	15
17	424	16
18	432	16
19	440	17
20	450	18
21	460	19
22	473	21
23	488	24
24	509	28
25	536	31
26	567	31
27	596	31
28	631	37
29	650	49

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Table 4.32 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table for Verbatim Students: Grade 3 Form B

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240	47
1	270	34
2	295	25
3	311	21
4	323	19
5	334	17
6	342	16
7	350	16
8	357	15
9	364	15
10	371	14
11	377	14
12	383	14
13	389	14
14	395	14
15	401	14
16	408	14
17	414	15
18	421	15
19	429	16
20	437	17
21	446	18
22	456	19
23	469	21
24	485	24
25	506	28
26	534	31
27	566	33
28	605	39
29	650	50

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Table 4.33 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table for Verbatim Students: Grade 3 Form A

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
LI	0	240	47
LI	1	300	35
LI	2	327	26
LI	3	346	23
LI	4	361	22
LI	5	375	21
LI	6	389	21
LI	7	402	21
LI	8	417	23
LI	9	434	25
LI	10	455	28
LI	11	484	34
LI	12	534	46
LI	13	597	45
LI	14	650	53
IN	0	240	47
IN	1	310	34
IN	2	336	26
IN	3	354	22
IN	4	368	20
IN	5	380	20
IN	6	392	19
IN	7	404	20
IN	8	416	20
IN	9	430	22
IN	10	445	24
IN	11	465	27
IN	12	492	33
IN	13	538	43
IN	14	595	44
IN	15	650	52

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. LI=Literary, IN=Informational

Table 4.34 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table for Verbatim Students: Grade 3 Form B

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
LI	0	240	48
LI	1	296	35
LI	2	324	26
LI	3	342	23
LI	4	357	21
LI	5	370	20
LI	6	383	20
LI	7	395	20
LI	8	408	21
LI	9	422	22
LI	10	440	25
LI	11	465	32
LI	12	511	45
LI	13	576	47
LI	14	650	55
IN	0	240	48
IN	1	294	36
IN	2	323	27
IN	3	342	23
IN	4	358	21
IN	5	371	20
IN	6	383	20
IN	7	395	20
IN	8	407	20
IN	9	420	21
IN	10	434	22
IN	11	451	24
IN	12	472	29
IN	13	504	36
IN	14	556	46
IN	15	650	56

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. LI=Literary, IN=Informational

Table 4.35 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 4 Form A

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	47
1	240[a]	34
2	257	25
3	273	21
4	285	19
5	295	17
6	303	16
7	310	15
8	317	14
9	323	14
10	329	13
11	334	13
12	339	13
13	344	12
14	348	12
15	352	12
16	357	12
17	361	12
18	365	11
19	369	11
20	373	11
21	376	11
22	380	11
23	384	11
24	388	11
25	392	11
26	396	11
27	400	12
28	404	12
29	408	12
30	413	12
31	418	13
32	422	13
33	428	13
34	433	14
35	440	15
36	447	16
37	454	17
38	464	18
39	475	20
40	488	22
41	506	25
42	528	29
43	556	33
44	597	42
45	650[b]	53

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.36 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 4 Form B

Raw Score	Scale Score (SS)	Standard Error (SE)
0	240[a]	47
1	240[a]	34
2	259	25
3	275	21
4	287	19
5	297	17
6	306	16
7	313	15
8	320	15
9	326	14
10	332	14
11	338	13
12	343	13
13	348	13
14	352	12
15	357	12
16	361	12
17	365	12
18	370	12
19	374	12
20	378	11
21	382	11
22	386	11
23	390	11
24	394	11
25	398	12
26	402	12
27	406	12
28	410	12
29	415	12
30	419	12
31	424	13
32	429	13
33	434	14
34	440	14
35	447	15
36	454	16
37	462	17
38	471	18
39	483	20
40	497	23
41	515	26
42	536	28
43	562	30
44	596	38
45	650[b]	50

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.37 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 4 Form A

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	48
GR	1	248	36
GR	2	277	27
GR	3	296	24
GR	4	313	22
GR	5	327	21
GR	6	340	20
GR	7	352	20
GR	8	364	20
GR	9	375	20
GR	10	387	20
GR	11	400	21
GR	12	415	23
GR	13	433	26
GR	14	460	35
GR	15	650	48
LI	0	240	48
LI	1	284	35
LI	2	312	26
LI	3	330	23
LI	4	345	21
LI	5	358	20
LI	6	370	20
LI	7	382	20
LI	8	394	20
LI	9	406	21
LI	10	421	23
LI	11	439	26
LI	12	465	33
LI	13	512	45
LI	14	580	49
LI	15	650	56
IN	0	240	48
IN	1	304	35
IN	2	330	26
IN	3	347	22
IN	4	361	20
IN	5	373	19
IN	6	384	19
IN	7	394	19
IN	8	405	19
IN	9	417	20
IN	10	430	21
IN	11	445	24
IN	12	465	28
IN	13	492	33
IN	14	532	40
IN	15	650	51

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.38 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 4 Form B

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	48
GR	1	248	36
GR	2	277	27
GR	3	296	24
GR	4	313	22
GR	5	327	21
GR	6	340	20
GR	7	352	20
GR	8	364	20
GR	9	375	20
GR	10	387	20
GR	11	400	21
GR	12	415	23
GR	13	433	26
GR	14	460	35
GR	15	650	48
LI	0	240	49
LI	1	289	36
LI	2	318	27
LI	3	337	23
LI	4	352	21
LI	5	365	20
LI	6	377	20
LI	7	389	20
LI	8	401	20
LI	9	414	21
LI	10	428	23
LI	11	446	26
LI	12	471	32
LI	13	515	43
LI	14	574	44
LI	15	650	53
IN	0	240	48
IN	1	307	35
IN	2	335	26
IN	3	353	23
IN	4	368	21
IN	5	381	20
IN	6	392	19
IN	7	404	19
IN	8	415	20
IN	9	427	20
IN	10	441	22
IN	11	457	24
IN	12	478	28
IN	13	507	34
IN	14	548	41
IN	15	650	52

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.39 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 5 Form A

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	49
1	240[a]	36
2	258	26
3	275	22
4	288	19
5	298	17
6	307	16
7	314	15
8	321	14
9	327	14
10	333	13
11	338	13
12	343	13
13	348	12
14	352	12
15	357	12
16	361	12
17	365	12
18	369	12
19	373	11
20	377	11
21	381	11
22	385	11
23	389	11
24	393	11
25	397	12
26	401	12
27	405	12
28	409	12
29	414	12
30	418	13
31	423	13
32	428	13
33	434	14
34	440	14
35	446	15
36	454	16
37	462	17
38	472	19
39	484	21
40	500	24
41	519	27
42	543	29
43	569	31
44	603	38
45	650[b]	50

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Table 4.40 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 5 Form B

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	48
1	240[a]	35
2	256	26
3	273	22
4	286	20
5	297	18
6	306	17
7	314	16
8	321	15
9	328	14
10	334	14
11	339	13
12	345	13
13	350	13
14	355	13
15	359	12
16	364	12
17	368	12
18	372	12
19	377	12
20	381	12
21	385	12
22	389	12
23	393	12
24	397	12
25	401	12
26	406	12
27	410	12
28	415	12
29	419	13
30	424	13
31	429	13
32	435	14
33	440	14
34	447	15
35	454	16
36	462	17
37	471	18
38	482	20
39	495	22
40	511	25
41	532	27
42	555	29
43	582	30
44	615	37
45	650[b]	50

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Table 4.41 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 5 Form A

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	48
GR	1	268	35
GR	2	295	26
GR	3	313	23
GR	4	327	21
GR	5	340	20
GR	6	352	20
GR	7	363	19
GR	8	375	19
GR	9	386	20
GR	10	398	20
GR	11	411	21
GR	12	426	23
GR	13	444	27
GR	14	472	35
GR	15	650	48
LI	0	240	55
LI	1	269	44
LI	2	310	31
LI	3	333	25
LI	4	350	22
LI	5	364	21
LI	6	376	20
LI	7	387	19
LI	8	399	20
LI	9	411	20
LI	10	424	22
LI	11	441	25
LI	12	464	31
LI	13	501	39
LI	14	553	43
LI	15	650	53
IN	0	240	49
IN	1	292	36
IN	2	320	27
IN	3	339	24
IN	4	355	22
IN	5	368	21
IN	6	381	20
IN	7	393	20
IN	8	406	21
IN	9	420	22
IN	10	435	24
IN	11	455	27
IN	12	481	33
IN	13	525	42
IN	14	581	44
IN	15	650	53

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.42 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 5 Form B

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	48
GR	1	268	35
GR	2	295	26
GR	3	313	23
GR	4	327	21
GR	5	340	20
GR	6	352	20
GR	7	363	19
GR	8	375	19
GR	9	386	20
GR	10	398	20
GR	11	411	21
GR	12	426	23
GR	13	444	27
GR	14	472	35
GR	15	650	48
LI	0	240	51
LI	1	251	39
LI	2	288	32
LI	3	315	28
LI	4	335	25
LI	5	352	23
LI	6	367	21
LI	7	380	21
LI	8	393	21
LI	9	406	21
LI	10	421	23
LI	11	439	26
LI	12	464	33
LI	13	516	49
LI	14	584	45
LI	15	650	54
IN	0	240	48
IN	1	316	35
IN	2	343	26
IN	3	361	23
IN	4	375	21
IN	5	388	20
IN	6	400	20
IN	7	412	20
IN	8	425	21
IN	9	439	22
IN	10	455	24
IN	11	474	27
IN	12	499	31
IN	13	533	36
IN	14	577	42
IN	15	650	52

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.43 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 6 Form A

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	44
1	240[a]	32
2	257	23
3	272	20
4	283	18
5	293	16
6	301	15
7	308	14
8	314	14
9	320	13
10	325	13
11	330	12
12	335	12
13	339	12
14	344	11
15	348	11
16	352	11
17	356	11
18	360	11
19	364	11
20	368	11
21	372	11
22	375	11
23	379	11
24	383	11
25	387	11
26	391	11
27	395	11
28	399	11
29	404	12
30	408	12
31	413	12
32	418	13
33	423	13
34	429	14
35	435	14
36	442	15
37	450	16
38	459	17
39	470	19
40	482	21
41	498	22
42	516	24
43	537	27
44	566	34
45	650[b]	45

Note. [a]LOSS was set to 240.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.44 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 6 Form B

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	45
1	240[a]	32
2	253	24
3	269	20
4	281	18
5	291	17
6	300	15
7	307	15
8	314	14
9	319	13
10	325	13
11	330	12
12	335	12
13	340	12
14	344	11
15	348	11
16	352	11
17	356	11
18	360	11
19	364	11
20	368	11
21	372	11
22	375	11
23	379	11
24	383	11
25	387	11
26	391	11
27	395	11
28	399	11
29	403	11
30	407	12
31	412	12
32	417	12
33	422	13
34	427	13
35	433	14
36	440	15
37	447	16
38	456	17
39	466	19
40	479	21
41	494	23
42	513	25
43	535	27
44	565	34
45	650[b]	46

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.45 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 6 Form A

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	45
GR	1	264	33
GR	2	290	25
GR	3	307	21
GR	4	321	19
GR	5	333	18
GR	6	343	18
GR	7	353	17
GR	8	363	17
GR	9	373	18
GR	10	384	18
GR	11	395	19
GR	12	408	21
GR	13	424	24
GR	14	449	32
GR	15	650	44
LI	0	240	44
LI	1	290	32
LI	2	315	24
LI	3	332	21
LI	4	345	19
LI	5	357	19
LI	6	367	18
LI	7	378	18
LI	8	389	19
LI	9	401	19
LI	10	414	21
LI	11	430	24
LI	12	452	29
LI	13	487	36
LI	14	535	40
LI	15	650	49
IN	0	240	47
IN	1	265	36
IN	2	299	29
IN	3	324	26
IN	4	343	23
IN	5	360	22
IN	6	375	21
IN	7	389	21
IN	8	403	21
IN	9	417	21
IN	10	432	22
IN	11	449	24
IN	12	470	27
IN	13	498	31
IN	14	536	37
IN	15	650	48

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.46 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 6 Form B

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	45
GR	1	264	33
GR	2	290	25
GR	3	307	21
GR	4	321	19
GR	5	333	18
GR	6	343	18
GR	7	353	17
GR	8	363	17
GR	9	373	18
GR	10	384	18
GR	11	395	19
GR	12	408	21
GR	13	424	24
GR	14	449	32
GR	15	650	44
LI	0	240	45
LI	1	295	33
LI	2	321	25
LI	3	338	21
LI	4	352	20
LI	5	364	19
LI	6	375	18
LI	7	385	18
LI	8	396	18
LI	9	408	19
LI	10	421	20
LI	11	436	23
LI	12	456	27
LI	13	486	33
LI	14	529	39
LI	15	650	49
IN	0	240	47
IN	1	254	37
IN	2	290	30
IN	3	316	26
IN	4	336	23
IN	5	352	21
IN	6	366	20
IN	7	379	20
IN	8	393	20
IN	9	406	21
IN	10	421	22
IN	11	438	24
IN	12	460	28
IN	13	493	35
IN	14	538	40
IN	15	650	49

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.47 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 7 Form A

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	47
1	240[a]	34
2	249	25
3	265	21
4	278	19
5	288	17
6	297	16
7	305	15
8	311	14
9	318	14
10	324	13
11	329	13
12	334	13
13	339	12
14	343	12
15	348	12
16	352	12
17	356	11
18	360	11
19	364	11
20	368	11
21	372	11
22	376	11
23	380	11
24	384	11
25	388	11
26	392	11
27	396	11
28	400	12
29	405	12
30	409	12
31	414	12
32	419	13
33	424	13
34	430	14
35	436	14
36	443	15
37	451	16
38	460	18
39	471	20
40	484	22
41	500	24
42	519	26
43	542	28
44	572	36
45	650[b]	48

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Table 4.48 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 7 Form B

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	48
1	240[a]	35
2	241	27
3	259	22
4	273	20
5	285	18
6	294	17
7	302	16
8	310	15
9	317	14
10	323	14
11	328	13
12	334	13
13	339	13
14	344	12
15	348	12
16	353	12
17	357	12
18	361	12
19	365	11
20	369	11
21	373	11
22	377	11
23	381	11
24	386	11
25	390	11
26	394	11
27	398	12
28	402	12
29	407	12
30	411	12
31	416	12
32	421	13
33	426	13
34	432	14
35	438	14
36	444	15
37	452	16
38	461	17
39	471	19
40	483	21
41	499	24
42	520	27
43	546	30
44	580	37
45	650[b]	48

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Table 4.49 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 7 Form A

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	47
GR	1	265	34
GR	2	292	26
GR	3	310	22
GR	4	325	20
GR	5	337	19
GR	6	348	19
GR	7	359	18
GR	8	370	18
GR	9	380	19
GR	10	391	19
GR	11	404	20
GR	12	417	22
GR	13	435	25
GR	14	461	34
GR	15	650	47
LI	0	240	50
LI	1	263	38
LI	2	296	29
LI	3	318	24
LI	4	334	22
LI	5	348	20
LI	6	360	20
LI	7	372	19
LI	8	384	20
LI	9	396	20
LI	10	410	22
LI	11	427	25
LI	12	450	30
LI	13	488	39
LI	14	541	42
LI	15	650	51
IN	0	240	50
IN	1	269	38
IN	2	304	30
IN	3	329	26
IN	4	347	23
IN	5	362	21
IN	6	376	20
IN	7	388	20
IN	8	401	20
IN	9	414	21
IN	10	428	22
IN	11	445	24
IN	12	466	28
IN	13	497	34
IN	14	538	40
IN	15	650	50

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.50 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 7 Form B

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	47
GR	1	265	34
GR	2	292	26
GR	3	310	22
GR	4	325	20
GR	5	337	19
GR	6	348	19
GR	7	359	18
GR	8	370	18
GR	9	380	19
GR	10	391	19
GR	11	404	20
GR	12	417	22
GR	13	435	25
GR	14	461	34
GR	15	650	47
LI	0	240	51
LI	1	240	41
LI	2	280	35
LI	3	311	29
LI	4	333	24
LI	5	350	22
LI	6	364	21
LI	7	378	21
LI	8	392	21
LI	9	406	22
LI	10	422	24
LI	11	442	27
LI	12	468	32
LI	13	508	39
LI	14	559	42
LI	15	650	51
IN	0	240	48
IN	1	276	36
IN	2	308	28
IN	3	329	25
IN	4	346	22
IN	5	361	21
IN	6	374	20
IN	7	386	20
IN	8	398	19
IN	9	410	20
IN	10	422	21
IN	11	437	22
IN	12	455	26
IN	13	480	32
IN	14	524	43
IN	15	650	54

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.51 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 8 Form A

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	44
1	251	31
2	274	23
3	288	19
4	298	17
5	307	15
6	314	14
7	320	14
8	326	13
9	331	12
10	336	12
11	341	12
12	345	11
13	350	11
14	354	11
15	358	11
16	361	11
17	365	11
18	369	11
19	373	11
20	376	11
21	380	11
22	383	11
23	387	11
24	391	11
25	395	11
26	398	11
27	402	11
28	406	11
29	411	11
30	415	12
31	420	12
32	424	12
33	430	13
34	435	13
35	441	14
36	448	15
37	456	16
38	465	17
39	475	18
40	487	20
41	502	22
42	520	25
43	543	28
44	574	35
45	650[b]	46

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Table 4.52 The 2009 MSA-Reading Total Raw Score to Scale Score Conversion Table: Grade 8 Form B

Raw Score	Scale Score (SS)	Standard Error (*SE*)
0	240[a]	45
1	240[a]	33
2	261	24
3	277	20
4	289	18
5	298	16
6	306	15
7	313	14
8	320	14
9	326	13
10	331	13
11	336	12
12	341	12
13	346	12
14	350	12
15	355	11
16	359	11
17	363	11
18	367	11
19	371	11
20	375	11
21	379	11
22	383	11
23	387	11
24	391	11
25	395	11
26	399	11
27	404	11
28	408	12
29	412	12
30	417	12
31	422	12
32	427	13
33	433	13
34	439	14
35	446	15
36	453	15
37	461	16
38	471	18
39	482	19
40	495	21
41	510	23
42	528	24
43	549	27
44	579	34
45	650[b]	45

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

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Table 4.53 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 8 Form A

Strand	Raw Score	Scale Score (SS)	Standard Error (SE)
GR	0	240	44
GR	1	270	32
GR	2	295	24
GR	3	312	21
GR	4	325	19
GR	5	336	18
GR	6	346	18
GR	7	356	17
GR	8	366	17
GR	9	376	18
GR	10	387	18
GR	11	398	19
GR	12	410	20
GR	13	425	22
GR	14	443	26
GR	15	471	34
GR	16	650	45
LI	0	240	45
LI	1	298	33
LI	2	325	25
LI	3	343	22
LI	4	357	20
LI	5	370	19
LI	6	382	19
LI	7	393	19
LI	8	405	19
LI	9	418	21
LI	10	434	23
LI	11	454	27
LI	12	482	32
LI	13	521	38
LI	14	650	48
IN	0	240	44
IN	1	304	32
IN	2	329	24
IN	3	346	21
IN	4	359	19
IN	5	371	18
IN	6	382	18
IN	7	393	18
IN	8	404	19
IN	9	416	20
IN	10	430	22
IN	11	448	25
IN	12	472	30
IN	13	509	37
IN	14	557	40
IN	15	650	49

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

Table 4.54 The 2009 MSA-Reading Subtotal Raw Score to Scale Score Conversion Table: Grade 8 Form B

Strand	Raw Score	Scale Score (SS)	Standard Error (*SE*)
GR	0	240	44
GR	1	270	32
GR	2	295	24
GR	3	312	21
GR	4	325	19
GR	5	336	18
GR	6	346	18
GR	7	356	17
GR	8	366	17
GR	9	376	18
GR	10	387	18
GR	11	398	19
GR	12	410	20
GR	13	425	22
GR	14	443	26
GR	15	471	34
GR	16	650	45
LI	0	240	45
LI	1	299	34
LI	2	327	26
LI	3	345	22
LI	4	361	21
LI	5	374	20
LI	6	387	20
LI	7	400	20
LI	8	413	21
LI	9	428	22
LI	10	445	24
LI	11	467	28
LI	12	499	34
LI	13	543	40
LI	14	650	49
IN	0	240	49
IN	1	267	38
IN	2	303	29
IN	3	327	25
IN	4	346	23
IN	5	361	21
IN	6	375	20
IN	7	388	20
IN	8	401	20
IN	9	414	21
IN	10	430	23
IN	11	449	26
IN	12	474	30
IN	13	508	34
IN	14	550	39
IN	15	650	48

Note. [a]LOSS was set to 240. [b]HOSS was set to 650.

Note. GR= General Reading, LI=Literary, IN=Informational

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APPENDIX A: THE 2009 MSA-READING STRATIFIED RANDOM SAMPLING

Since the deadline for the students' score reports made it difficult for Pearson to use almost 100% of the 2009 population as the calibration and equating data set, MSDE and NPC recommended that Pearson use equating samples instead of the 2009 population. Pearson chose Local Education Agency (LEA) as one of the most important variables for random stratification. It should be noted that this method has been applied since the 2006 assessment.

Based on each LEA percentage of the 2009 population, Pearson randomly selected nearly 3,000 students from first-wave documents (i.e., 30% of the statewide population) within each grade, and the item responses of these selected students were used for the 2009 calibration and equating. It should be acknowledged that each student's answer document from the first-wave were randomly distributed and completely scored in the Pearson performance scoring system (i.e., E-Pen scoring system). Please refer to Section 1.7 for detailed information about performance scoring procedures.

To verify that the equating sample was representative of the statewide examinee population in terms of LEA, gender, and ethnicity, the distributions of LEA, gender, and ethnicity of the 2009 samples were compared with those of the 2009 population. The results are shown in this appendix. The percentages of students from the LEAs were all within 3.5 percentage points of the target values across all grades. The percentages of students from the five major ethnic groups were all within 2.0 percentage points of the target values across all grades. The percentages of male and female students were within 2.0 percentage points of the target values across all grades. Consequently, we concluded that the 2009 equating samples were representative of the 2009 statewide examinee population in terms of LEA, gender, and ethnicity.

Table A.1 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 3 LEA

LEA	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	1.08	32	1.11	-0.03	1.08	32	1.11	-0.03
2	8.97	269	9.37	-0.40	8.97	269	9.36	-0.39
3	12.35	371	12.92	-0.57	12.35	371	12.91	-0.56
4	1.93	58	2.02	-0.09	1.93	58	2.02	-0.09
5	0.68	20	0.70	-0.02	0.68	20	0.70	-0.02
6	3.28	98	3.41	-0.13	3.28	98	3.41	-0.13
7	1.89	57	1.98	-0.09	1.89	57	1.98	-0.09
8	2.98	0	0.00	2.98	2.98	0	0.00	2.98
9	0.55	16	0.56	-0.01	0.55	16	0.56	-0.01
10	4.78	143	4.98	-0.20	4.78	143	4.98	-0.20
11	0.53	16	0.56	-0.03	0.53	16	0.56	-0.03
12	4.76	143	4.98	-0.22	4.76	143	4.98	-0.22
13	5.81	174	6.06	-0.25	5.81	174	6.06	-0.25
14	0.28	8	0.28	0.00	0.28	8	0.28	0.00
15	16.56	497	17.31	-0.75	16.56	497	17.3	-0.74
16	14.46	434	15.11	-0.65	14.46	434	15.11	-0.65
17	0.91	0	0.00	0.91	0.91	0	0.00	0.91
18	1.91	57	1.98	-0.07	1.91	57	1.98	-0.07
19	0.35	0	0.00	0.35	0.35	1	0.03	0.32
20	0.49	15	0.52	-0.03	0.49	15	0.52	-0.03
21	2.76	83	2.89	-0.13	2.76	83	2.89	-0.13
22	1.96	59	2.05	-0.09	1.96	59	2.05	-0.09
23	0.72	22	0.77	-0.05	0.72	22	0.77	-0.05
24	0.07	2	0.07	0.00	0.07	2	0.07	0.00
30	9.94	298	10.38	-0.44	9.94	298	10.37	-0.43
Total	100.00	2,872	100.00	0.00	100.00	2,873	100.00	0.00

Note. 1. Allegany; 2. Anne Arundel; 3. Baltimore; 4. Calvert; 5. Caroline; 6. Carroll; 7. Cecil; 8. Charles; 9. Dorchester; 10. Frederick; 11. Garrett; 12. Harford; 13. Howard; 14. Kent; 15. Montgomery; 16. Prince George's; 17. Queen Anne's; 18. St. Mary's; 19. Somerset; 20. Talbot; 21. Washington; 22. Wicomico; 23. Worcester; 24. LEA 24; 30. Baltimore City

Table A.2 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 3 Ethnicity

Race	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	0.42	13	0.45	-0.04	0.42	13	0.45	-0.04
2	6.27	184	6.41	-0.13	6.27	192	6.68	-0.41
3	37.47	1087	37.85	-0.38	37.47	1070	37.24	0.23
4	45.91	1326	46.17	-0.26	45.91	1319	45.91	0.00
5	9.83	260	9.05	0.77	9.83	276	9.61	0.22
Miss	0.10	2	0.07	0.03	0.10	3	0.10	-0.01
Total	100.00	2,872	100.00	0.00	100.00	2,873	100.00	0.00

Note. 1. American Indian; 2. Asian American; 3. African American; 4. White; 5. Hispanic; Miss: Missing

Table A.3 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 3 Gender

Gender	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
F	51.26	1426	49.65	1.61	51.26	1494	52.00	-0.74
M	48.68	1443	50.24	-1.56	48.68	1378	47.96	0.72
Miss	0.06	3	0.10	-0.04	0.06	1	0.03	0.03
Total	100.00	2,872	100.00	0.00	100.00	2,873	100.00	0.00

Note. F. Female; M. Male; Miss: Missing

Table A.4 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 4 LEA

LEA	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	1.08	32	1.11	-0.03	1.08	32	1.11	-0.03
2	8.89	267	9.25	-0.36	8.89	267	9.25	-0.36
3	12.66	380	13.17	-0.51	12.66	380	13.17	-0.51
4	2.05	61	2.11	-0.06	2.05	61	2.11	-0.06
5	0.60	18	0.62	-0.02	0.60	18	0.62	-0.02
6	3.19	96	3.33	-0.14	3.19	96	3.33	-0.14
7	1.96	59	2.04	-0.08	1.96	59	2.04	-0.08
8	2.89	0	0.00	2.89	2.89	0	0.00	2.89
9	0.50	15	0.52	-0.02	0.50	15	0.52	-0.02
10	4.74	142	4.92	-0.18	4.74	142	4.92	-0.18
11	0.53	16	0.55	-0.02	0.53	16	0.55	-0.02
12	4.68	140	4.85	-0.17	4.68	140	4.85	-0.17
13	5.82	175	6.06	-0.24	5.82	175	6.06	-0.24
14	0.25	7	0.24	0.01	0.25	7	0.24	0.01
15	16.44	493	17.08	-0.64	16.44	493	17.08	-0.64
16	14.47	434	15.04	-0.57	14.47	434	15.04	-0.57
17	0.92	0	0.00	0.92	0.92	0	0.00	0.92
18	1.98	60	2.08	-0.10	1.98	60	2.08	-0.10
19	0.33	10	0.35	-0.02	0.33	10	0.35	-0.02
20	0.48	14	0.49	-0.01	0.48	14	0.49	-0.01
21	2.69	81	2.81	-0.12	2.69	81	2.81	-0.12
22	1.94	58	2.01	-0.07	1.94	58	2.01	-0.07
23	0.78	24	0.83	-0.05	0.78	24	0.83	-0.05
24	0.14	4	0.14	0.00	0.14	4	0.14	0.00
30	9.99	300	10.40	-0.41	9.99	300	10.40	-0.41
Total	100.00	2,886	100.00	0.00	100.00	2,886	100.00	0.00

Note. 1. Allegany; 2. Anne Arundel; 3. Baltimore; 4. Calvert; 5. Caroline; 6. Carroll; 7. Cecil; 8. Charles; 9. Dorchester; 10. Frederick; 11. Garrett; 12. Harford; 13. Howard; 14. Kent; 15. Montgomery; 16. Prince George's; 17. Queen Anne's; 18. St. Mary's; 19. Somerset; 20. Talbot; 21. Washington; 22. Wicomico; 23. Worcester; 24. LEA 24; 30. Baltimore City

Table A.5 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 4 Ethnicity

Race	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	0.39	7	0.24	0.15	0.39	7	0.24	0.15
2	5.91	174	6.03	-0.12	5.91	182	6.31	-0.39
3	38.13	1078	37.35	0.77	38.13	1090	37.77	0.36
4	46.13	1353	46.88	-0.76	46.13	1341	46.47	-0.34
5	9.34	273	9.46	-0.12	9.34	263	9.11	0.23
Miss	0.10	1	0.03	0.07	0.10	3	0.10	0.00
Total	100.00	2,886	100.00	0.00	100.00	2,886	100.00	0.00

Note. 1. American Indian; 2. Asian American; 3. African American; 4. White; 5. Hispanic; Miss: Missing

Table A.6 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 4 Gender

Gender	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
F	51.32	1462	50.66	0.66	51.32	1496	51.84	-0.52
M	48.60	1423	49.31	-0.70	48.60	1386	48.02	0.58
Miss	0.08	1	0.03	0.05	0.08	4	0.14	-0.06
Total	100.00	2,886	100.00	0.00	100.00	2,886	100.00	0.00

Note. F. Female; M. Male; Miss: Missing

Table A.7 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 5 LEA

LEA	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	1.12	34	1.19	-0.07	1.12	34	1.19	-0.07
2	8.80	264	9.28	-0.48	8.80	264	9.28	-0.48
3	12.30	369	12.97	-0.67	12.30	369	12.97	-0.67
4	2.07	62	2.18	-0.11	2.07	62	2.18	-0.11
5	0.60	0	0.00	0.60	0.60	0	0.00	0.60
6	3.38	101	3.55	-0.17	3.38	101	3.55	-0.17
7	2.01	60	2.11	-0.10	2.01	60	2.11	-0.10
8	3.14	0	0.00	3.14	3.14	0	0.00	3.14
9	0.46	14	0.49	-0.03	0.46	14	0.49	-0.03
10	4.83	145	5.09	-0.26	4.83	145	5.09	-0.26
11	0.52	15	0.53	-0.01	0.52	15	0.53	-0.01
12	4.81	144	5.06	-0.25	4.81	144	5.06	-0.25
13	6.21	186	6.54	-0.33	6.21	186	6.54	-0.33
14	0.24	0	0.00	0.24	0.24	0	0.00	0.24
15	16.39	492	17.29	-0.90	16.39	492	17.29	-0.90
16	14.53	436	15.32	-0.79	14.53	436	15.32	-0.79
17	0.89	0	0.00	0.89	0.89	0	0.00	0.89
18	1.92	58	2.04	-0.12	1.92	58	2.04	-0.12
19	0.27	0	0.00	0.27	0.27	0	0.00	0.27
20	0.48	14	0.49	-0.01	0.48	14	0.49	-0.01
21	2.68	81	2.85	-0.17	2.68	81	2.85	-0.17
22	1.87	56	1.97	-0.10	1.87	56	1.97	-0.10
23	0.76	23	0.81	-0.05	0.76	23	0.81	-0.05
24	0.16	5	0.18	-0.02	0.16	5	0.18	-0.02
30	9.58	287	10.08	-0.50	9.58	287	10.08	-0.50
Total	100.00	2,846	100.00	0.00	100.00	2,846	100.00	0.00

Note. 1. Allegany; 2. Anne Arundel; 3. Baltimore; 4. Calvert; 5. Caroline; 6. Carroll; 7. Cecil; 8. Charles; 9. Dorchester; 10. Frederick; 11. Garrett; 12. Harford; 13. Howard; 14. Kent; 15. Montgomery; 16. Prince George's; 17. Queen Anne's; 18. St. Mary's; 19. Somerset; 20. Talbot; 21. Washington; 22. Wicomico; 23. Worcester; 24. LEA 24; 30. Baltimore City

Table A.8 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 5 Ethnicity

Race	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	0.37	11	0.39	-0.02	0.37	4	0.14	0.23
2	5.96	181	6.36	-0.40	5.96	156	5.48	0.48
3	38.04	1125	39.53	-1.49	38.04	1103	38.76	-0.71
4	46.52	1291	45.36	1.15	46.52	1329	46.70	-0.18
5	9.00	238	8.36	0.64	9.00	250	8.78	0.22
Miss	0.11	0	0.00	0.11	0.11	4	0.14	-0.03
Total	100.00	2,846	100.00	0.00	100.00	2,846	100.00	0.00

Note. 1. American Indian; 2. Asian American; 3. African American; 4. White; 5. Hispanic; Miss: Missing

Table A.9 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 5 Gender

Gender	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
F	51.01	1429	50.21	0.79	51.01	1426	50.11	0.90
M	48.93	1416	49.75	-0.83	48.93	1418	49.82	-0.90
Miss	0.07	1	0.04	0.03	0.07	2	0.07	0.00
Total	100.00	2,846	100.00	0.00	100.00	2,846	100.00	0.00

Note. F. Female; M. Male; Miss: Missing

Table A.10 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 6 LEA

LEA	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	1.12	34	1.26	-0.14	1.12	34	1.26	-0.14
2	8.90	267	9.90	-1.00	8.90	267	9.89	-0.99
3	12.01	306	11.35	0.66	12.01	307	11.37	0.64
4	2.18	65	2.41	-0.23	2.18	65	2.41	-0.23
5	0.69	21	0.78	-0.09	0.69	21	0.78	-0.09
6	3.36	101	3.74	-0.38	3.36	101	3.74	-0.38
7	1.98	59	2.19	-0.21	1.98	59	2.19	-0.21
8	3.37	0	0.00	3.37	3.37	0	0.00	3.37
9	0.61	18	0.67	-0.06	0.61	18	0.67	-0.06
10	4.91	147	5.45	-0.54	4.91	147	5.45	-0.54
11	0.49	2	0.07	0.42	0.49	2	0.07	0.42
12	4.82	145	5.38	-0.56	4.82	145	5.37	-0.55
13	6.22	94	3.49	2.73	6.22	92	3.41	2.81
14	0.28	0	0.00	0.28	0.28	0	0.00	0.28
15	16.46	494	18.32	-1.86	16.46	494	18.30	-1.84
16	14.59	438	16.24	-1.65	14.59	438	16.23	-1.64
17	0.95	0	0.00	0.95	0.95	0	0.00	0.95
18	2.02	61	2.26	-0.24	2.02	61	2.26	-0.24
19	0.32	9	0.33	-0.01	0.32	9	0.33	-0.01
20	0.52	15	0.56	-0.04	0.52	15	0.56	-0.04
21	2.78	83	3.08	-0.30	2.78	83	3.08	-0.30
22	1.67	50	1.85	-0.18	1.67	50	1.85	-0.18
23	0.78	24	0.89	-0.11	0.78	24	0.89	-0.11
24	0.15	5	0.19	-0.04	0.15	5	0.19	-0.04
30	8.71	259	9.60	-0.89	8.71	262	9.71	-1.00
32	0.13	0	0.00	0.13	0.13	0	0.00	0.13
Total	100.00	2,697	100.00	0.00	100.00	2,699	100.00	0.00

Note. 1. Allegany; 2. Anne Arundel; 3. Baltimore; 4. Calvert; 5. Caroline; 6. Carroll; 7. Cecil; 8. Charles; 9. Dorchester; 10. Frederick; 11. Garrett; 12. Harford; 13. Howard; 14. Kent; 15. Montgomery; 16. Prince George's; 17. Queen Anne's; 18. St. Mary's; 19. Somerset; 20. Talbot; 21. Washington; 22. Wicomico; 23. Worcester; 24. LEA 24; 30. Baltimore City; 32. The Seed school

Table A.11 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 6 Ethnicity

Race	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	0.38	8	0.30	0.09	0.38	2	0.07	0.31
2	5.99	146	5.41	0.58	5.99	167	6.19	-0.20
3	37.51	1020	37.82	-0.31	37.51	1010	37.42	0.09
4	46.82	1268	47.02	-0.20	46.82	1257	46.57	0.24
5	9.12	250	9.27	-0.15	9.12	261	9.67	-0.55
Miss	0.18	5	0.19	-0.01	0.18	2	0.07	0.10
Total	100.00	2,697	100.00	0.00	100.00	2,699	100.00	0.00

Note. 1. American Indian; 2. Asian American; 3. African American; 4. White; 5. Hispanic; Miss: Missing

Table A.12 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 6 Gender

Gender	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
F	51.07	1342	49.76	1.31	51.07	1373	50.87	0.20
M	48.82	1352	50.13	-1.31	48.82	1324	49.06	-0.23
Miss	0.11	3	0.11	0.00	0.11	2	0.07	0.03
Total	100.00	2,697	100.00	0.00	100.00	2,699	100.00	0.00

Note. F. Female; M. Male; Miss: Missing

Table A.13 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 7 LEA

LEA	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	1.02	31	1.19	-0.17	1.02	31	1.19	-0.17
2	8.87	266	10.24	-1.37	8.87	266	10.21	-1.34
3	12.13	286	11.01	1.12	12.13	288	11.05	1.08
4	2.16	65	2.50	-0.34	2.16	65	2.49	-0.33
5	0.58	0	0.00	0.58	0.58	0	0.00	0.58
6	3.52	106	4.08	-0.56	3.52	106	4.07	-0.55
7	1.96	59	2.27	-0.31	1.96	59	2.26	-0.30
8	3.31	0	0.00	3.31	3.31	0	0.00	3.31
9	0.53	16	0.62	-0.09	0.53	16	0.61	-0.08
10	4.92	148	5.70	-0.78	4.92	148	5.68	-0.76
11	0.54	5	0.19	0.35	0.54	5	0.19	0.35
12	4.83	145	5.58	-0.75	4.83	145	5.56	-0.73
13	6.33	105	4.04	2.29	6.33	107	4.11	2.22
14	0.22	0	0.00	0.22	0.22	0	0.00	0.22
15	16.75	502	19.33	-2.58	16.75	502	19.26	-2.51
16	14.58	438	16.87	-2.29	14.58	438	16.81	-2.23
17	1.04	0	0.00	1.04	1.04	0	0.00	1.04
18	1.99	60	2.31	-0.32	1.99	60	2.30	-0.31
19	0.34	1	0.04	0.30	0.34	0	0.00	0.34
20	0.53	16	0.62	-0.09	0.53	16	0.61	-0.08
21	2.70	81	3.12	-0.42	2.70	81	3.11	-0.41
22	1.54	46	1.77	-0.23	1.54	46	1.77	-0.23
23	0.76	23	0.89	-0.13	0.76	23	0.88	-0.12
24	0.22	7	0.27	-0.05	0.22	7	0.27	-0.05
30	8.63	191	7.35	1.28	8.63	197	7.56	1.07
Total	100.00	2,597	100.00	0.00	100.00	2,606	100.00	0.00

Note. 1. Allegany; 2. Anne Arundel; 3. Baltimore; 4. Calvert; 5. Caroline; 6. Carroll; 7. Cecil; 8. Charles; 9. Dorchester; 10. Frederick; 11. Garrett; 12. Harford; 13. Howard; 14. Kent; 15. Montgomery; 16. Prince George's; 17. Queen Anne's; 18. St. Mary's; 19. Somerset; 20. Talbot; 21. Washington; 22. Wicomico; 23. Worcester; 24. LEA 24; 30. Baltimore City

Table A.14 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 7 Ethnicity

Race	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	0.32	15	0.58	-0.26	0.32	8	0.31	0.02
2	5.86	157	6.05	-0.18	5.86	155	5.95	-0.08
3	37.10	970	37.35	-0.25	37.10	1013	38.87	-1.78
4	47.66	1210	46.59	1.07	47.66	1191	45.70	1.96
5	8.85	243	9.36	-0.51	8.85	238	9.13	-0.28
Miss	0.20	2	0.08	0.13	0.20	1	0.04	0.17
Total	100.00	2,597	100.00	0.00	100.00	2,606	100.00	0.00

Note. 1. American Indian; 2. Asian American; 3. African American; 4. White; 5. Hispanic; Miss: Missing

Table A.15 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 7 Gender

Gender	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
F	50.44	1344	51.75	-1.31	50.44	1286	49.35	1.09
M	49.41	1251	48.17	1.23	49.41	1318	50.58	-1.17
Miss	0.16	2	0.08	0.08	0.16	2	0.08	0.08
Total	100.00	2,597	100.00	0.00	100.00	2,606	100.00	0.00

Note. F. Female; M. Male; Miss: Missing

Table A.16 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 8 LEA

LEA	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	1.07	32	1.17	-0.10	1.07	32	1.18	-0.11
2	9.02	271	9.94	-0.92	9.02	271	9.96	-0.94
3	12.29	369	13.54	-1.25	12.29	369	13.56	-1.27
4	2.26	68	2.49	-0.23	2.26	68	2.50	-0.24
5	0.63	19	0.70	-0.07	0.63	19	0.70	-0.07
6	3.48	104	3.82	-0.34	3.48	104	3.82	-0.34
7	1.97	59	2.16	-0.19	1.97	59	2.17	-0.20
8	3.43	0	0.00	3.43	3.43	0	0.00	3.43
9	0.50	15	0.55	-0.05	0.50	15	0.55	-0.05
10	5.01	150	5.50	-0.49	5.01	150	5.51	-0.50
11	0.57	4	0.15	0.42	0.57	3	0.11	0.46
12	4.89	147	5.39	-0.50	4.89	147	5.40	-0.51
13	6.60	109	4.00	2.60	6.60	105	3.86	2.74
14	0.25	0	0.00	0.25	0.25	0	0.00	0.25
15	16.47	494	18.12	-1.65	16.47	494	18.16	-1.69
16	14.40	432	15.85	-1.45	14.40	432	15.88	-1.48
17	0.93	0	0.00	0.93	0.93	0	0.00	0.93
18	1.91	57	2.09	-0.18	1.91	57	2.09	-0.18
19	0.37	11	0.40	-0.03	0.37	11	0.40	-0.03
20	0.51	15	0.55	-0.04	0.51	15	0.55	-0.04
21	2.51	75	2.75	-0.24	2.51	75	2.76	-0.25
22	1.48	45	1.65	-0.17	1.48	45	1.65	-0.17
23	0.75	23	0.84	-0.09	0.75	23	0.85	-0.10
24	0.29	9	0.33	-0.04	0.29	9	0.33	-0.04
30	8.41	218	8.00	0.41	8.41	218	8.01	0.40
Total	100.00	2,726	100.00	0.00	100.00	2,721	100.00	0.00

Note. 1. Allegany; 2. Anne Arundel; 3. Baltimore; 4. Calvert; 5. Caroline; 6. Carroll; 7. Cecil; 8. Charles; 9. Dorchester; 10. Frederick; 11. Garrett; 12. Harford; 13. Howard; 14. Kent; 15. Montgomery; 16. Prince George's; 17. Queen Anne's; 18. St. Mary's; 19. Somerset; 20. Talbot; 21. Washington; 22. Wicomico; 23. Worcester; 24. LEA 24; 30. Baltimore City

Table A.17 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 8 Ethnicity

Race	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
1	0.39	6	0.22	0.17	0.39	11	0.40	-0.01
2	5.65	159	5.83	-0.18	5.65	171	6.28	-0.63
3	37.48	972	35.66	1.83	37.48	1004	36.90	0.58
4	47.96	1322	48.50	-0.54	47.96	1303	47.89	0.07
5	8.36	261	9.57	-1.22	8.36	228	8.38	-0.02
Miss	0.16	6	0.22	-0.06	0.16	4	0.15	0.01
Total	100.00	2,726	100.00	0.00	100.00	2,721	100.00	0.00

Note. 1. American Indian; 2. Asian American; 3. African American; 4. White; 5. Hispanic; Miss: Missing

Table A.18 2009 MSA-Reading Population and Stratified Random Sampling (S.R.S.): Grade 8 Gender

Gender	Operational Form A				Operational Form B			
	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.	2009 Pop. %	2009 S. R. S.	% of 2009 S. R. S.	% of Differ.
F	50.79	1362	49.96	0.82	50.79	1372	50.42	0.36
M	49.10	1360	49.89	-0.79	49.10	1348	49.54	-0.45
Miss	0.12	4	0.15	-0.03	0.12	1	0.04	0.08
Total	100.00	2,726	100.00	0.00	100.00	2,721	100.00	0.00

Note. F. Female; M. Male; Miss: Missing

APPENDIX B: SCALE SCORE HISTOGRAMS AND TUKEY CHARTS

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Year 2003 Grade=3 (Base Year)
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Scale Score                                     Cum.              Cum.
Midpoint                            Freq   Freq  Percent  Percent

   240    |*                          175    175    0.27     0.27
   250    |                             3    178    0.00     0.28
   260    |                             3    181    0.00     0.28
   270    |                            15    196    0.02     0.30
   280    |                            21    217    0.03     0.34
   290    |                            31    248    0.05     0.38
   300    |*                          102    350    0.16     0.54
   310    |*                          227    577    0.35     0.89
   320    |***                        519   1096    0.81     1.70
   330    |*****                     1075   2171    1.67     3.37
   340    |**********                2017   4188    3.13     6.50
   350    |****************          3126   7314    4.85    11.34
   360    |***********************   4782  12096    7.42    18.76
   370    |**************************  5482  17578    8.50    27.26
   380    |********************************  6300  23878    9.77    37.04
   390    |*****************************  6025  29903    9.35    46.38
   400    |*********************************  6565  36468   10.18    56.56
   410    |****************************  5755  42223    8.93    65.49
   420    |*************************  5027  47250    7.80    73.29
   430    |************************  4773  52023    7.40    80.69
   440    |******************        3782  55805    5.87    86.56
   450    |***************           3057  58862    4.74    91.30
   460    |*********                 1896  60758    2.94    94.24
   470    |*******                   1395  62153    2.16    96.40
   480    |****                       892  63045    1.38    97.79
   490    |****                       737  63782    1.14    98.93
   500    |*                          281  64063    0.44    99.37
   510    |*                          201  64264    0.31    99.68
   520    |                            67  64331    0.10    99.78
   530    |                            56  64387    0.09    99.87
   540    |                            28  64415    0.04    99.91
   550    |                            20  64435    0.03    99.94
   560    |                            22  64457    0.03    99.98
   570    |                             0  64457    0.00    99.98
   580    |                            10  64467    0.02    99.99
   590    |                             2  64469    0.00   100.00
   600    |                             2  64471    0.00   100.00
   610    |                             0  64471    0.00   100.00
   620    |                             0  64471    0.00   100.00
   630    |                             0  64471    0.00   100.00
   640    |                             0  64471    0.00   100.00
   650    |                             0  64471    0.00   100.00

          ----+----+----+----+----+----+---
            1000 2000 3000 4000 5000 6000

                  Frequency
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Figure B.1 Year 2003 Scale Score Distribution: Grade3

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Year 2009 Grade=3 Form A
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Scale Score                                              Cum.              Cum.
Midpoint                                           Freq   Freq  Percent  Percent

   240   |                                            7      7     0.02     0.02
   250   |                                            0      7     0.00     0.02
   260   |                                            0      7     0.00     0.02
   270   |                                           10     17     0.03     0.06
   280   |                                           29     46     0.10     0.15
   290   |                                            0     46     0.00     0.15
   300   |*                                          44     90     0.15     0.30
   310   |**                                        181    271     0.60     0.90
   320   |**                                        131    402     0.44     1.34
   330   |******                                    419    821     1.40     2.74
   340   |*******                                   544   1365     1.81     4.55
   350   |*********                                 760   2125     2.53     7.09
   360   |************                              920   3045     3.07    10.15
   370   |********************                     1612   4657     5.38    15.53
   380   |**********************                   1747   6404     5.83    21.36
   390   |******************                       1427   7831     4.76    26.12
   400   |*********************                    1660   9491     5.54    31.65
   410   |*********************************************  3314  12805  11.05  42.70
   420   |**********************************       2714  15519     9.05    51.75
   430   |*******************************************  3142  18661  10.48  62.23
   440   |**********************                   1720  20381     5.74    67.97
   450   |*********************************************  3409  23790  11.37  79.34
   460   |**********************                   1720  25510     5.74    85.07
   470   |*******************                      1516  27026     5.06    90.13
   480   |*****************                        1265  28291     4.22    94.35
   490   |                                            0  28291     0.00    94.35
   500   |************                              868  29159     2.89    97.24
   510   |                                            0  29159     0.00    97.24
   520   |*******                                   533  29692     1.78    99.02
   530   |                                            0  29692     0.00    99.02
   540   |***                                       222  29914     0.74    99.76
   550   |                                            0  29914     0.00    99.76
   560   |                                            0  29914     0.00    99.76
   570   |*                                          54  29968     0.18    99.94
   580   |                                            0  29968     0.00    99.94
   590   |                                            0  29968     0.00    99.94
   600   |                                           15  29983     0.05    99.99
   610   |                                            0  29983     0.00    99.99
   620   |                                            0  29983     0.00    99.99
   630   |                                            3  29986     0.01   100.00
   640   |                                            0  29986     0.00   100.00
   650   |                                            0  29986     0.00   100.00
         |_____
            600    1200   1800   2400   3000

                   Frequency
```

Figure B.2 Year 2009 Scale Score Distribution: Grade 3 Form A

Grade 3 Form A

Figure B.3 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 3 Form A

Grade 3 Form A

Figure B.4 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 3 Form A

`Year 2009 Grade=3 Form B`

```
Scale Score                                          Cum.           Cum.
Midpoint                                    Freq     Freq  Percent  Percent

   240    |                                    5        5     0.02     0.02
   250    |                                    0        5     0.00     0.02
   260    |                                    7       12     0.02     0.04
   270    |                                    0       12     0.00     0.04
   280    |                                   16       28     0.05     0.09
   290    |                                   24       52     0.08     0.18
   300    |*                                  42       94     0.14     0.32
   310    |*                                  70      164     0.24     0.55
   320    |***                               223      387     0.75     1.30
   330    |*****                             360      747     1.21     2.52
   340    |*******                           493     1240     1.66     4.18
   350    |*********                         690     1930     2.33     6.51
   360    |******************               1369     3299     4.62    11.12
   370    |***************                  1120     4419     3.78    14.90
   380    |***********************          1821     6240     6.14    21.04
   390    |******************               1434     7674     4.83    25.87
   400    |**********************************  2559  10233     8.63    34.50
   410    |***************************       2122    12355     7.15    41.66
   420    |**********************************  2513  14868     8.47    50.13
   430    |*******************************************  3088  17956  10.41  60.54
   440    |***************************************************  3410  21366  11.50  72.04
   450    |**********************            1758    23124     5.93    77.96
   460    |**********************            1781    24905     6.00    83.97
   470    |*********************             1623    26528     5.47    89.44
   480    |*******************               1391    27919     4.69    94.13
   490    |*************                     1002    28921     3.38    97.51
   500    |                                    0    28921     0.00    97.51
   510    |*******                           516    29437     1.74    99.25
   520    |                                    0    29437     0.00    99.25
   530    |                                    0    29437     0.00    99.25
   540    |**                                172    29609     0.58    99.83
   550    |                                    0    29609     0.00    99.83
   560    |                                    0    29609     0.00    99.83
   570    |*                                  40    29649     0.13    99.96
   580    |                                    0    29649     0.00    99.96
   590    |                                    0    29649     0.00    99.96
   600    |                                    0    29649     0.00    99.96
   610    |                                   10    29659     0.03   100.00
   620    |                                    0    29659     0.00   100.00
   630    |                                    0    29659     0.00   100.00
   640    |                                    1    29660     0.00   100.00
   650    |                                    0    29660     0.00   100.00
           -------------------------------------
              600   1200  1800  2400  3000

                       Frequency
```

Figure B.5 Year 2009 Scale Score Distribution: Grade 3 Form B
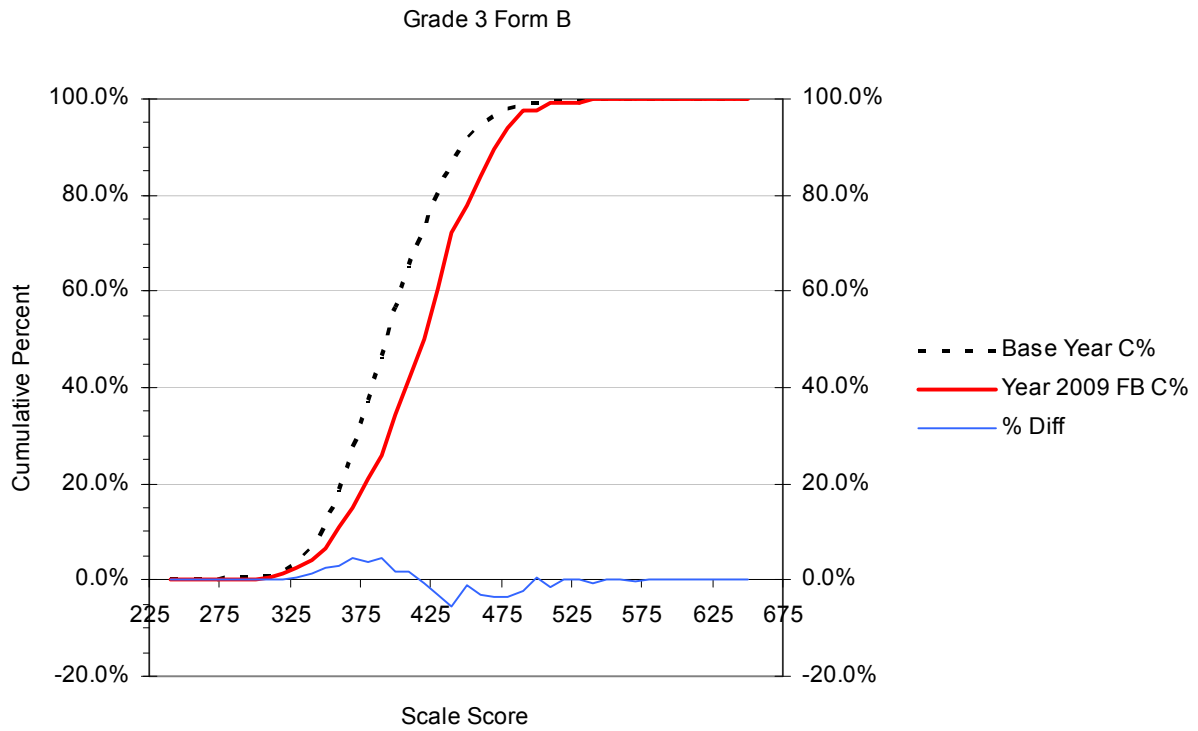
Grade 3 Form B

Figure B.6 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 3 Form B

Grade 3 Form B

Figure B.7 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 3 Form B

Year 2004 Grade=4 (Base Year)

```
Scale Score                                    Cum.            Cum.
Midpoint                          Freq   Freq  Percent  Percent

   240   |                          72     72   0.12     0.12
   250   |                           3     75   0.00     0.12
   260   |                           1     76   0.00     0.12
   270   |                          11     87   0.02     0.14
   280   |                          75    162   0.12     0.26
   290   |                          75    237   0.12     0.38
   300   |*                        273    510   0.44     0.83
   310   |**                       347    857   0.56     1.39
   320   |****                     896   1753   1.45     2.84
   330   |********                1516   3269   2.46     5.30
   340   |**********              2255   5524   3.65     8.95
   350   |*************           2552   8076   4.13    13.08
   360   |*****************       3552  11628   5.75    18.84
   370   |********************    4251  15879   6.89    25.72
   380   |***********************  4738  20617   7.68    33.40
   390   |****************************  5806  26423   9.41    42.80
   400   |**********************************  6760  33183  10.95  53.76
   410   |**********************   4626  37809   7.49    61.25
   420   |***************************************  7417  45226  12.02  73.26
   430   |**********************   4696  49922   7.61    80.87
   440   |**********************   4619  54541   7.48    88.35
   450   |*************           2514  57055   4.07    92.43
   460   |*********              1852  58907   3.00    95.43
   470   |*******                1352  60259   2.19    97.62
   480   |***                     659  60918   1.07    98.68
   490   |*                       239  61157   0.39    99.07
   500   |*                       297  61454   0.48    99.55
   510   |*                       110  61564   0.18    99.73
   520   |                         77  61641   0.12    99.86
   530   |                         31  61672   0.05    99.91
   540   |                         26  61698   0.04    99.95
   550   |                          9  61707   0.01    99.96
   560   |                          4  61711   0.01    99.97
   570   |                          8  61719   0.01    99.98
   580   |                          4  61723   0.01    99.99
   590   |                          7  61730   0.01   100.00
   600   |                          0  61730   0.00   100.00
   610   |                          0  61730   0.00   100.00
   620   |                          0  61730   0.00   100.00
   630   |                          0  61730   0.00   100.00
   640   |                          0  61730   0.00   100.00
   650   |                          0  61730   0.00   100.00

         +----+----+----+----+----+----+----+
           1000 2000 3000 4000 5000 6000 7000

                    Frequency
```

Figure B.8 Year 2004 Scale Score Distribution: Grade 4

```
Year 2009 Grade=4 Form A


Scale Score                                                    Cum.                Cum.
Midpoint                                             Freq     Freq    Percent   Percent

    240   |                                             1        1      0.00      0.00
    250   |                                             0        1      0.00      0.00
    260   |                                             1        2      0.00      0.01
    270   |                                             1        3      0.00      0.01
    280   |                                             0        3      0.00      0.01
    290   |                                             5        8      0.02      0.03
    300   |                                            34       42      0.12      0.14
    310   |                                            30       72      0.10      0.24
    320   |**                                         147      219      0.50      0.74
    330   |***                                        259      478      0.88      1.62
    340   |*******                                    490      968      1.66      3.29
    350   |*********                                  707     1675      2.40      5.69
    360   |*************                              960     2635      3.26      8.95
    370   |************************                  1884     4519      6.40     15.35
    380   |********************************          2533     7052      8.60     23.95
    390   |*************************                 2032     9084      6.90     30.85
    400   |**************************************************  3448    12532     11.71     42.55
    410   |************************************      2806    15338      9.53     52.08
    420   |*****************************************  3012    18350     10.23     62.31
    430   |********************************************  3200    21550     10.87     73.18
    440   |********************                      1608    23158      5.46     78.64
    450   |******************************************  3041    26199     10.33     88.96
    460   |****************                          1169    27368      3.97     92.93
    470   |                                             0    27368      0.00     92.93
    480   |************                               933    28301      3.17     96.10
    490   |********                                   627    28928      2.13     98.23
    500   |                                             0    28928      0.00     98.23
    510   |****                                       329    29257      1.12     99.35
    520   |                                             0    29257      0.00     99.35
    530   |**                                         131    29388      0.44     99.79
    540   |                                             0    29388      0.00     99.79
    550   |                                             0    29388      0.00     99.79
    560   |*                                           44    29432      0.15     99.94
    570   |                                             0    29432      0.00     99.94
    580   |                                             0    29432      0.00     99.94
    590   |                                             0    29432      0.00     99.94
    600   |                                            13    29445      0.04     99.99
    610   |                                             0    29445      0.00     99.99
    620   |                                             0    29445      0.00     99.99
    630   |                                             4    29449      0.01    100.00
    640   |                                             0    29449      0.00    100.00
    650   |                                             0    29449      0.00    100.00
          |
          -----+-------+-------+-------+-------+-------+
             600    1200    1800    2400    3000

                    Frequency
```

Figure B.9 Year 2009 Scale Score Distribution: Grade 4 Form A

Grade 4 Form A

Figure B.10 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 4 Form A

Grade 4 Form A

Figure B.11 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Cumulative percent Differences between CDFs: Grade 4 Form A

`Year 2009 Grade=4 Form B`

```
Scale Score                                              Cum.              Cum.
Midpoint                                         Freq    Freq   Percent   Percent

   240  |                                          1       1      0.00      0.00
   250  |                                          0       1      0.00      0.00
   260  |                                          0       1      0.00      0.00
   270  |                                          0       1      0.00      0.00
   280  |                                          2       3      0.01      0.01
   290  |                                          6       9      0.02      0.03
   300  |                                          9      18      0.03      0.06
   310  |*                                        54      72      0.18      0.25
   320  |*                                        60     132      0.21      0.45
   330  |***                                     264     396      0.90      1.35
   340  |****                                    438     834      1.50      2.85
   350  |*******                                 684    1518      2.34      5.19
   360  |**********                             1085    2603      3.71      8.89
   370  |*********************                  2132    4735      7.28     16.18
   380  |*****************                      1749    6484      5.98     22.16
   390  |*****************************          3024    9508     10.33     32.49
   400  |***********************                2387   11895      8.16     40.64
   410  |************************               2513   14408      8.59     49.23
   420  |******************************************* 4097 18505   14.00     63.23
   430  |****************************           2909   21414      9.94     73.17
   440  |***************                        1501   22915      5.13     78.30
   450  |***************************            2798   25713      9.56     87.86
   460  |************                           1161   26874      3.97     91.83
   470  |**********                              966   27840      3.30     95.13
   480  |*******                                 677   28517      2.31     97.44
   490  |                                          0   28517      0.00     97.44
   500  |****                                    418   28935      1.43     98.87
   510  |                                          0   28935      0.00     98.87
   520  |**                                      206   29141      0.70     99.57
   530  |                                          0   29141      0.00     99.57
   540  |*                                        84   29225      0.29     99.86
   550  |                                          0   29225      0.00     99.86
   560  |                                         30   29255      0.10     99.96
   570  |                                          0   29255      0.00     99.96
   580  |                                          0   29255      0.00     99.96
   590  |                                          0   29255      0.00     99.96
   600  |                                         10   29265      0.03    100.00
   610  |                                          0   29265      0.00    100.00
   620  |                                          1   29266      0.00    100.00
   630  |                                          0   29266      0.00    100.00
   640  |                                          0   29266      0.00    100.00
   650  |                                          0   29266      0.00    100.00
         +---+---+---+---+---+---+---+---+
           500 1000 1500 2000 2500 3000 3500 4000

                      Frequency
```

Figure B.12 Year 2009 Scale Score Distribution: Grade 4 Form B

Grade 4 Form B

Figure B.13 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 4 Form B

Grade 4 Form B

Figure B.14 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Cumulative percent Differences between CDFs: Grade 4 Form B

`Year 2003 Grade=5 (Base Year)`

```
Scale Score                                        Cum.              Cum.
Midpoint                                 Freq      Freq   Percent   Percent

   240  |*                                134       134     0.20      0.20
   250  |                                   4       138     0.01      0.20
   260  |                                  14       152     0.02      0.22
   270  |                                  15       167     0.02      0.25
   280  |                                  36       203     0.05      0.30
   290  |                                  59       262     0.09      0.39
   300  |*                                160       422     0.24      0.62
   310  |**                               395       817     0.58      1.21
   320  |****                             721      1538     1.06      2.27
   330  |*******                         1342      2880     1.98      4.25
   340  |***********                     2255      5135     3.33      7.58
   350  |***************                 2989      8124     4.41     12.00
   360  |********************            4227     12351     6.24     18.24
   370  |**************************      5685     18036     8.39     26.63
   380  |**************************      5646     23682     8.34     34.97
   390  |*********************************   6664  30346    9.84     44.81
   400  |**********************************  6750  37096    9.97     54.78
   410  |**********************************  6814  43910   10.06     64.84
   420  |**************************      5659     49569     8.36     73.19
   430  |************************        5052     54621     7.46     80.65
   440  |**********************          4698     59319     6.94     87.59
   450  |***************                 2996     62315     4.42     92.02
   460  |**********                      1996     64311     2.95     94.96
   470  |*******                         1463     65774     2.16     97.12
   480  |****                             720     66494     1.06     98.19
   490  |**                               452     66946     0.67     98.85
   500  |**                               383     67329     0.57     99.42
   510  |*                                147     67476     0.22     99.64
   520  |*                                121     67597     0.18     99.82
   530  |                                  58     67655     0.09     99.90
   540  |                                  20     67675     0.03     99.93
   550  |                                  17     67692     0.03     99.96
   560  |                                  14     67706     0.02     99.98
   570  |                                  12     67718     0.02     99.99
   580  |                                   2     67720     0.00    100.00
   590  |                                   2     67722     0.00    100.00
   600  |                                   0     67722     0.00    100.00
   610  |                                   0     67722     0.00    100.00
   620  |                                   0     67722     0.00    100.00
   630  |                                   0     67722     0.00    100.00
   640  |                                   0     67722     0.00    100.00
   650  |                                   0     67722     0.00    100.00
         |
         |___|____|____|____|____|____|____
           1000 2000 3000 4000 5000 6000

               Frequency
```

Figure B.15 Year 2003 Scale Score Distribution: Grade 5

`Year 2009 Grade=5 Form A`

```
Scale Score                                           Cum.            Cum.
Midpoint                                   Freq   Freq  Percent  Percent

    240   |                                   0      0     0.00     0.00
    250   |                                   0      0     0.00     0.00
    260   |                                   0      0     0.00     0.00
    270   |                                   0      0     0.00     0.00
    280   |                                   2      2     0.01     0.01
    290   |                                   0      2     0.00     0.01
    300   |                                   3      5     0.01     0.02
    310   |                                  24     29     0.08     0.10
    320   |                                  13     42     0.04     0.14
    330   |*                                 89    131     0.29     0.43
    340   |**                               152    283     0.50     0.94
    350   |***                              276    559     0.91     1.85
    360   |****                             442   1001     1.46     3.32
    370   |************                    1164   2165     3.86     7.17
    380   |************                    1168   3333     3.87    11.04
    390   |***********************         2411   5744     7.99    19.02
    400   |********************            2057   7801     6.81    25.84
    410   |*************************************** 3764  11565    12.47    38.30
    420   |*****************************    3043  14608    10.08    48.38
    430   |************************************  3615  18223    11.97    60.36
    440   |*******************             1948  20171     6.45    66.81
    450   |******************************************* 4073  24244    13.49    80.30
    460   |******************              1869  26113     6.19    86.49
    470   |****************                1563  27676     5.18    91.66
    480   |************                    1221  28897     4.04    95.71
    490   |                                   0  28897     0.00    95.71
    500   |*******                          731  29628     2.42    98.13
    510   |                                   0  29628     0.00    98.13
    520   |****                             353  29981     1.17    99.30
    530   |                                   0  29981     0.00    99.30
    540   |**                               152  30133     0.50    99.80
    550   |                                   0  30133     0.00    99.80
    560   |                                   0  30133     0.00    99.80
    570   |                                  47  30180     0.16    99.96
    580   |                                   0  30180     0.00    99.96
    590   |                                   0  30180     0.00    99.96
    600   |                                  13  30193     0.04   100.00
    610   |                                   0  30193     0.00   100.00
    620   |                                   0  30193     0.00   100.00
    630   |                                   0  30193     0.00   100.00
    640   |                                   0  30193     0.00   100.00
    650   |                                   0  30193     0.00   100.00
          |__|___|___|___|___|___|___|___|
            500 1000 1500 2000 2500 3000 3500 4000

                    Frequency
```

Figure B.16 Year 2009 Scale Score Distribution: Grade 5 Form A

Grade 5 Form A

Figure B.17 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 5 Form A

Grade 5 Form A

Figure B.18 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 5 Form A

```
Year 2009 Grade=5 Form B
```

```
Scale Score                                                 Cum.              Cum.
Midpoint                                           Freq     Freq   Percent   Percent

   240   |                                            1        1      0.00      0.00
   250   |                                            0        1      0.00      0.00
   260   |                                            0        1      0.00      0.00
   270   |                                            4        5      0.01      0.02
   280   |                                            0        5      0.00      0.02
   290   |                                            4        9      0.01      0.03
   300   |                                            0        9      0.00      0.03
   310   |                                           12       21      0.04      0.07
   320   |                                           12       33      0.04      0.11
   330   |*                                          77      110      0.26      0.37
   340   |*                                          69      179      0.23      0.60
   350   |**                                        199      378      0.66      1.26
   360   |******                                    644     1022      2.15      3.41
   370   |********                                  767     1789      2.56      5.97
   380   |************                             1153     2942      3.85      9.81
   390   |*************************                2638     5580      8.80     18.61
   400   |**********************                   2316     7896      7.72     26.33
   410   |***************************              2795    10691      9.32     35.65
   420   |****************************************************  4987  15678  16.63  52.28
   430   |******************                       1843    17521      6.15     58.43
   440   |**************************************** 3813    21334     12.72     71.15
   450   |**************************************** 3661    24995     12.21     83.36
   460   |**************                           1449    26444      4.83     88.19
   470   |*************                            1302    27746      4.34     92.53
   480   |**********                                997    28743      3.32     95.85
   490   |                                            0    28743      0.00     95.85
   500   |******                                    627    29370      2.09     97.95
   510   |****                                      368    29738      1.23     99.17
   520   |                                            0    29738      0.00     99.17
   530   |**                                        170    29908      0.57     99.74
   540   |                                            0    29908      0.00     99.74
   550   |                                            0    29908      0.00     99.74
   560   |*                                          54    29962      0.18     99.92
   570   |                                            0    29962      0.00     99.92
   580   |                                           19    29981      0.06     99.98
   590   |                                            0    29981      0.00     99.98
   600   |                                            0    29981      0.00     99.98
   610   |                                            0    29981      0.00     99.98
   620   |                                            4    29985      0.01    100.00
   630   |                                            0    29985      0.00    100.00
   640   |                                            1    29986      0.00    100.00
   650   |                                            0    29986      0.00    100.00

           ---+----+----+----+----+----+----+----+----+----+--
            500 1000 1500 2000 2500 3000 3500 4000 4500 5000

                          Frequency
```

Figure B.19 Year 2009 Scale Score Distribution: Grade 5 Form B

Grade 5 Form B

Figure B.20 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 5 Form B

Grade 5 Form B

Figure B.21 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 5 Form B

`Year 2004 Grade=6 (Base Year)`

```
Scale Score                                        Cum.              Cum.
Midpoint                               Freq   Freq  Percent  Percent

    240  |*                             277    277    0.41     0.41
    250  |                               12    289    0.02     0.42
    260  |                                8    297    0.01     0.44
    270  |                               14    311    0.02     0.46
    280  |                               33    344    0.05     0.51
    290  |                               61    405    0.09     0.59
    300  |*                             108    513    0.16     0.75
    310  |**                            317    830    0.47     1.22
    320  |***                           624   1454    0.92     2.13
    330  |*******                      1351   2805    1.98     4.12
    340  |**********                   2070   4875    3.04     7.16
    350  |***************              3040   7915    4.46    11.62
    360  |*********************        4285  12200    6.29    17.91
    370  |***************************  5602  17802    8.23    26.14
    380  |****************************  5716  23518   8.39    34.53
    390  |*********************************** 6849  30367 10.06 44.59
    400  |********************************* 6684  37051   9.81   54.40
    410  |************************************* 7001 44052 10.28 64.68
    420  |*****************************  5803  49855   8.52    73.20
    430  |****************************  5801  55656    8.52    81.72
    440  |*******************          3799  59455    5.58    87.30
    450  |***************              2997  62452    4.40    91.70
    460  |*********                    1706  64158    2.50    94.20
    470  |*********                    1780  65938    2.61    96.82
    480  |*****                        1001  66939    1.47    98.29
    490  |***                           564  67503    0.83    99.11
    500  |*                             146  67649    0.21    99.33
    510  |*                             298  67947    0.44    99.77
    520  |                                0  67947    0.00    99.77
    530  |                               66  68013    0.10    99.86
    540  |                               51  68064    0.07    99.94
    550  |                               22  68086    0.03    99.97
    560  |                                6  68092    0.01    99.98
    570  |                                9  68101    0.01    99.99
    580  |                                4  68105    0.01   100.00
    590  |                                1  68106    0.00   100.00
    600  |                                0  68106    0.00   100.00
    610  |                                0  68106    0.00   100.00
    620  |                                0  68106    0.00   100.00
    630  |                                0  68106    0.00   100.00
    640  |                                0  68106    0.00   100.00
    650  |                                0  68106    0.00   100.00
         |
         ------------------------------------------
           1000 2000 3000 4000 5000 6000 7000

                     Frequency
```

Figure B.22 Year 2004 Scale Score Distribution: Grade 6

```
Year 2009 Grade=6 Form A


Scale Score                                                Cum.              Cum.
Midpoint                                          Freq    Freq  Percent   Percent

  240    |                                          1       1     0.00      0.00
  250    |                                          0       1     0.00      0.00
  260    |                                          0       1     0.00      0.00
  270    |                                          0       1     0.00      0.00
  280    |                                          0       1     0.00      0.00
  290    |                                          3       4     0.01      0.01
  300    |                                          7      11     0.02      0.04
  310    |                                         25      36     0.08      0.12
  320    |                                         25      61     0.08      0.21
  330    |*                                        97     158     0.33      0.53
  340    |***                                     312     470     1.05      1.58
  350    |****                                    390     860     1.31      2.89
  360    |*********                               989    1849     3.32      6.21
  370    |************                           1185    3034     3.98     10.20
  380    |************************               2562    5596     8.61     18.81
  390    |*********************                  2279    7875     7.66     26.47
  400    |*********************************************  4333   12208    14.56     41.03
  410    |***********************************    3463   15671    11.64     52.67
  420    |*************************************  3729   19400    12.53     65.21
  430    |*******************                    1927   21327     6.48     71.68
  440    |************************************   3608   24935    12.13     83.81
  450    |***************                        1491   26426     5.01     88.82
  460    |************                           1242   27668     4.17     93.00
  470    |*********                               932   28600     3.13     96.13
  480    |******                                  625   29225     2.10     98.23
  490    |                                          0   29225     0.00     98.23
  500    |***                                     310   29535     1.04     99.27
  510    |                                          0   29535     0.00     99.27
  520    |*                                       146   29681     0.49     99.76
  530    |                                          0   29681     0.00     99.76
  540    |*                                        52   29733     0.17     99.94
  550    |                                          0   29733     0.00     99.94
  560    |                                          0   29733     0.00     99.94
  570    |                                         17   29750     0.06    100.00
  580    |                                          0   29750     0.00    100.00
  590    |                                          1   29751     0.00    100.00
  600    |                                          0   29751     0.00    100.00
  610    |                                          0   29751     0.00    100.00
  620    |                                          0   29751     0.00    100.00
  630    |                                          0   29751     0.00    100.00
  640    |                                          0   29751     0.00    100.00
  650    |                                          0   29751     0.00    100.00

          |----+----+----+----+----+----+----+----+
             500 1000 1500 2000 2500 3000 3500 4000

                         Frequency
```

Figure B.23 Year 2009 Scale Score Distribution: Grade 6 Form A

Grade 6 Form A

Figure B.24 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 6 Form A

Grade 6 Form A

Figure B.25 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 6 Form A

`Year 2009 Grade=6 Form B`

```
Scale Score                                         Cum.              Cum.
Midpoint                                     Freq   Freq   Percent  Percent

   240   |                                      1      1     0.00     0.00
   250   |                                      1      2     0.00     0.01
   260   |                                      0      2     0.00     0.01
   270   |                                      1      3     0.00     0.01
   280   |                                      4      7     0.01     0.02
   290   |                                      6     13     0.02     0.04
   300   |                                      5     18     0.02     0.06
   310   |                                     24     42     0.08     0.14
   320   |                                     19     61     0.07     0.21
   330   |*                                    78    139     0.27     0.48
   340   |***                                 265    404     0.91     1.39
   350   |****                                365    769     1.26     2.65
   360   |*********                          1026   1795     3.53     6.17
   370   |**********                         1080   2875     3.72     9.89
   380   |************************           2561   5436     8.81    18.70
   390   |**********************             2357   7793     8.11    26.81
   400   |*******************************************  4335  12128   14.91    41.72
   410   |*********************************  3357  15485    11.55    53.27
   420   |***********************************  3577  19062   12.30    65.57
   430   |************************************  3649  22711   12.55    78.13
   440   |****************                   1617  24328     5.56    83.69
   450   |***************                    1466  25794     5.04    88.73
   460   |************                       1228  27022     4.22    92.95
   470   |*********                           969  27991     3.33    96.29
   480   |******                              588  28579     2.02    98.31
   490   |***                                 305  28884     1.05    99.36
   500   |                                      0  28884     0.00    99.36
   510   |*                                   124  29008     0.43    99.79
   520   |                                      0  29008     0.00    99.79
   530   |                                      0  29008     0.00    99.79
   540   |                                     49  29057     0.17    99.96
   550   |                                      0  29057     0.00    99.96
   560   |                                      0  29057     0.00    99.96
   570   |                                     10  29067     0.03    99.99
   580   |                                      0  29067     0.00    99.99
   590   |                                      3  29070     0.01   100.00
   600   |                                      0  29070     0.00   100.00
   610   |                                      0  29070     0.00   100.00
   620   |                                      0  29070     0.00   100.00
   630   |                                      0  29070     0.00   100.00
   640   |                                      0  29070     0.00   100.00
   650   |                                      0  29070     0.00   100.00
         |_____
            |    |    |    |    |    |    |    |
           500 1000 1500 2000 2500 3000 3500 4000

                        Frequency
```

Figure B.26 Year 2009 Scale Score Distribution: Grade 6 Form B
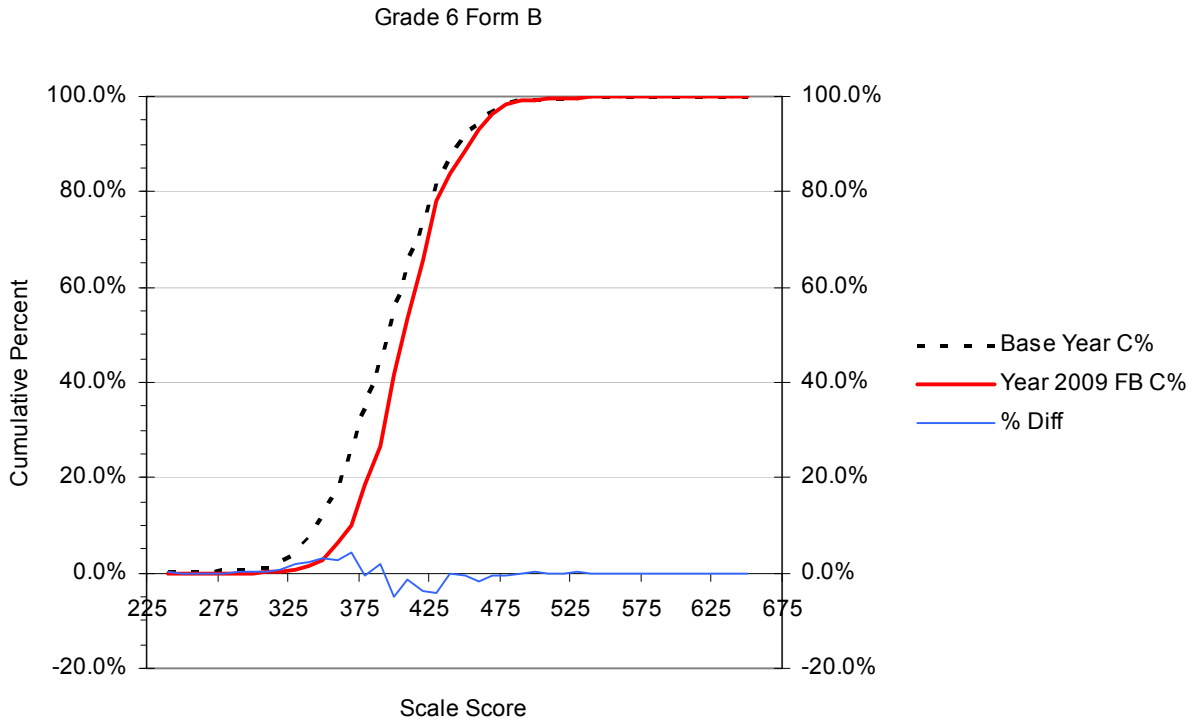
Grade 6 Form B

Figure B.27 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 6 Form B

Grade 6 Form B

Figure B.28 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 6 Form B

Year 2004 Grade=7 (Base Year)

```
Scale Score                                            Cum.            Cum.
Midpoint                                      Freq     Freq  Percent  Percent

   240   |**                                   436      436     0.63     0.63
   250   |                                       0      436     0.00     0.63
   260   |                                      31      467     0.04     0.68
   270   |                                      12      479     0.02     0.69
   280   |                                      32      511     0.05     0.74
   290   |                                      62      573     0.09     0.83
   300   |*                                    134      707     0.19     1.02
   310   |**                                   410     1117     0.59     1.62
   320   |****                                 776     1893     1.12     2.74
   330   |******                              1288     3181     1.86     4.60
   340   |*********                           1778     4959     2.57     7.17
   350   |**************                      2797     7756     4.04    11.21
   360   |******************                  3648    11404     5.27    16.49
   370   |************************            5034    16438     7.28    23.77
   380   |****************************        5865    22303     8.48    32.25
   390   |****************************************  7817  30120   11.30    43.55
   400   |***********************************  6965    37085    10.07    53.62
   410   |************************************  7175    44260    10.37    63.99
   420   |**********************************   6773    51033     9.79    73.79
   430   |******************************       5910    56943     8.55    82.33
   440   |***********************              4679    61622     6.77    89.10
   450   |*************                        2633    64255     3.81    92.90
   460   |*********                            1782    66037     2.58    95.48
   470   |********                             1546    67583     2.24    97.72
   480   |**                                   414    67997     0.60    98.31
   490   |***                                  563    68560     0.81    99.13
   500   |*                                    257    68817     0.37    99.50
   510   |                                      94    68911     0.14    99.64
   520   |*                                    128    69039     0.19    99.82
   530   |                                      54    69093     0.08    99.90
   540   |                                      32    69125     0.05    99.95
   550   |                                      11    69136     0.02    99.96
   560   |                                      14    69150     0.02    99.98
   570   |                                       5    69155     0.01    99.99
   580   |                                       5    69160     0.01   100.00
   590   |                                       1    69161     0.00   100.00
   600   |                                       0    69161     0.00   100.00
   610   |                                       2    69163     0.00   100.00
   620   |                                       0    69163     0.00   100.00
   630   |                                       0    69163     0.00   100.00
   640   |                                       0    69163     0.00   100.00
   650   |                                       0    69163     0.00   100.00
         |_____
          1000 2000 3000 4000 5000 6000 7000

                    Frequency
```

Figure B.29 Year 2004 Scale Score Distribution: Grade 7

Year 2009 Grade=7 Form A

```
Scale Score                                          Cum.              Cum.
Midpoint                                     Freq    Freq   Percent   Percent

    240   |                                     4       4     0.01      0.01
    250   |                                     2       6     0.01      0.02
    260   |                                     0       6     0.00      0.02
    270   |                                     3       9     0.01      0.03
    280   |                                     2      11     0.01      0.04
    290   |                                     3      14     0.01      0.05
    300   |                                    12      26     0.04      0.09
    310   |                                    44      70     0.15      0.23
    320   |*                                   75     145     0.25      0.48
    330   |**                                 187     332     0.62      1.10
    340   |***                                278     610     0.93      2.03
    350   |****                               441    1051     1.47      3.50
    360   |***********                       1052    2103     3.50      7.00
    370   |**********                        1009    3112     3.36     10.36
    380   |**********************            2222    5334     7.40     17.75
    390   |******************                1875    7209     6.24     23.99
    400   |*********************             2183    9392     7.27     31.26
    410   |****************************************** 4243  13635    14.12     45.38
    420   |********************************  3336   16971    11.10     56.48
    430   |******************                1864   18835     6.20     62.69
    440   |**************************************** 3788  22623    12.61     75.29
    450   |*******************               1880   24503     6.26     81.55
    460   |*****************                 1705   26208     5.67     87.23
    470   |***************                   1547   27755     5.15     92.38
    480   |**********                        1030   28785     3.43     95.80
    490   |                                     0   28785     0.00     95.80
    500   |*******                            679   29464     2.26     98.06
    510   |                                     0   29464     0.00     98.06
    520   |***                                334   29798     1.11     99.17
    530   |                                     0   29798     0.00     99.17
    540   |**                                 165   29963     0.55     99.72
    550   |                                     0   29963     0.00     99.72
    560   |                                     0   29963     0.00     99.72
    570   |*                                   61   30024     0.20     99.93
    580   |                                     0   30024     0.00     99.93
    590   |                                     0   30024     0.00     99.93
    600   |                                    22   30046     0.07    100.00
    610   |                                     0   30046     0.00    100.00
    620   |                                     0   30046     0.00    100.00
    630   |                                     0   30046     0.00    100.00
    640   |                                     0   30046     0.00    100.00
    650   |                                     0   30046     0.00    100.00
          |_____
             |    |    |    |    |    |    |    |
            500  1000 1500 2000 2500 3000 3500 4000

                        Frequency
```

Figure B.30 Year 2009 Scale Score Distribution: Grade 7 Form A
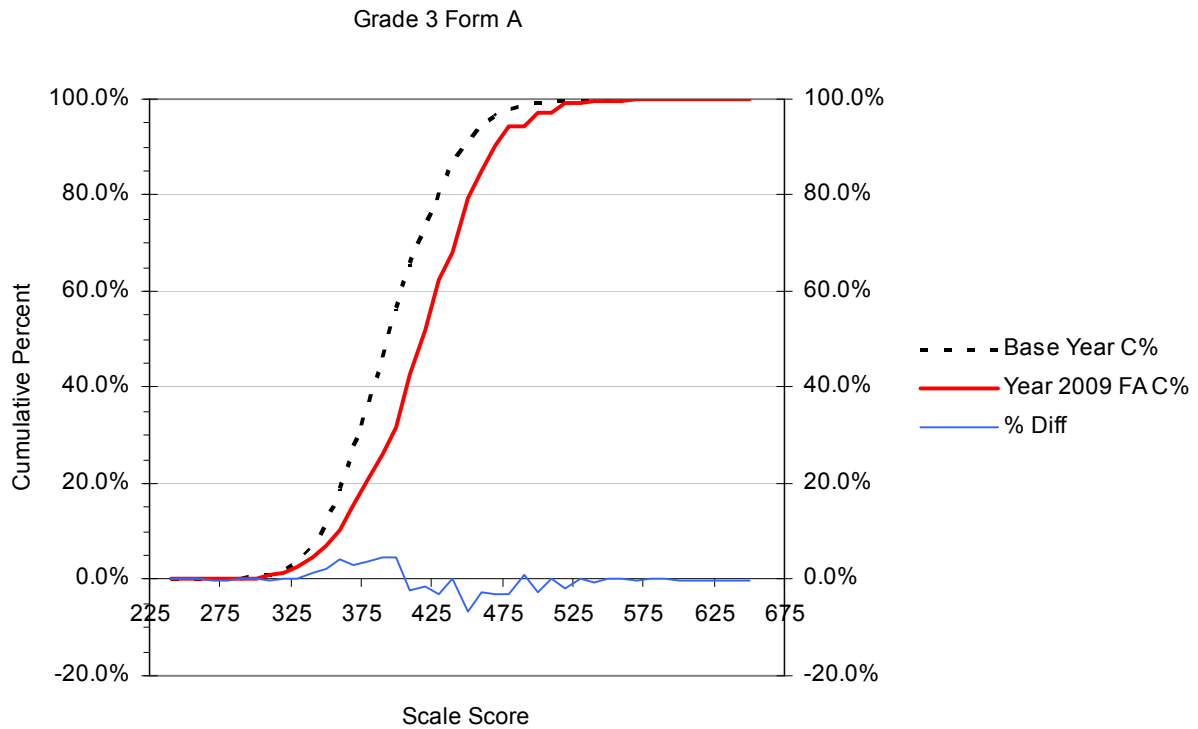
195

Grade 7 Form A

Figure B.31 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 7 Form A
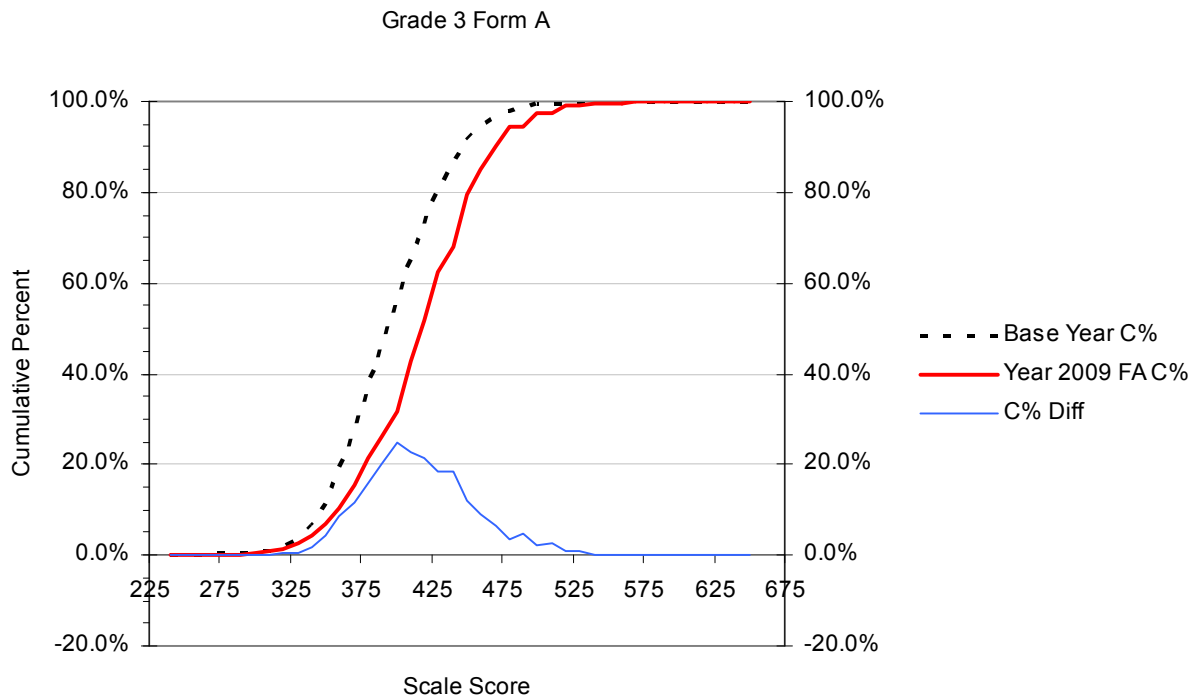
Grade 7 Form A

Figure B.32 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 7 Form A
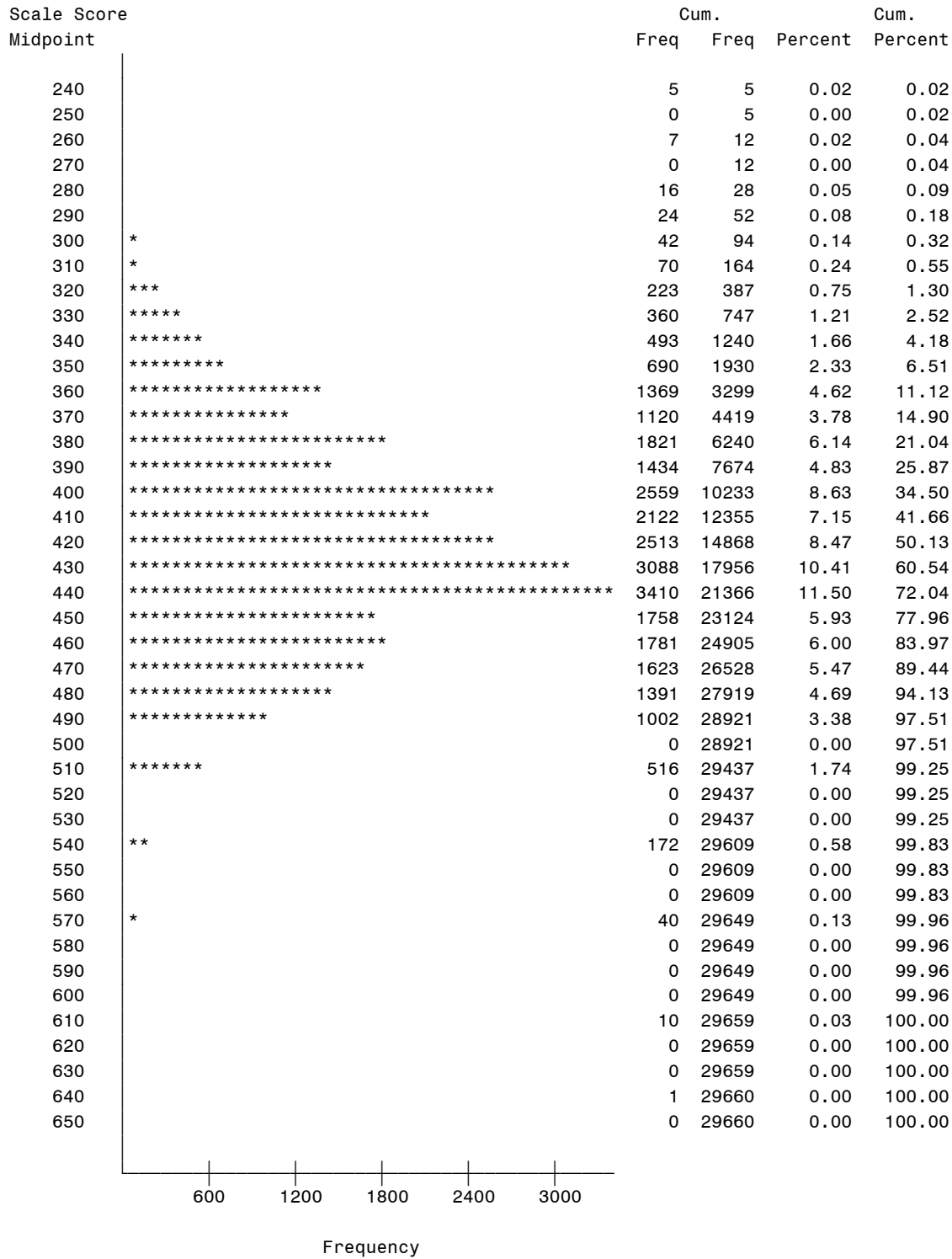
```
Year 2009 Grade=7 Form B
```

Scale Score Midpoint		Freq	Cum. Freq	Percent	Cum. Percent
240		1	1	0.00	0.00
250		0	1	0.00	0.00
260		1	2	0.00	0.01
270		3	5	0.01	0.02
280		0	5	0.00	0.02
290		14	19	0.05	0.06
300		11	30	0.04	0.10
310		30	60	0.10	0.20
320	*	69	129	0.23	0.44
330	**	147	276	0.50	0.93
340	***	237	513	0.80	1.74
350	******	455	968	1.54	3.28
360	*********	686	1654	2.32	5.60
370	*********************	1576	3230	5.33	10.93
380	*******************	1437	4667	4.86	15.80
390	**************************************	2735	7402	9.26	25.06
400	*******************************	2416	9818	8.18	33.24
410	**	2819	12637	9.54	42.78
420	**	3262	15899	11.04	53.82
430	**	3509	19408	11.88	65.70
440	**	3675	23083	12.44	78.14
450	************************	1798	24881	6.09	84.23
460	********************	1463	26344	4.95	89.18
470	*****************	1269	27613	4.30	93.47
480	************	891	28504	3.02	96.49
490		0	28504	0.00	96.49
500	********	611	29115	2.07	98.56
510		0	29115	0.00	98.56
520	****	292	29407	0.99	99.55
530		0	29407	0.00	99.55
540		0	29407	0.00	99.55
550	*	106	29513	0.36	99.91
560		0	29513	0.00	99.91
570		0	29513	0.00	99.91
580		25	29538	0.08	99.99
590		0	29538	0.00	99.99
600		0	29538	0.00	99.99
610		3	29541	0.01	100.00
620		0	29541	0.00	100.00
630		0	29541	0.00	100.00
640		0	29541	0.00	100.00
650		0	29541	0.00	100.00

```
         600    1200   1800   2400   3000   3600

                    Frequency
```

Figure B.33 Year 2009 Scale Score Distribution: Grade 7 Form B

197

Grade 7 Form B

Figure B.34 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 7 Form B
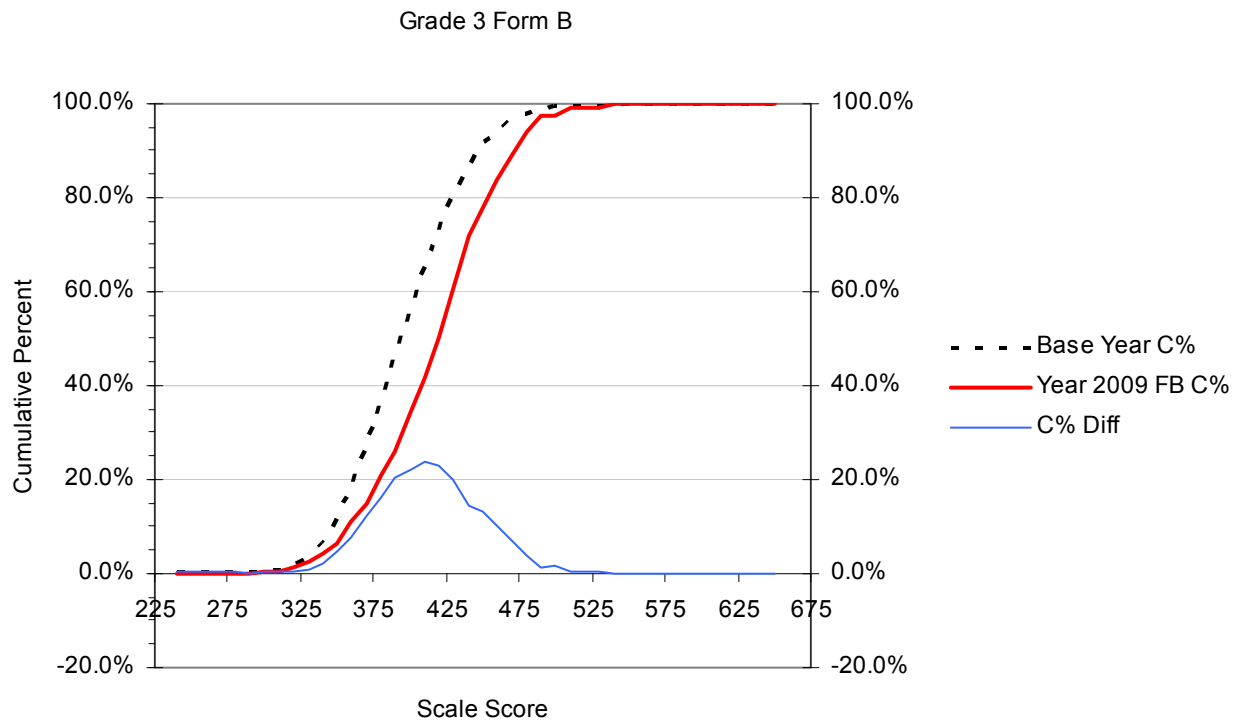
Grade 7 Form B

Figure B.35 Cumulative Distribution Functions (CDFs) for the Year 2004 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 7 Form B
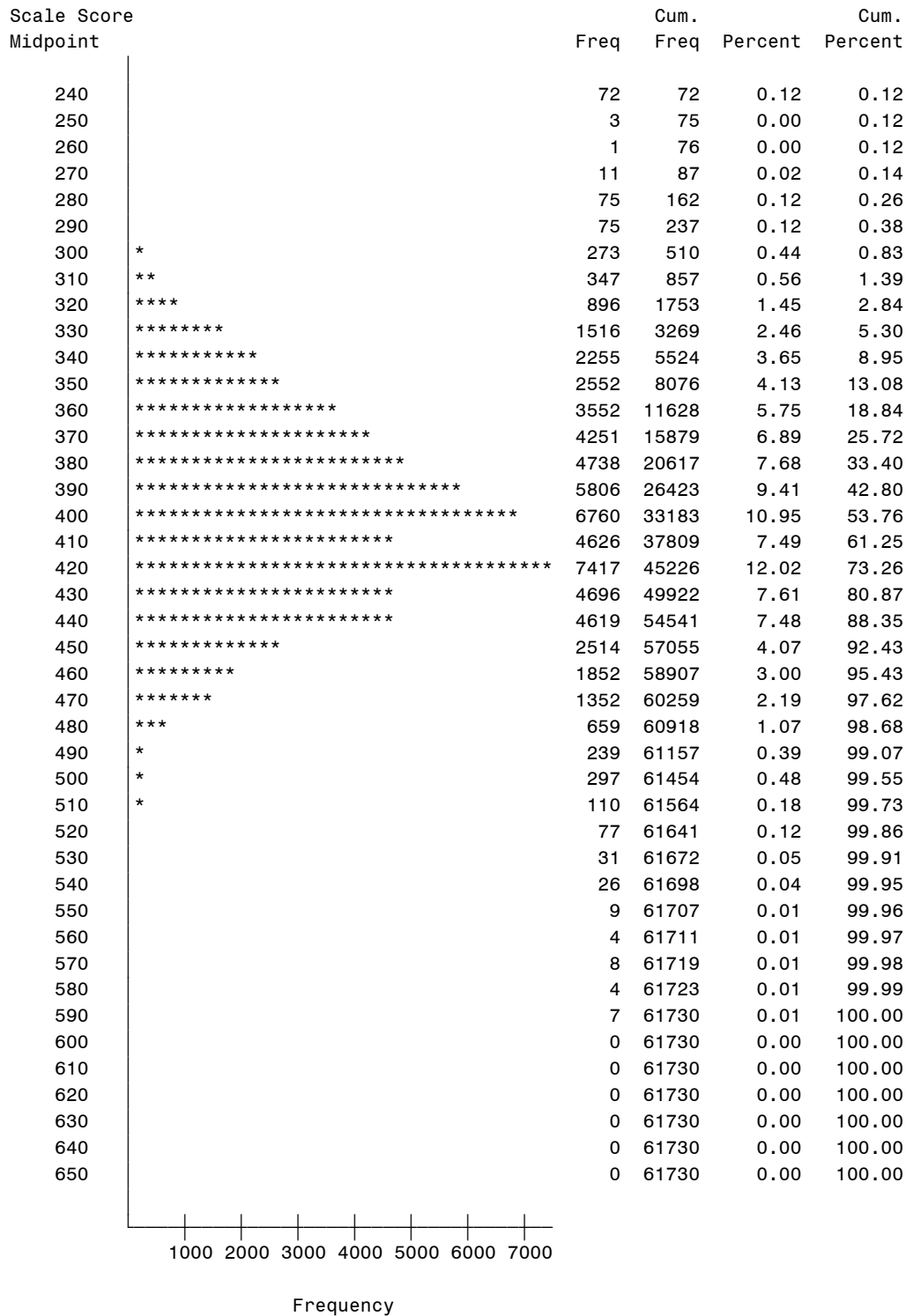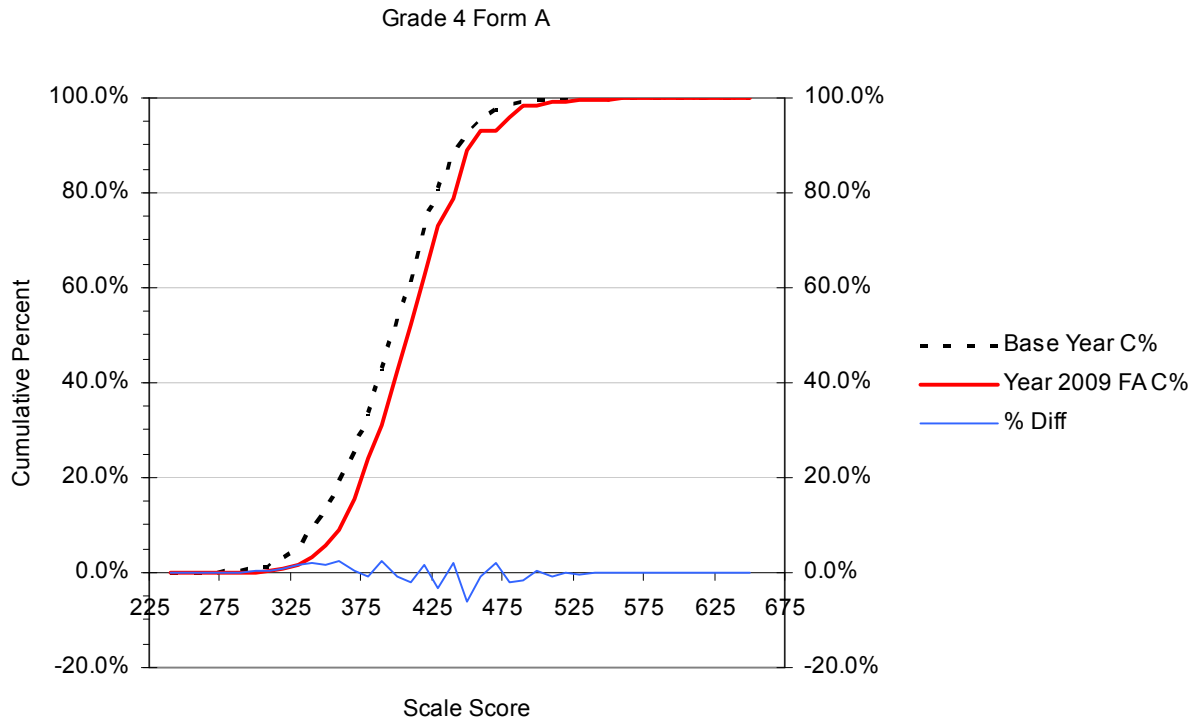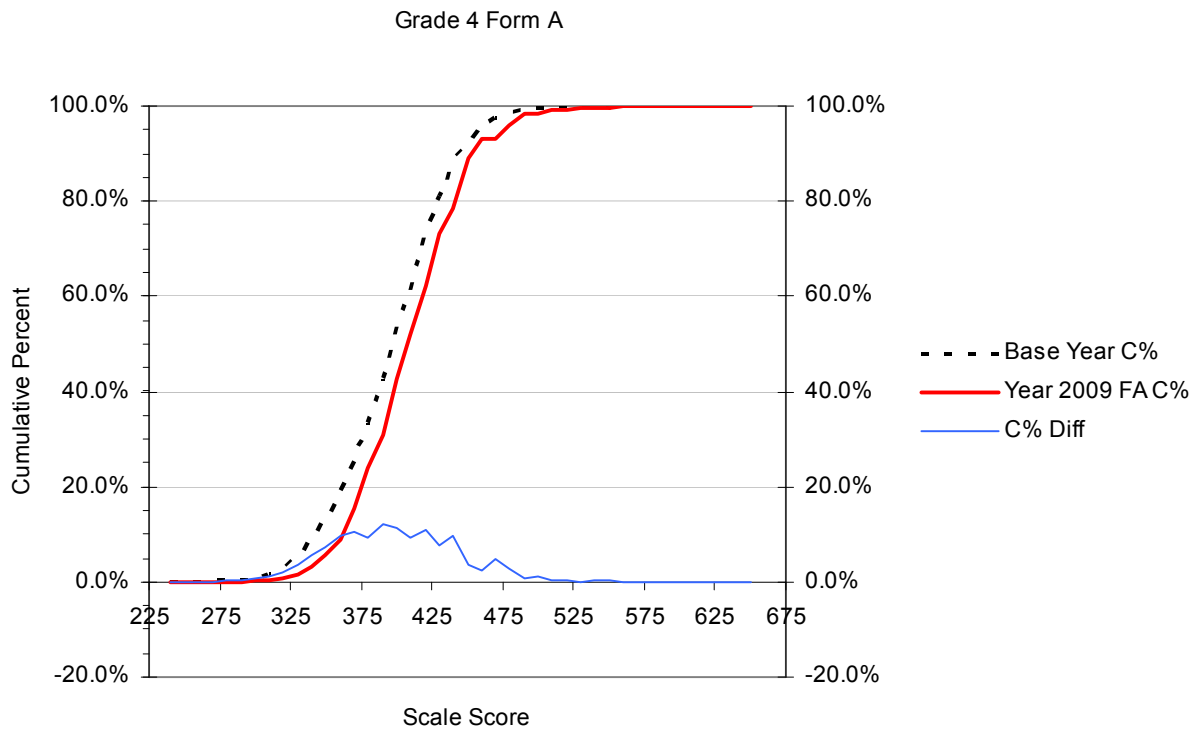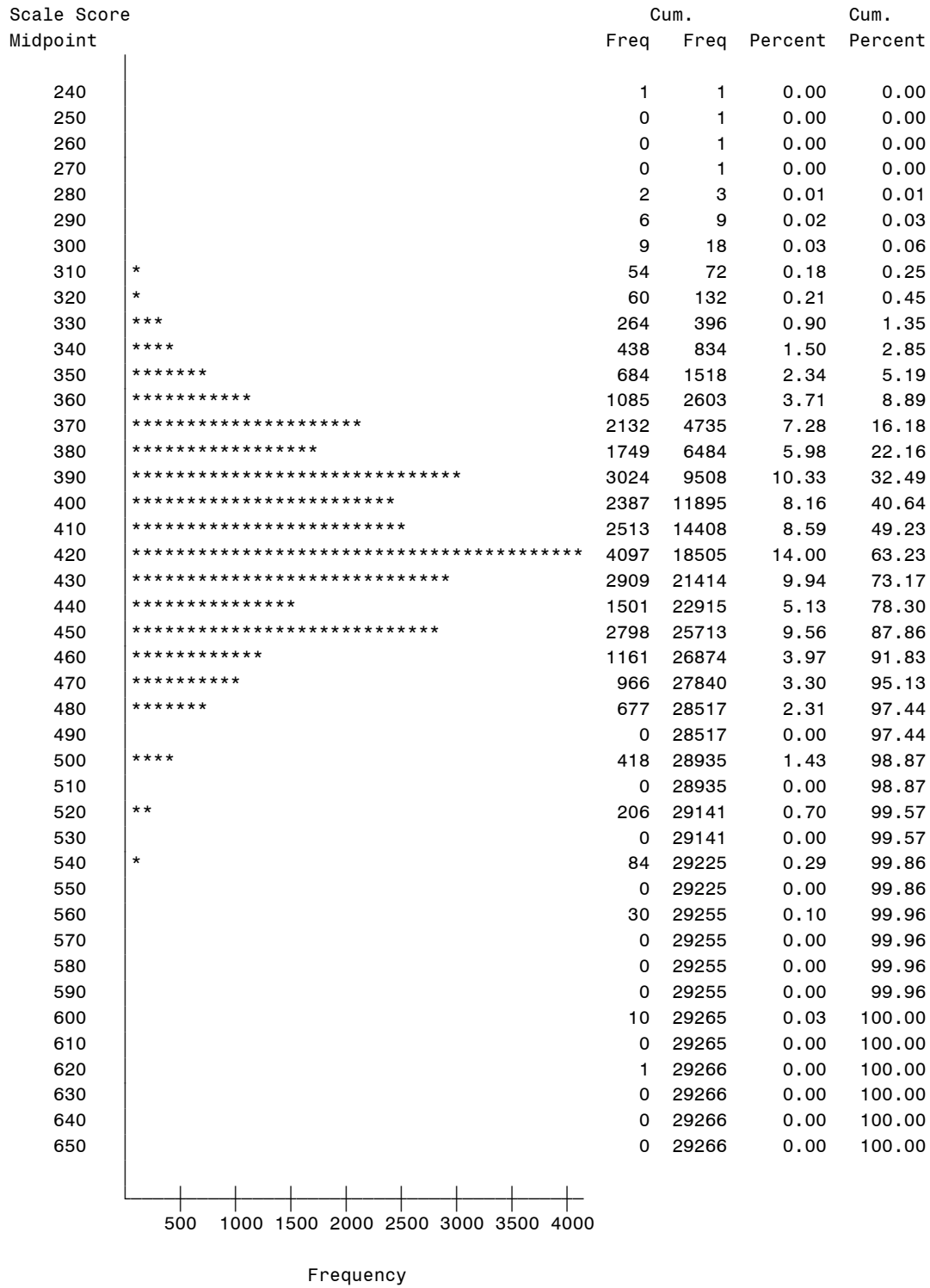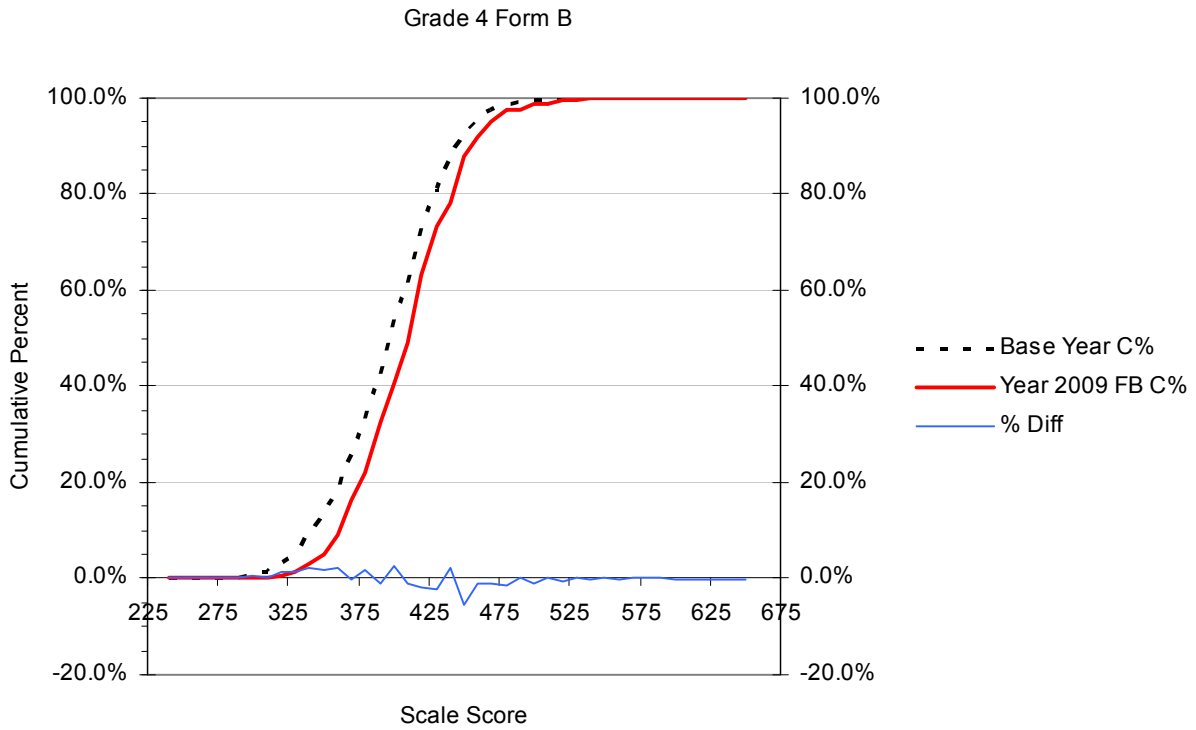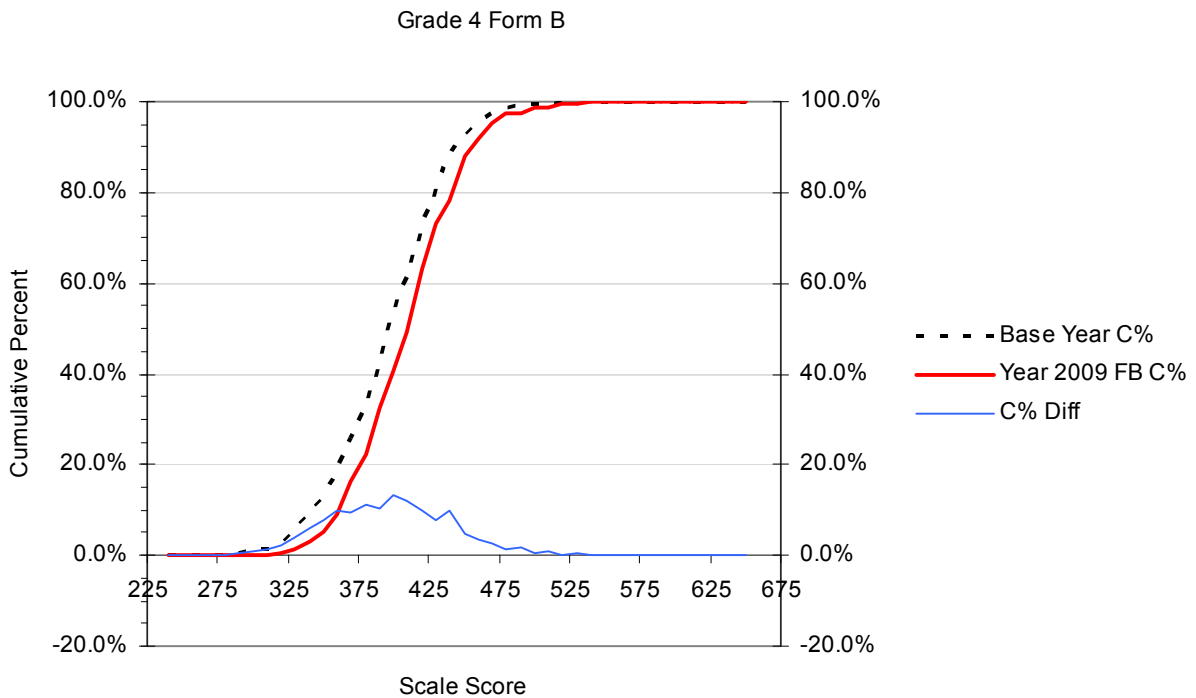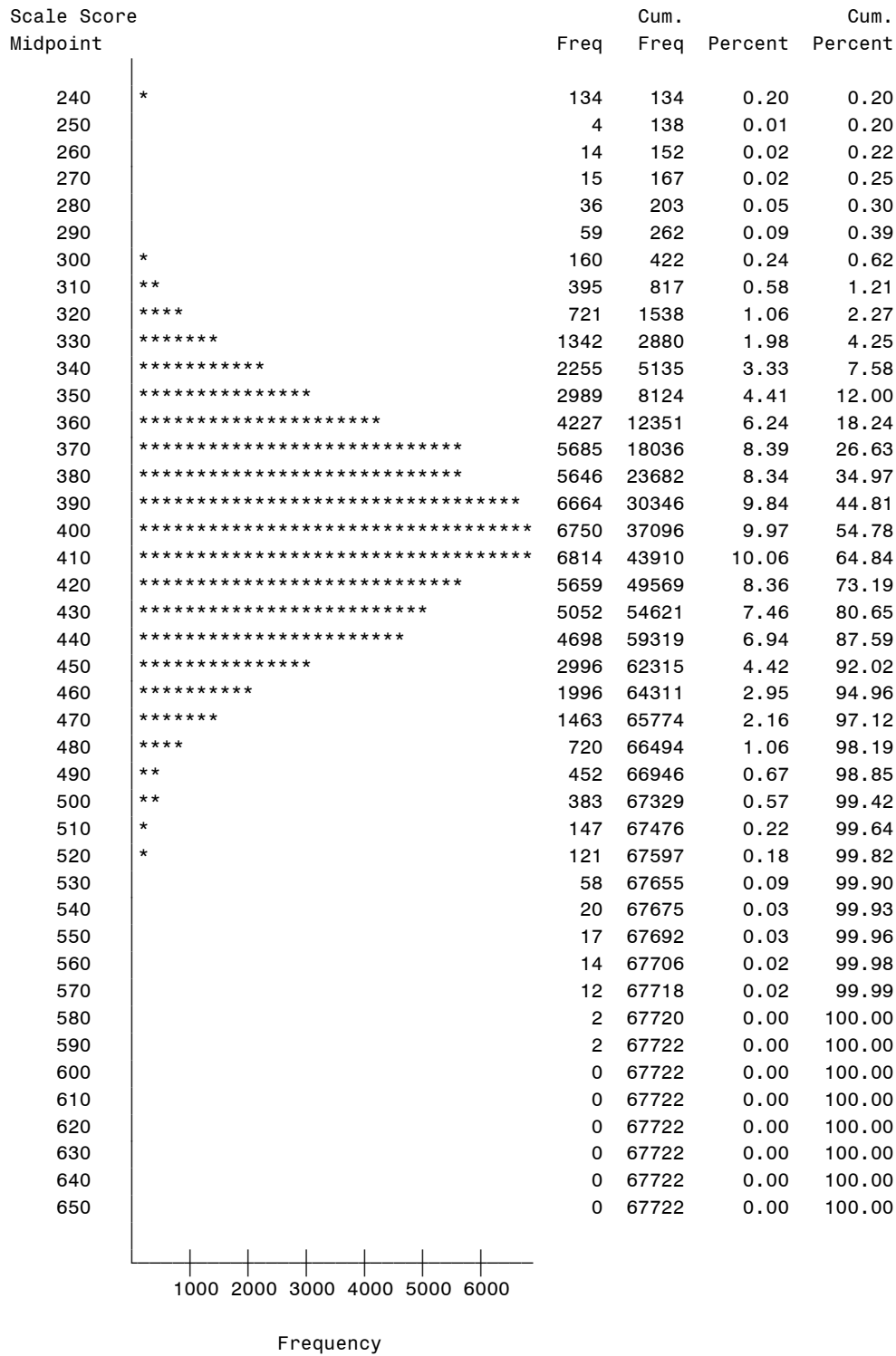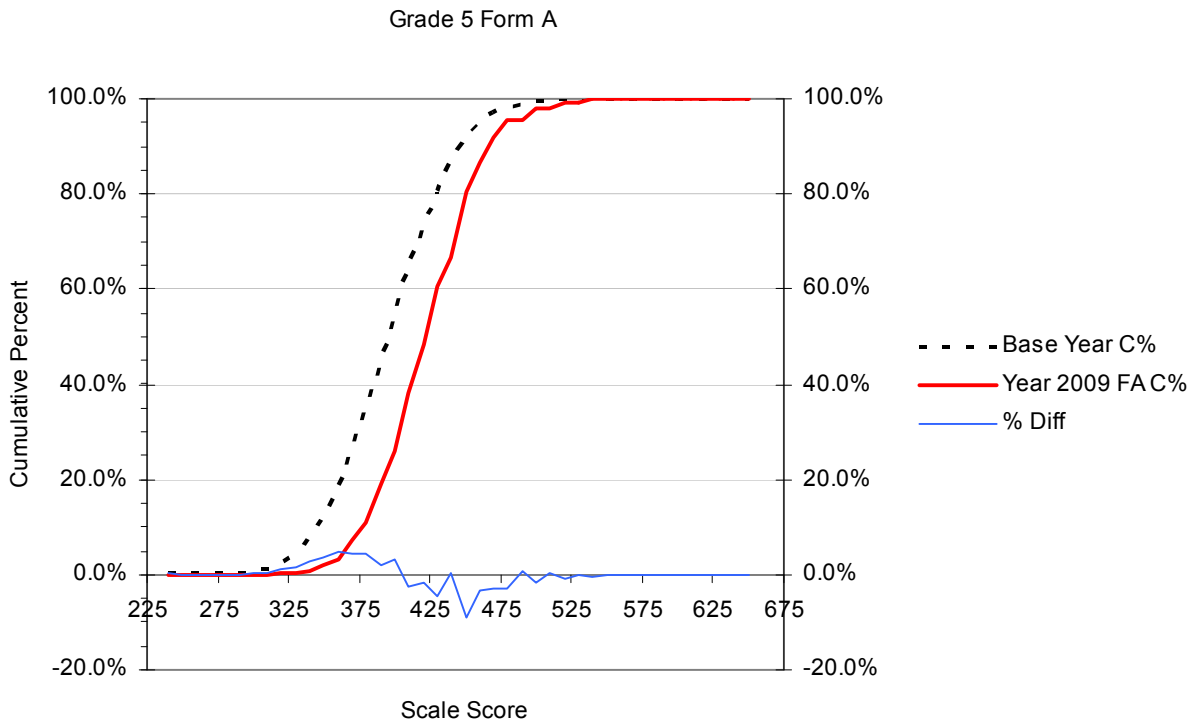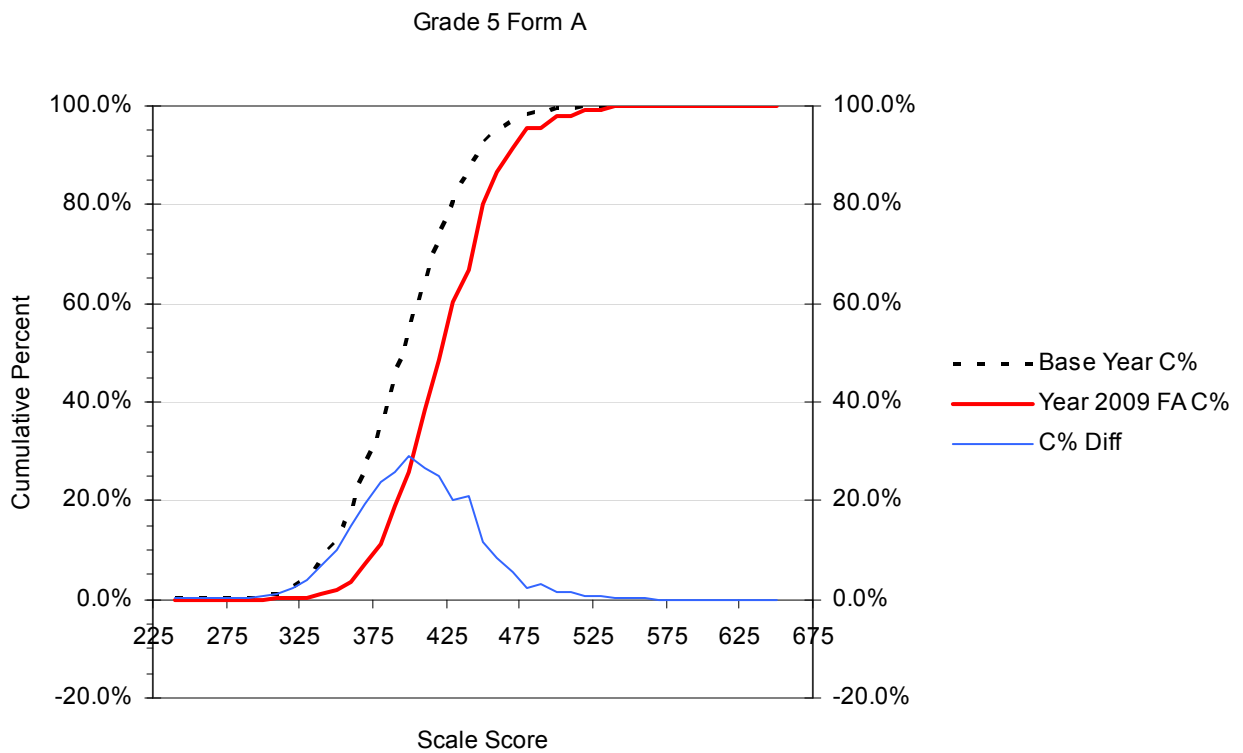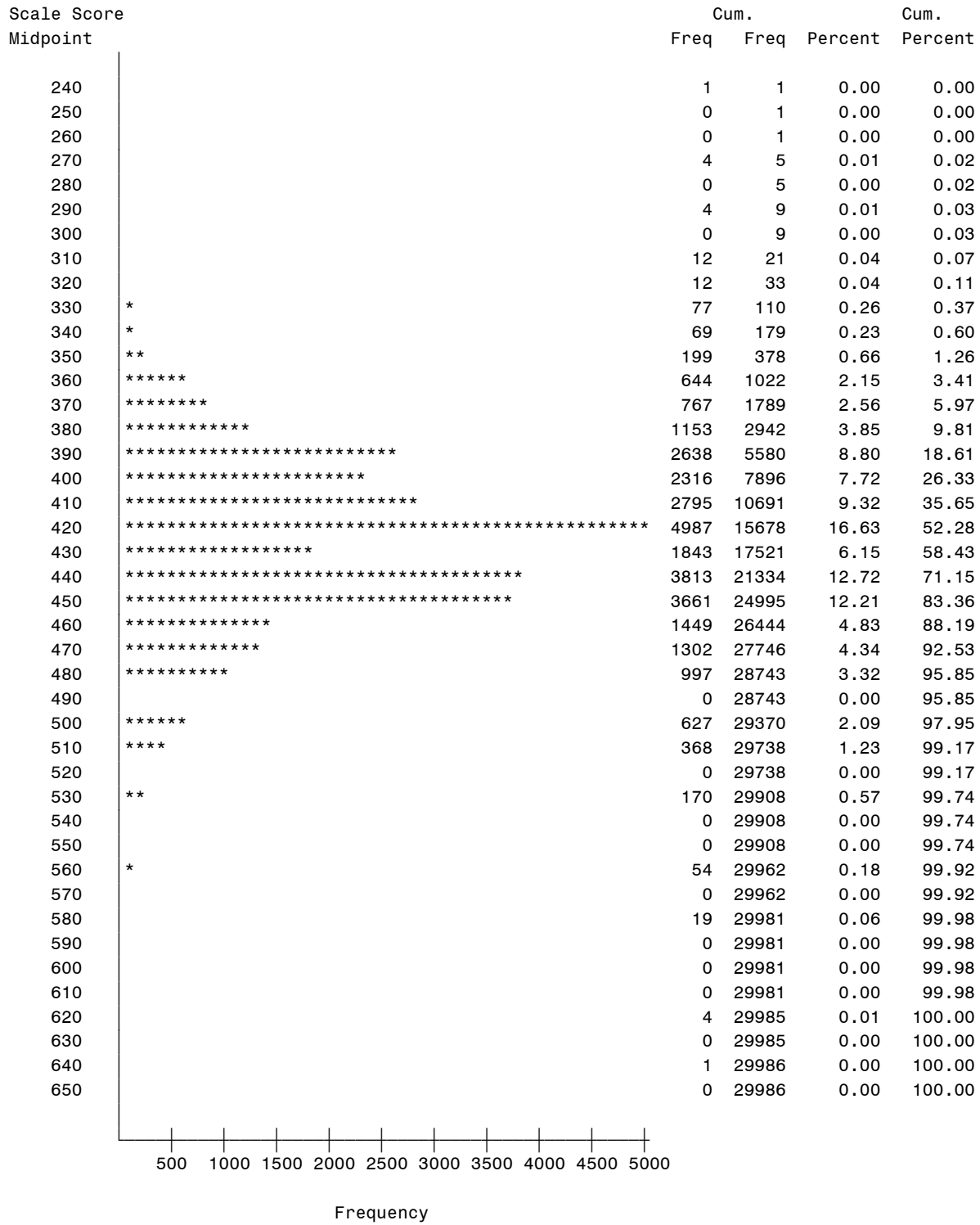
Year 2003 Grade=8 (Base Year)

```
Scale Score                                         Cum.              Cum.
Midpoint                                    Freq    Freq   Percent   Percent

    240  |***                                552     552     0.82      0.82
    250  |                                     0     552     0.00      0.82
    260  |                                    10     562     0.01      0.83
    270  |                                    12     574     0.02      0.85
    280  |                                    34     608     0.05      0.90
    290  |                                    76     684     0.11      1.01
    300  |*                                  136     820     0.20      1.21
    310  |*                                  214    1034     0.32      1.53
    320  |***                                566    1600     0.84      2.36
    330  |****                               864    2464     1.28      3.64
    340  |*********                         1923    4387     2.84      6.48
    350  |*************                     2609    6996     3.85     10.33
    360  |*******************               3998   10994     5.90     16.24
    370  |**************************        5525   16519     8.16     24.40
    380  |*************************          5473   21992     8.08     32.48
    390  |************************************  7195   29187    10.63     43.11
    400  |******************************************  7935   37122    11.72     54.83
    410  |*******************************   6409   43531     9.47     64.29
    420  |********************************  6584   50115     9.72     74.02
    430  |***************************       5539   55654     8.18     82.20
    440  |********************              3943   59597     5.82     88.02
    450  |*****************                 3316   62913     4.90     92.92
    460  |**********                        1998   64911     2.95     95.87
    470  |******                            1276   66187     1.88     97.76
    480  |***                                699   66886     1.03     98.79
    490  |*                                  166   67052     0.25     99.03
    500  |**                                 403   67455     0.60     99.63
    510  |                                    19   67474     0.03     99.66
    520  |*                                  140   67614     0.21     99.86
    530  |                                    27   67641     0.04     99.90
    540  |                                    33   67674     0.05     99.95
    550  |                                    28   67702     0.04     99.99
    560  |                                     0   67702     0.00     99.99
    570  |                                     3   67705     0.00    100.00
    580  |                                     1   67706     0.00    100.00
    590  |                                     0   67706     0.00    100.00
    600  |                                     0   67706     0.00    100.00
    610  |                                     0   67706     0.00    100.00
    620  |                                     0   67706     0.00    100.00
    630  |                                     0   67706     0.00    100.00
    640  |                                     0   67706     0.00    100.00
    650  |                                     0   67706     0.00    100.00

         |----+----+----+----+----+----+----+----+
            1000 2000 3000 4000 5000 6000 7000 8000

                      Frequency
```

Figure B.36 Year 2003 Scale Score Distribution: Grade 8

```
Year 2009 Grade=8 Form A


Scale Score                                    Cum.              Cum.
Midpoint                            Freq    Freq   Percent   Percent

    240    |                           0       0     0.00      0.00
    250    |                           2       2     0.01      0.01
    260    |                           0       2     0.00      0.01
    270    |                           2       4     0.01      0.01
    280    |                           0       4     0.00      0.01
    290    |                           3       7     0.01      0.02
    300    |                           4      11     0.01      0.04
    310    |                          23      34     0.07      0.11
    320    |                          31      65     0.10      0.21
    330    |*                        101     166     0.33      0.54
    340    |*                        185     351     0.60      1.14
    350    |***                      512     863     1.67      2.81
    360    |***                      566    1429     1.84      4.65
    370    |******                  1273    2702     4.14      8.80
    380    |*********               2039    4741     6.64     15.43
    390    |**********              1947    6688     6.34     21.77
    400    |******************      3743   10431    12.19     33.96
    410    |****************        3269   13700    10.64     44.60
    420    |*****************************  5749   19449    18.72     63.32
    430    |**********              2059   21508     6.70     70.02
    440    |*******************     4061   25569    13.22     83.24
    450    |********               1678   27247     5.46     88.70
    460    |*******                1361   28608     4.43     93.13
    470    |*****                  1031   29639     3.36     96.49
    480    |***                     596   30235     1.94     98.43
    490    |**                      304   30539     0.99     99.42
    500    |*                       118   30657     0.38     99.80
    510    |                          0   30657     0.00     99.80
    520    |                         36   30693     0.12     99.92
    530    |                          0   30693     0.00     99.92
    540    |                         18   30711     0.06     99.98
    550    |                          0   30711     0.00     99.98
    560    |                          0   30711     0.00     99.98
    570    |                          6   30717     0.02    100.00
    580    |                          0   30717     0.00    100.00
    590    |                          0   30717     0.00    100.00
    600    |                          0   30717     0.00    100.00
    610    |                          0   30717     0.00    100.00
    620    |                          0   30717     0.00    100.00
    630    |                          0   30717     0.00    100.00
    640    |                          0   30717     0.00    100.00
    650    |                          0   30717     0.00    100.00

           -+----+----+----+----+----+
          1000 2000 3000 4000 5000

             Frequency
```

Figure B.37 Year 2009 Scale Score Distribution: Grade 8 Form A
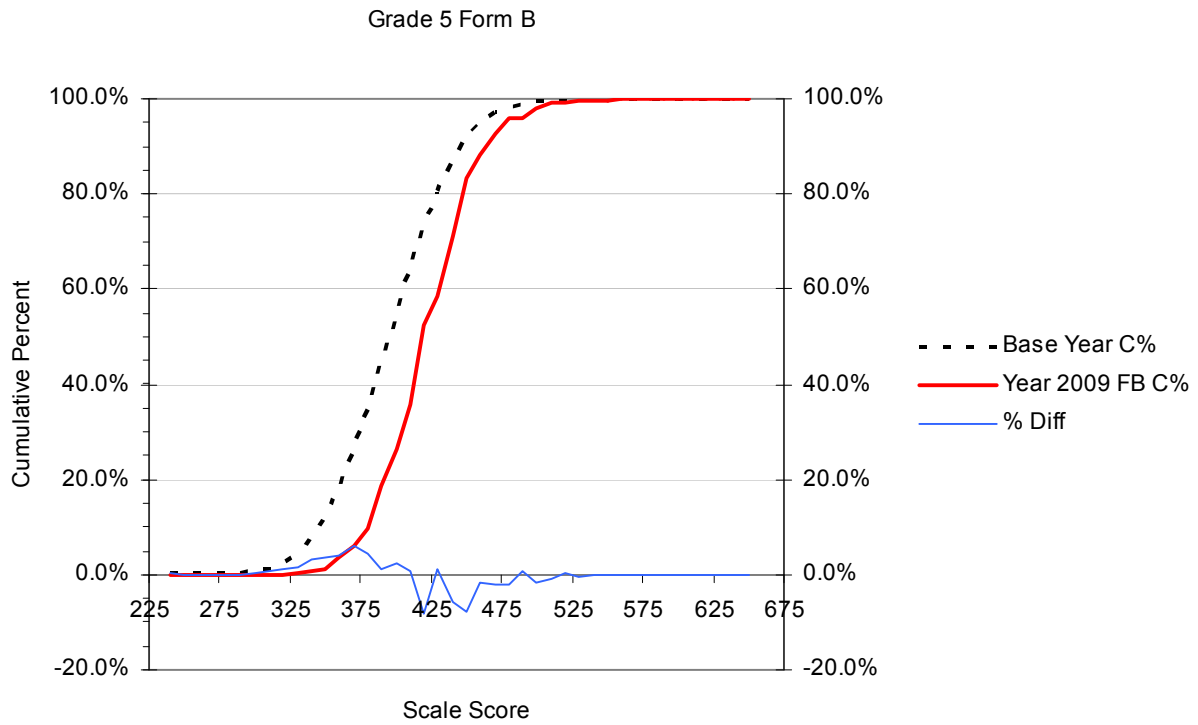
Grade 8 Form A

Figure B.38 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 8 Form A
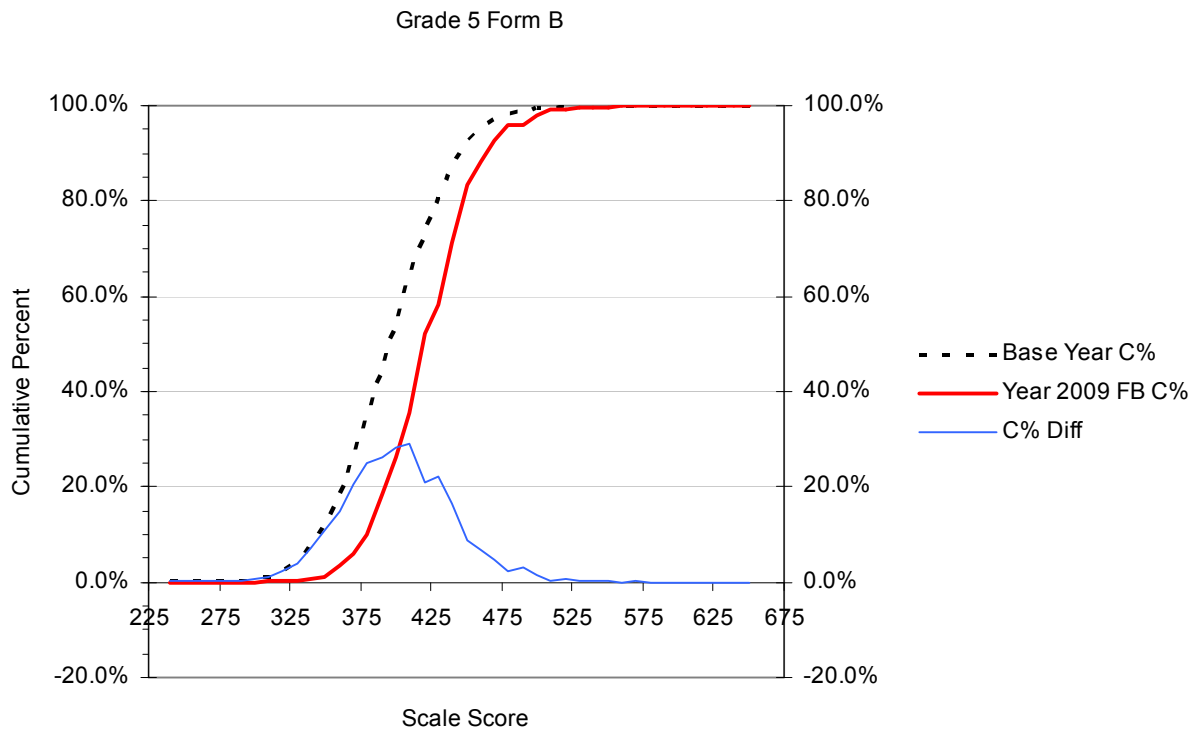
Grade 8 Form A

Figure B.39 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 8 Form A
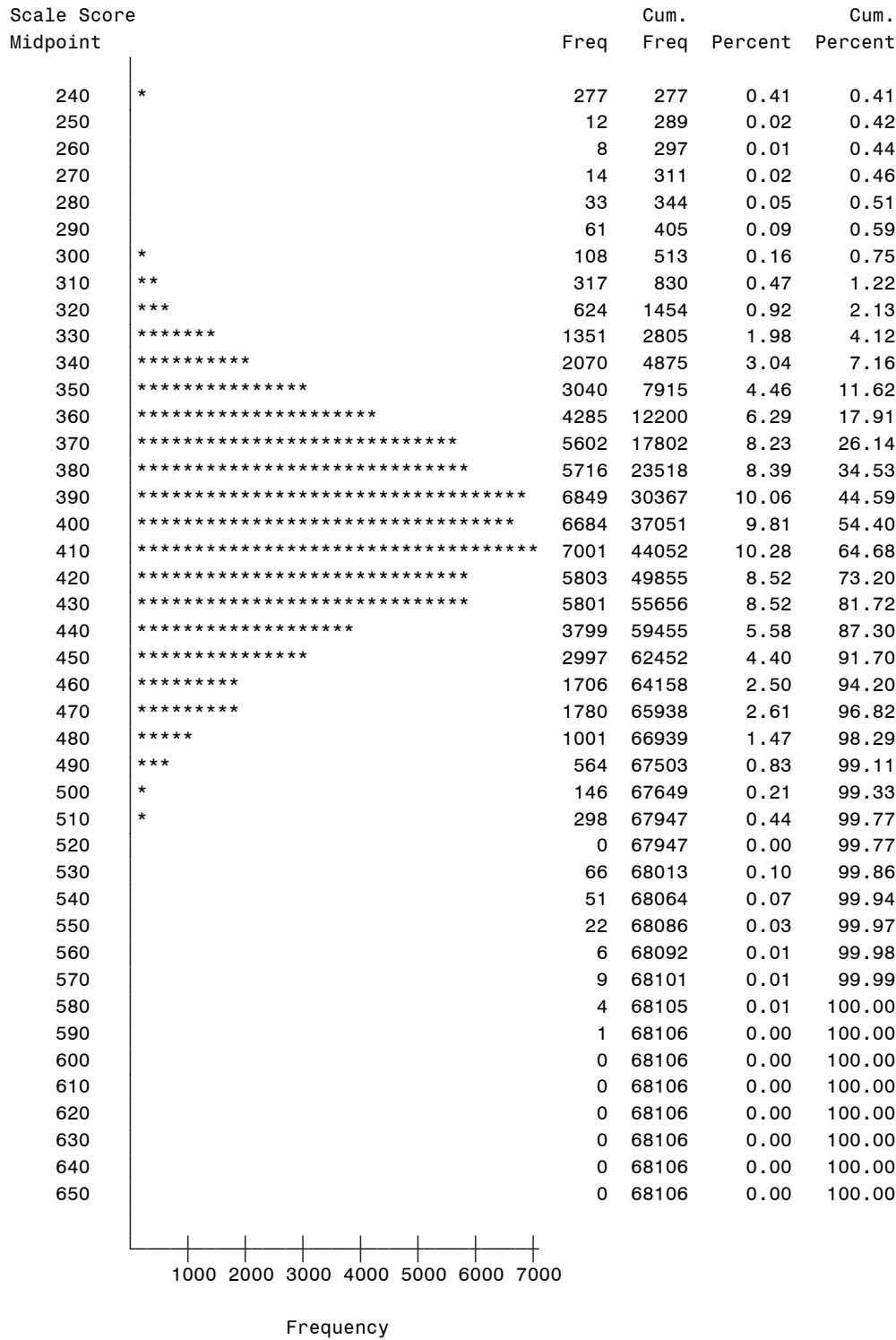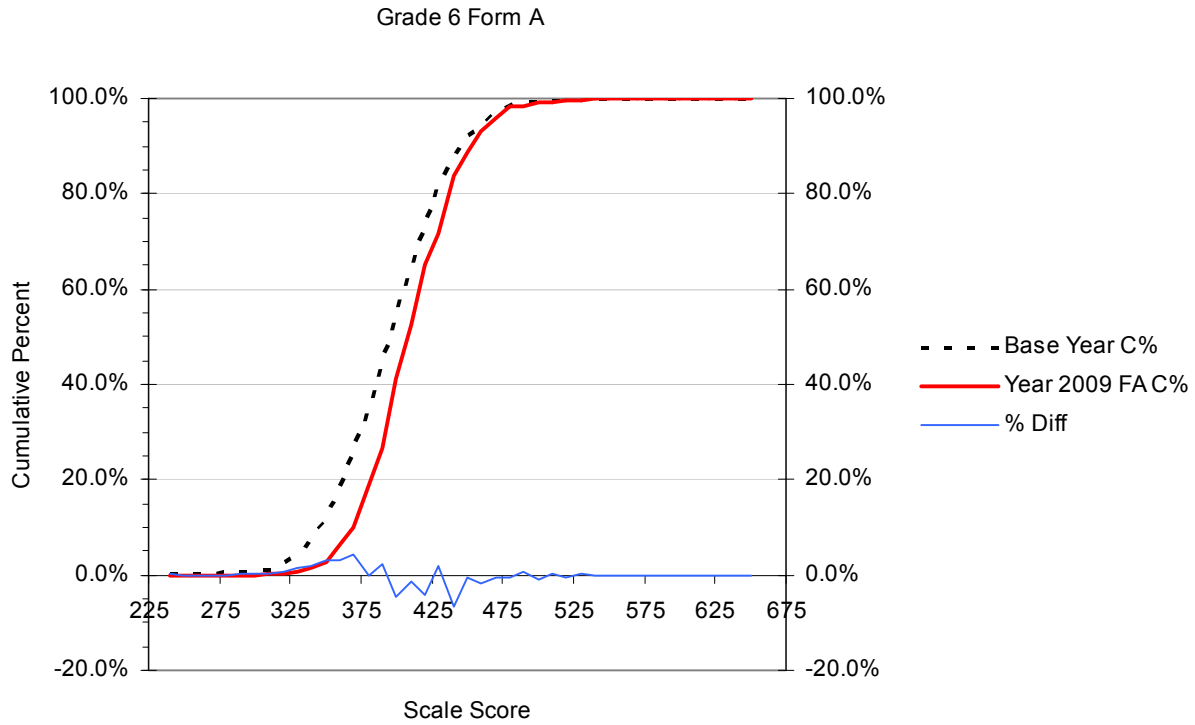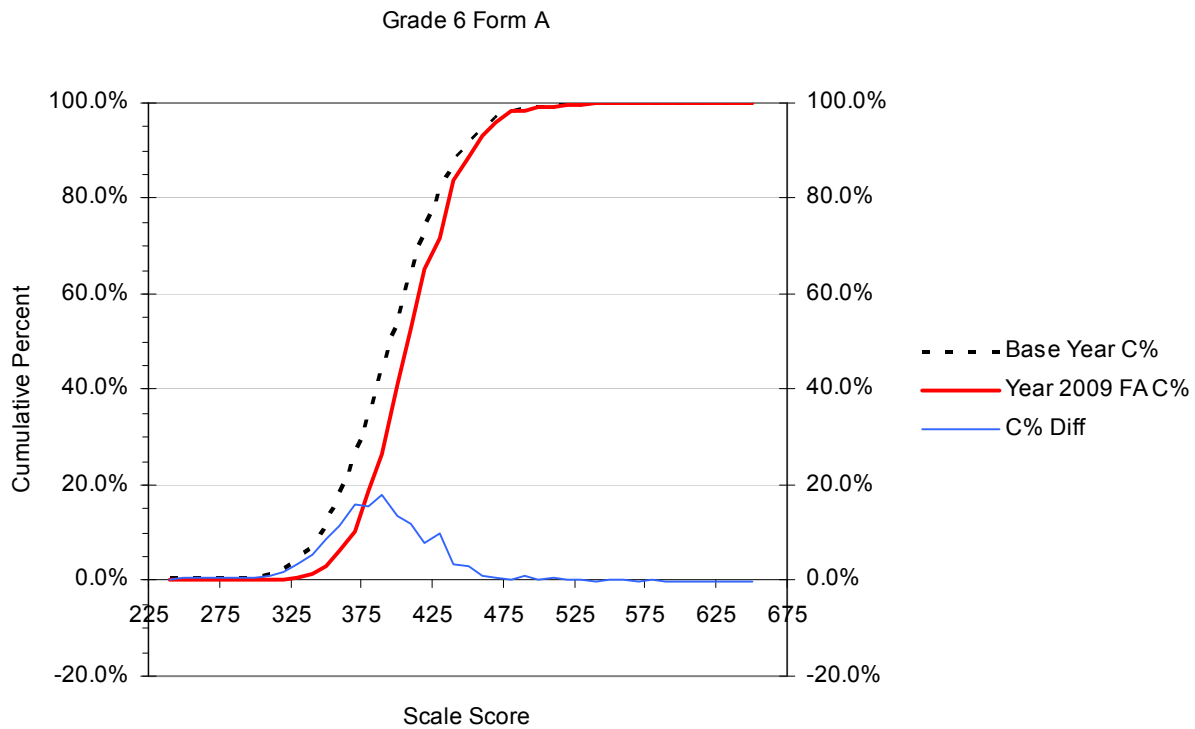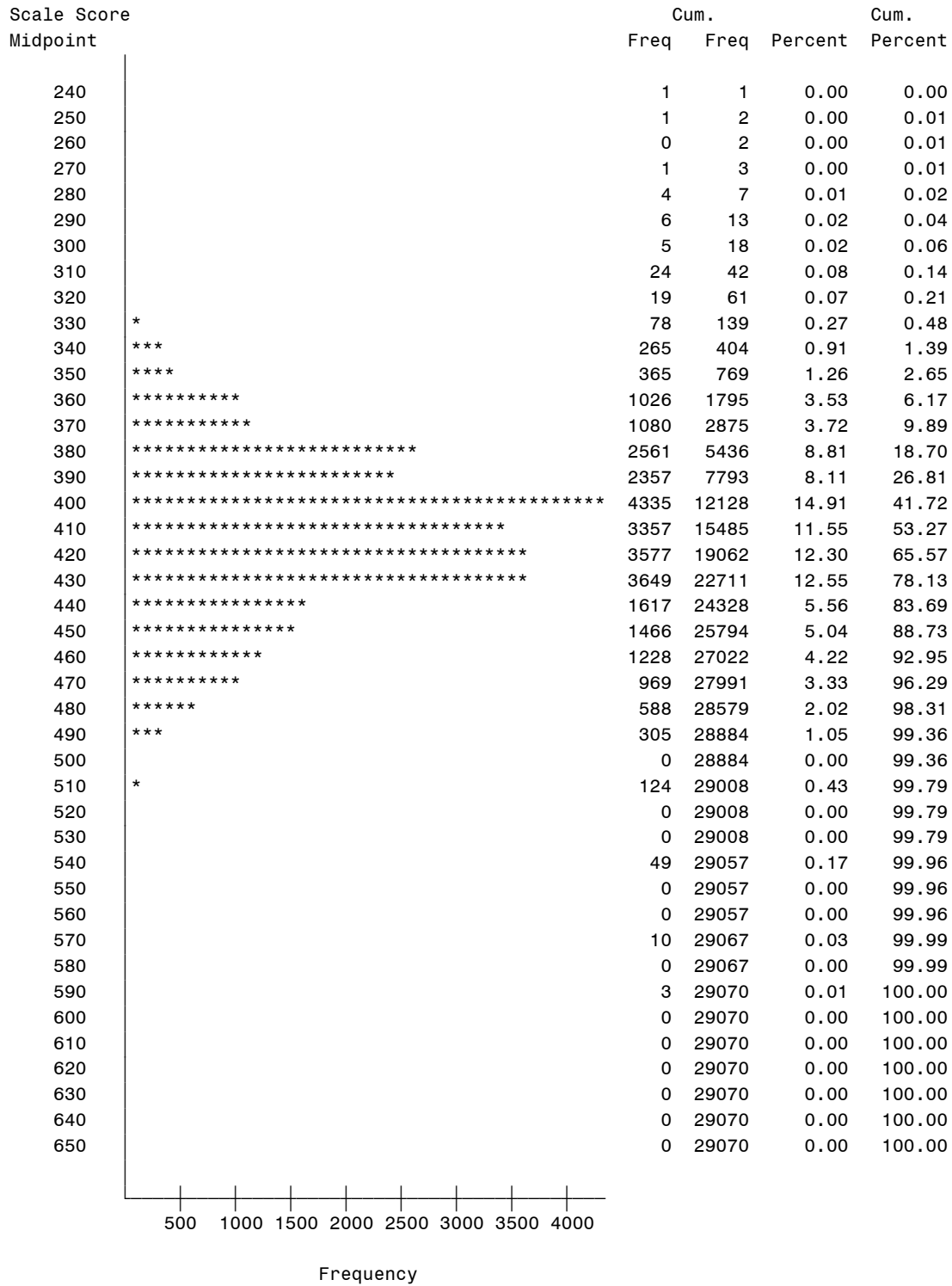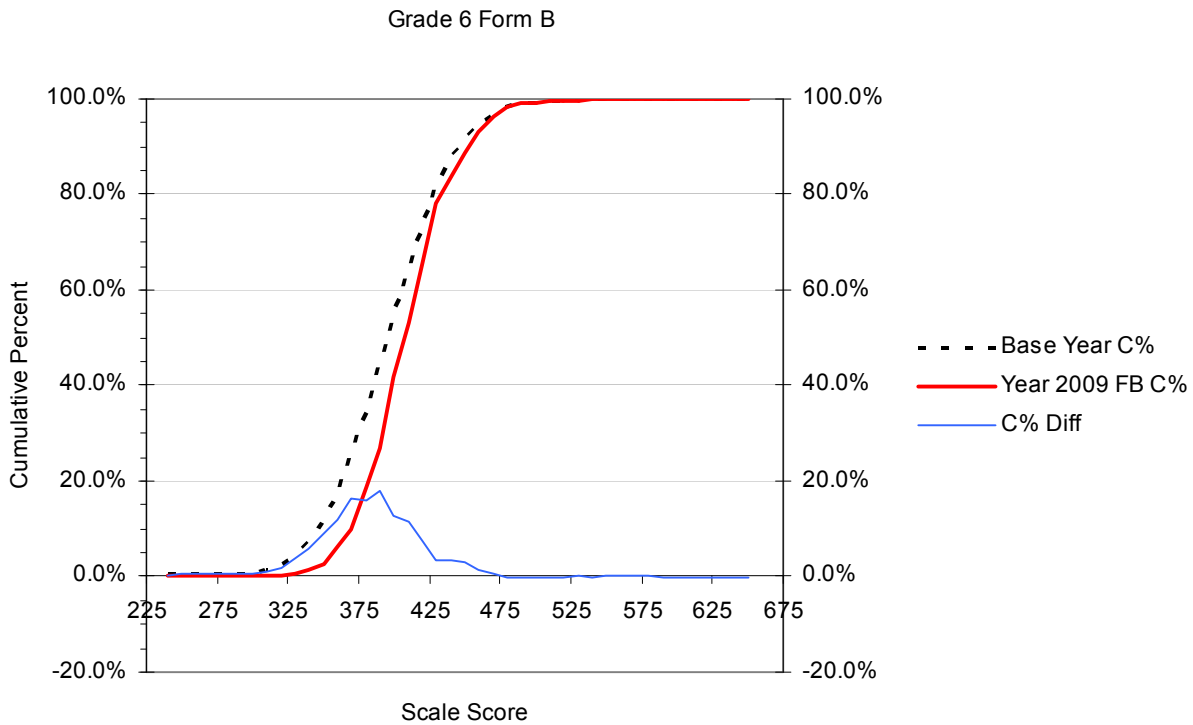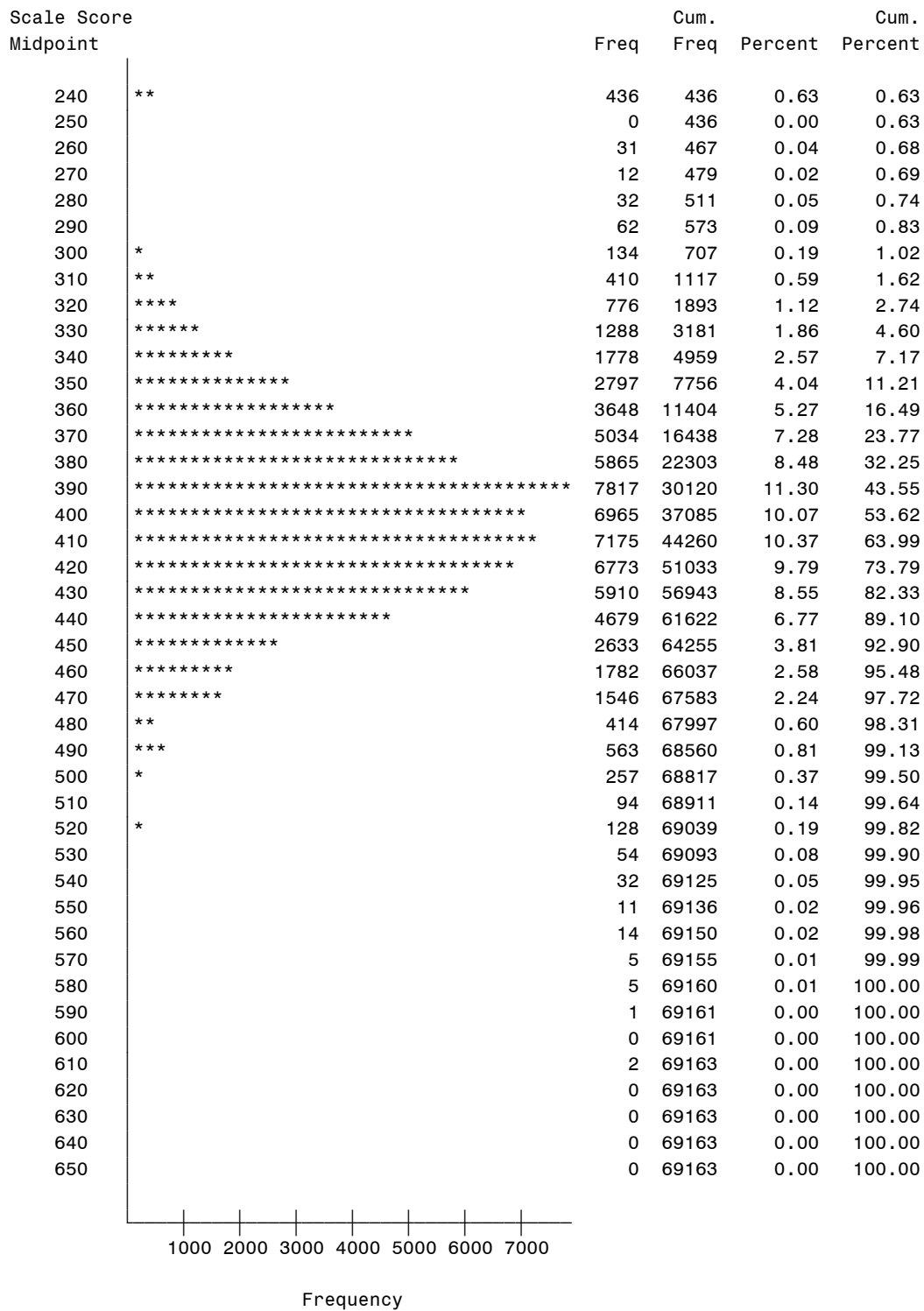
`Year 2009 Grade=8 Form B`

```
Scale Score                                          Cum.              Cum.
Midpoint                                   Freq     Freq  Percent  Percent

    240  |                                    2        2     0.01     0.01
    250  |                                    0        2     0.00     0.01
    260  |                                    2        4     0.01     0.01
    270  |                                    0        4     0.00     0.01
    280  |                                    2        6     0.01     0.02
    290  |                                    8       14     0.03     0.05
    300  |                                    2       16     0.01     0.05
    310  |                                   32       48     0.11     0.16
    320  |                                   27       75     0.09     0.25
    330  |*                                  91      166     0.30     0.55
    340  |**                                176      342     0.58     1.13
    350  |***                               305      647     1.01     2.14
    360  |*******                           814     1461     2.69     4.83
    370  |*********                         910     2371     3.01     7.84
    380  |*********************            2164     4535     7.16    15.00
    390  |********************             2156     6691     7.13    22.13
    400  |********************************************  4251    10942    14.06    36.19
    410  |***********************************  3543    14485    11.72    47.91
    420  |****************************************  3948    18433    13.06    60.97
    430  |******************************************  4138    22571    13.69    74.65
    440  |******************              1863    24434     6.16    80.81
    450  |******************************  3149    27583    10.42    91.23
    460  |***********                     1097    28680     3.63    94.86
    470  |********                         770    29450     2.55    97.40
    480  |****                             423    29873     1.40    98.80
    490  |                                   0    29873     0.00    98.80
    500  |**                               232    30105     0.77    99.57
    510  |*                                 90    30195     0.30    99.87
    520  |                                   0    30195     0.00    99.87
    530  |                                  32    30227     0.11    99.97
    540  |                                   0    30227     0.00    99.97
    550  |                                   6    30233     0.02    99.99
    560  |                                   0    30233     0.00    99.99
    570  |                                   0    30233     0.00    99.99
    580  |                                   2    30235     0.01   100.00
    590  |                                   0    30235     0.00   100.00
    600  |                                   0    30235     0.00   100.00
    610  |                                   0    30235     0.00   100.00
    620  |                                   0    30235     0.00   100.00
    630  |                                   0    30235     0.00   100.00
    640  |                                   0    30235     0.00   100.00
    650  |                                   0    30235     0.00   100.00
         |___|___|___|___|___|___|___|___|___
           500 1000 1500 2000 2500 3000 3500 4000

                        Frequency
```
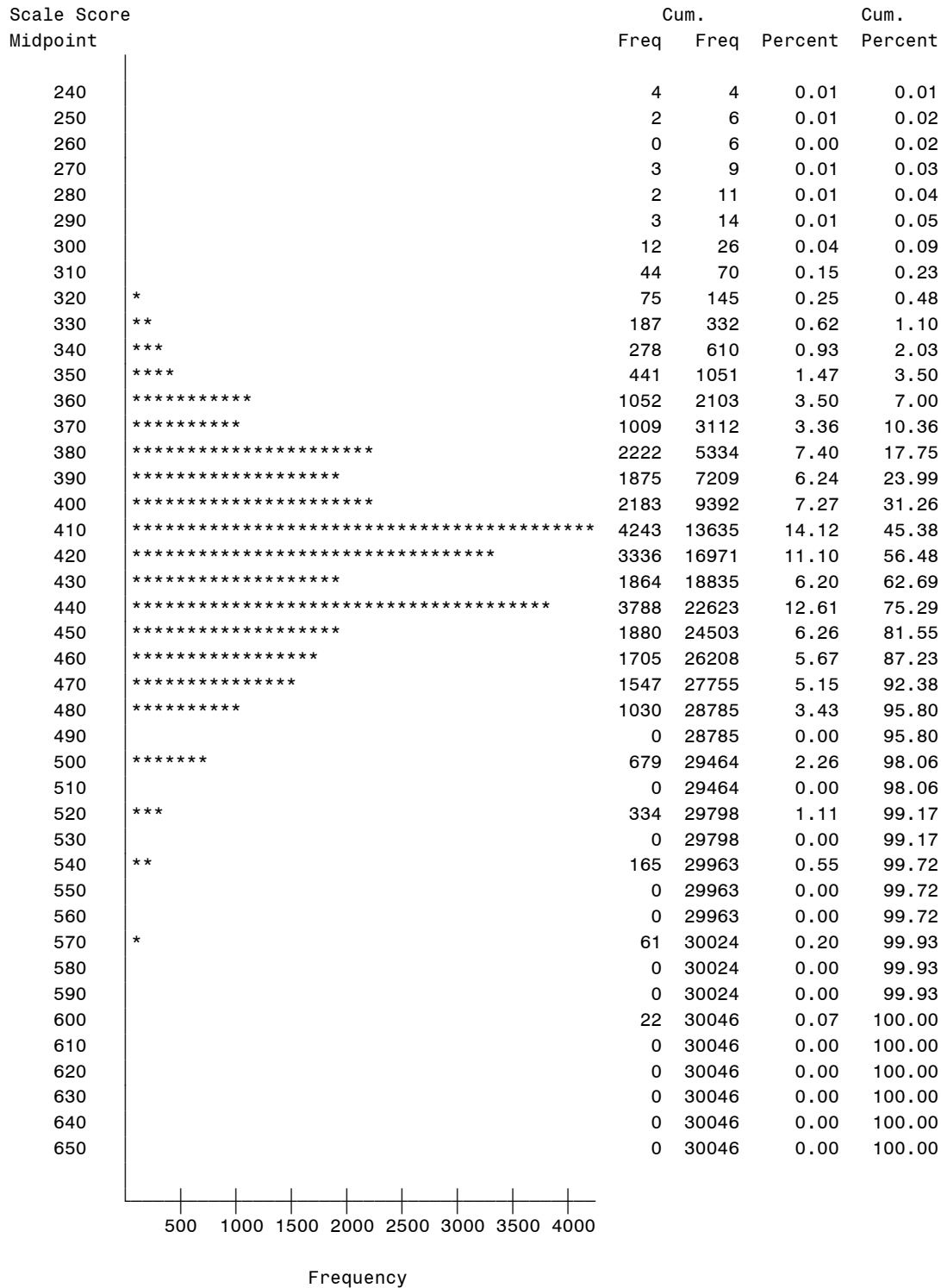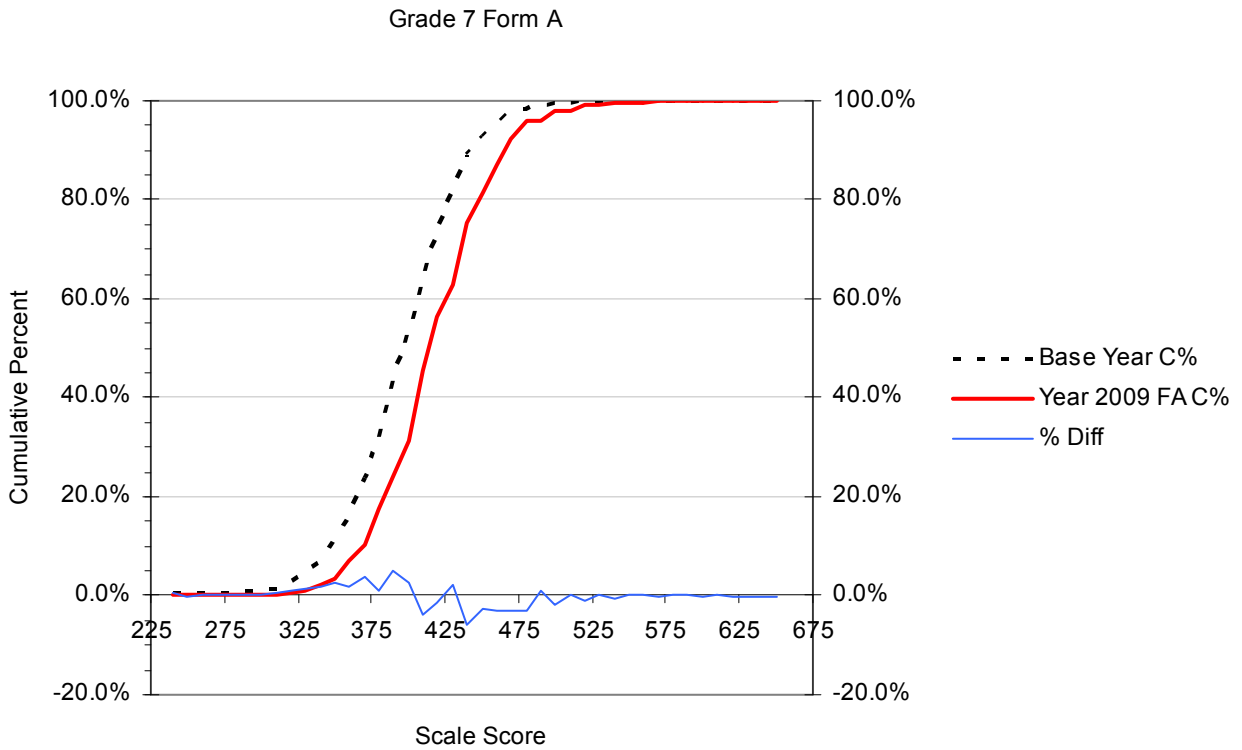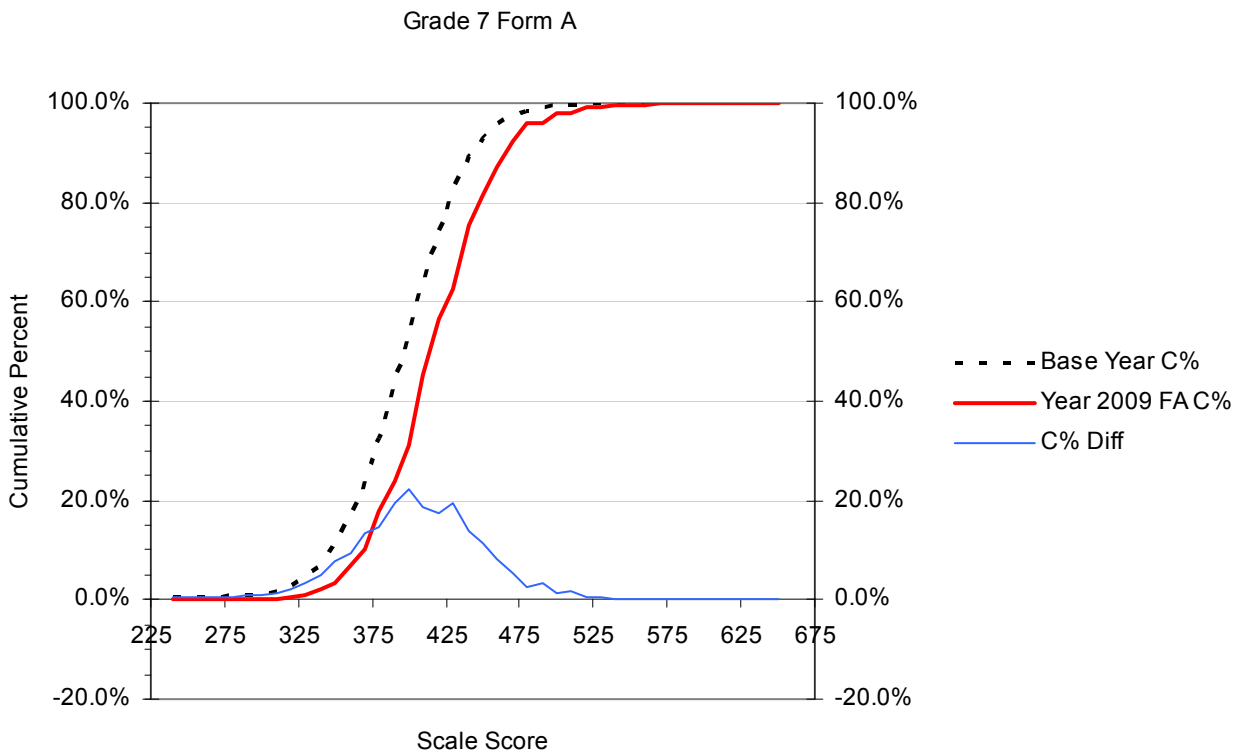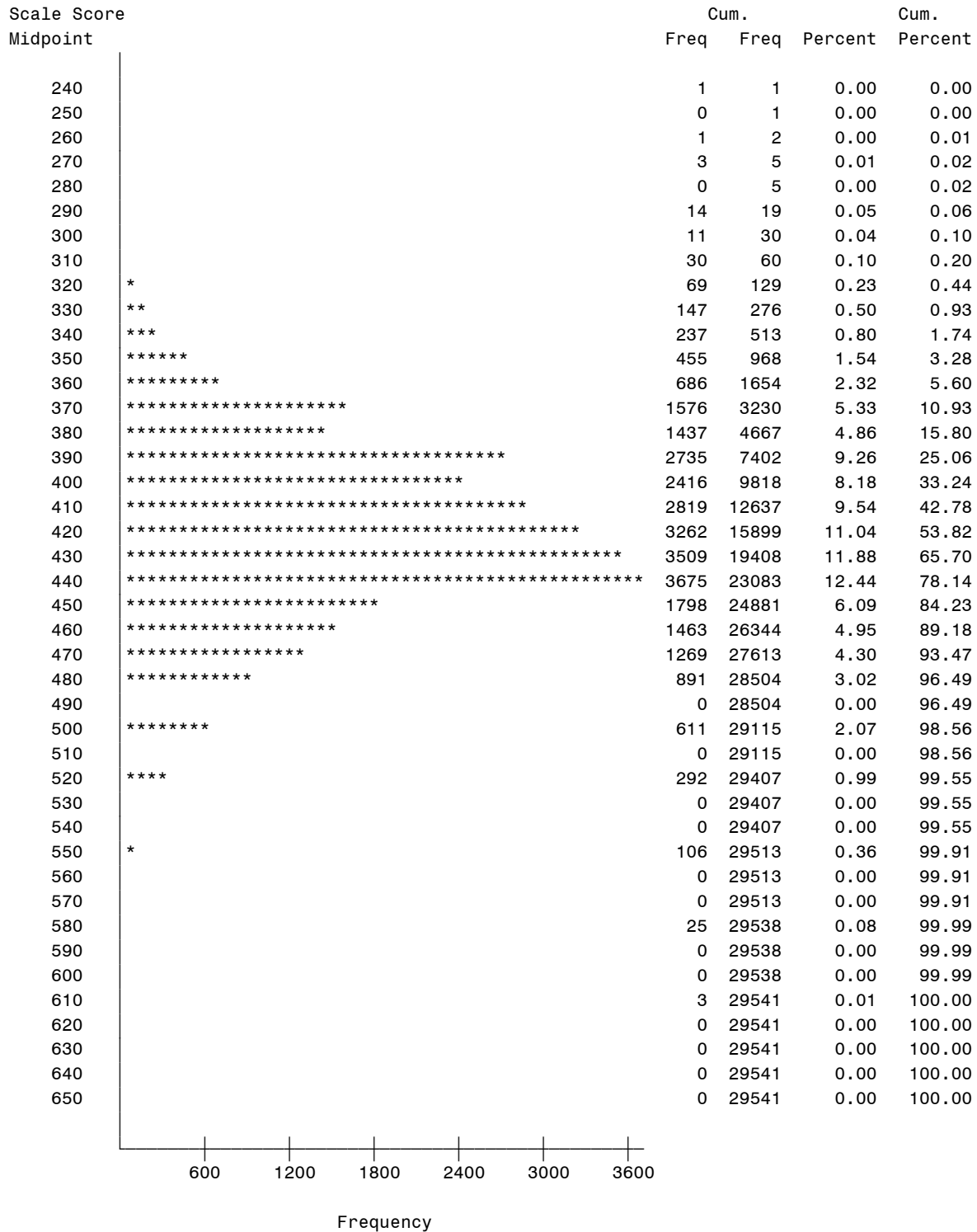
Figure B.40 Year 2009 Scale Score Distribution: Grade 8 Form B
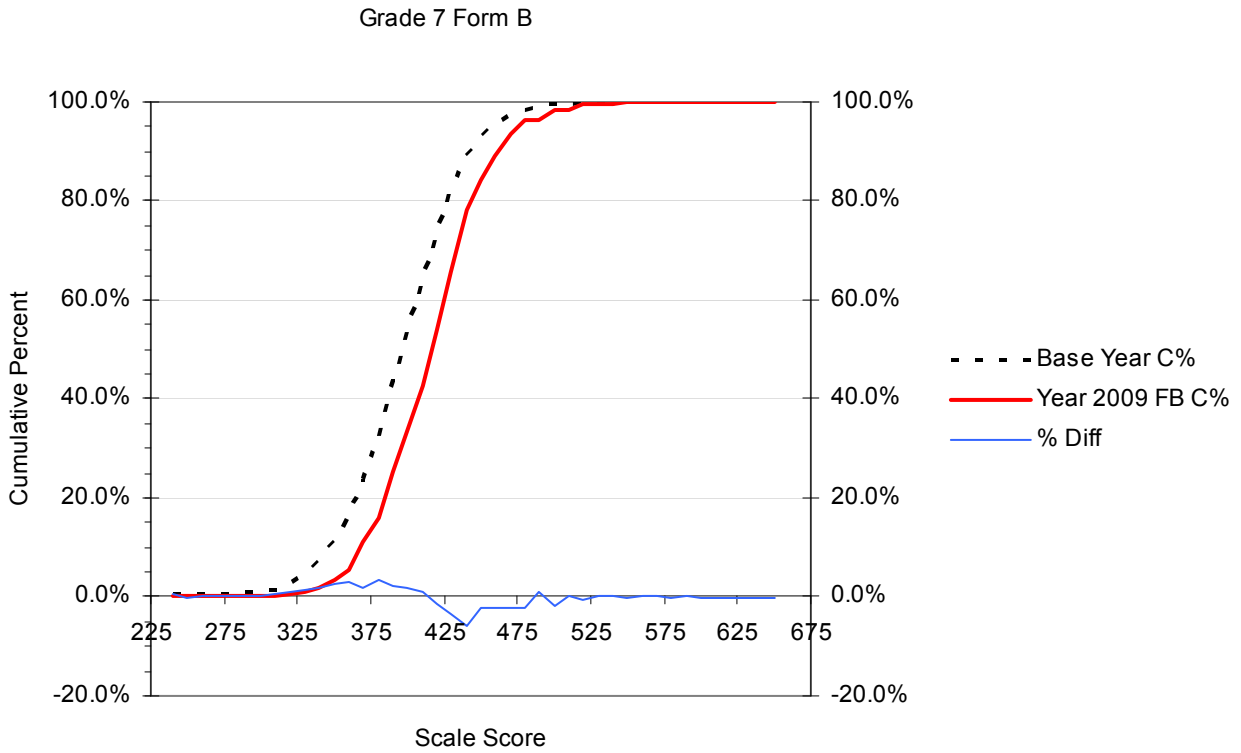
Grade 8 Form B

Figure B.41 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Percent Differences between CDFs: Grade 8 Form B
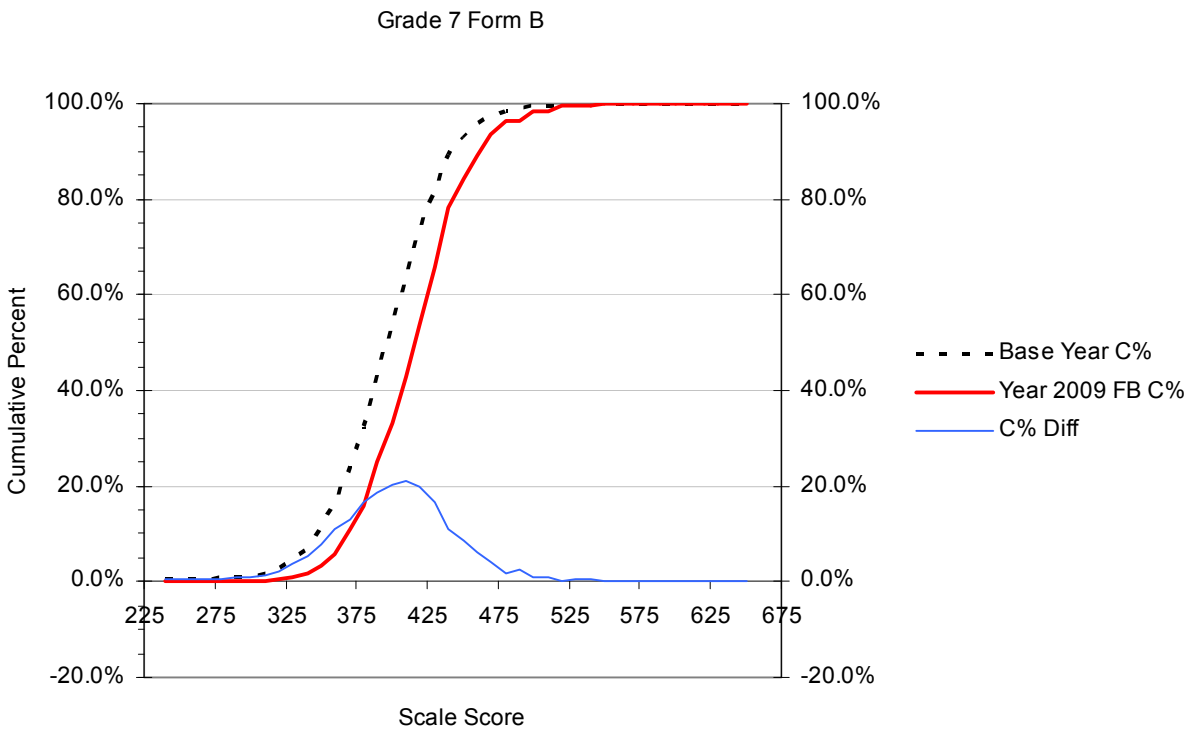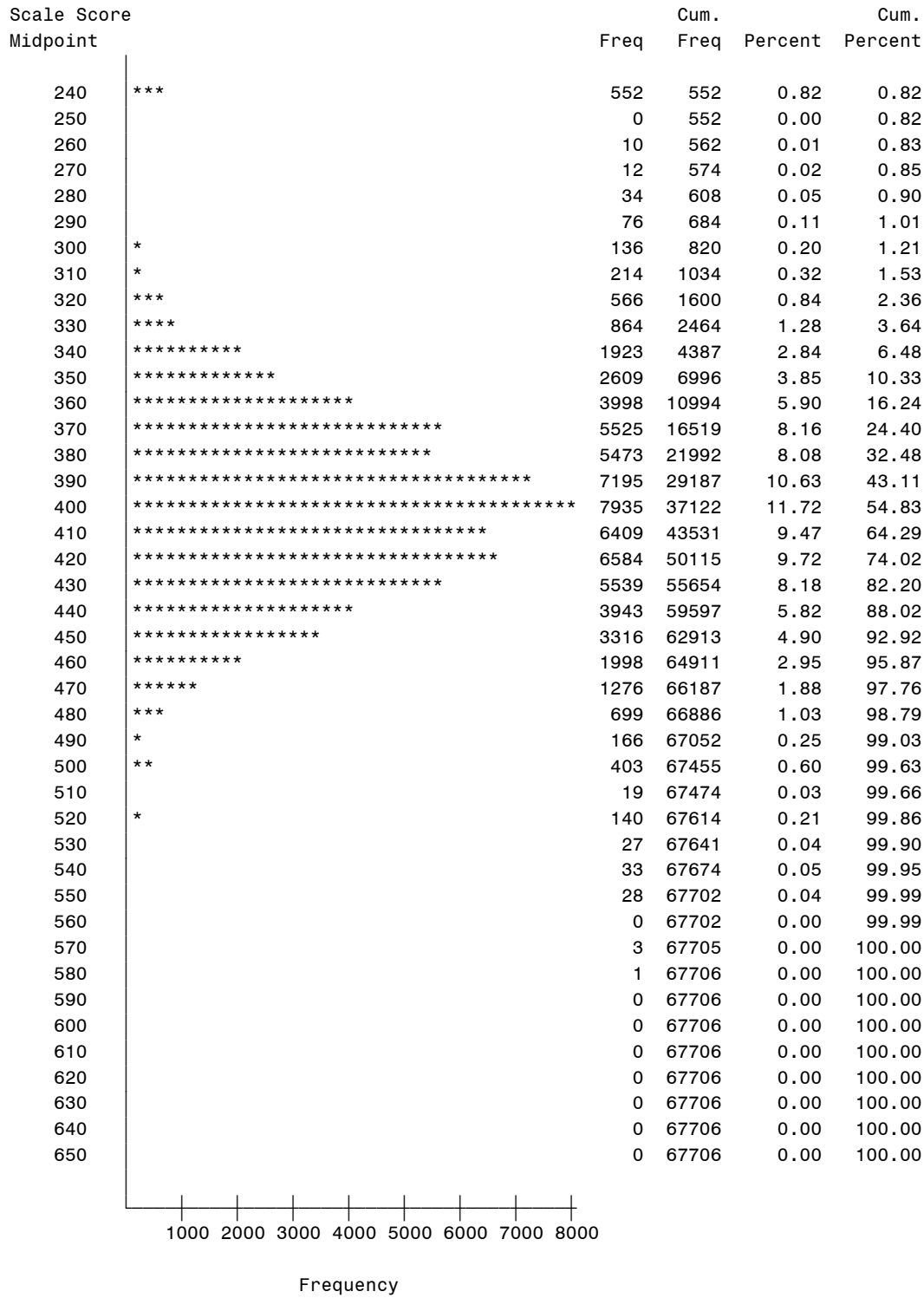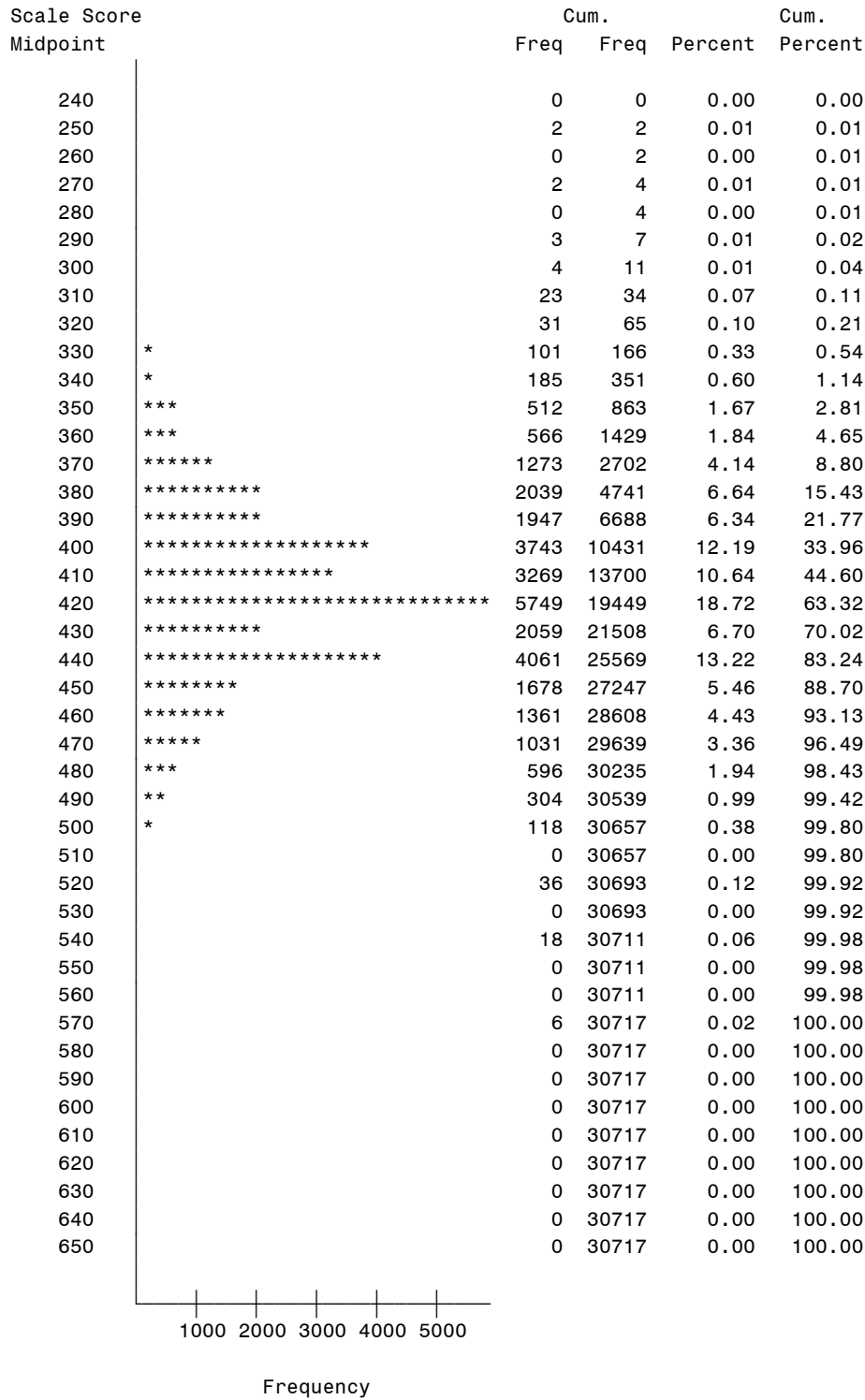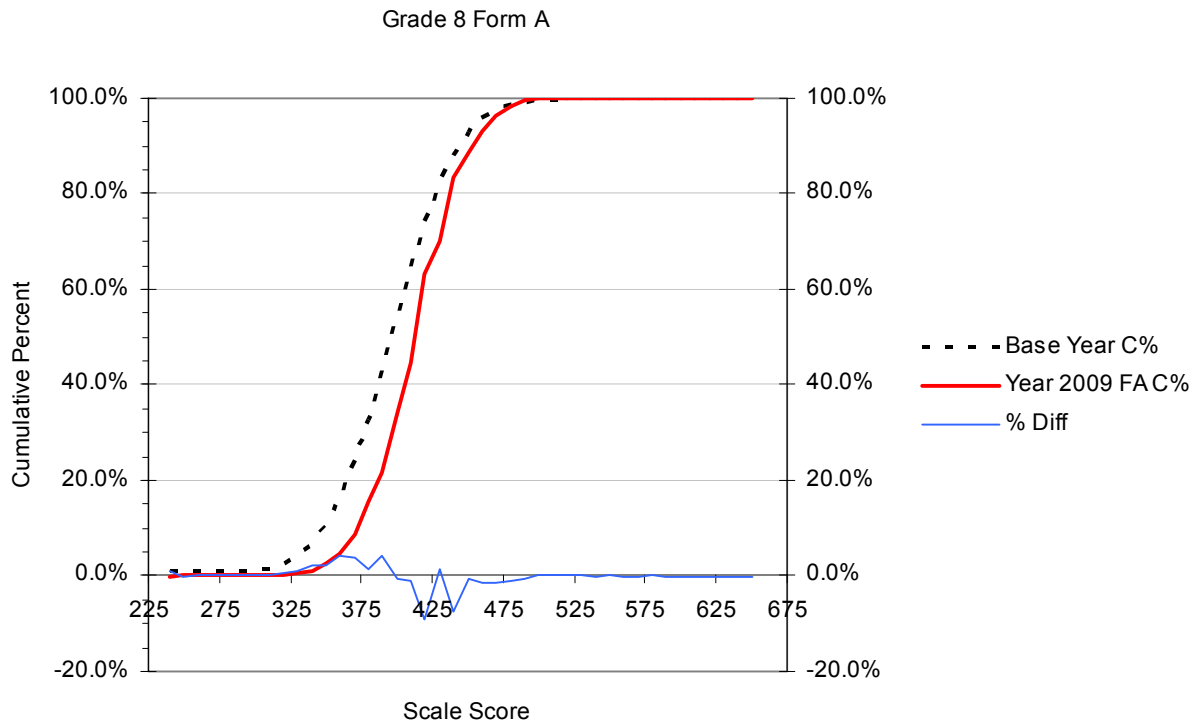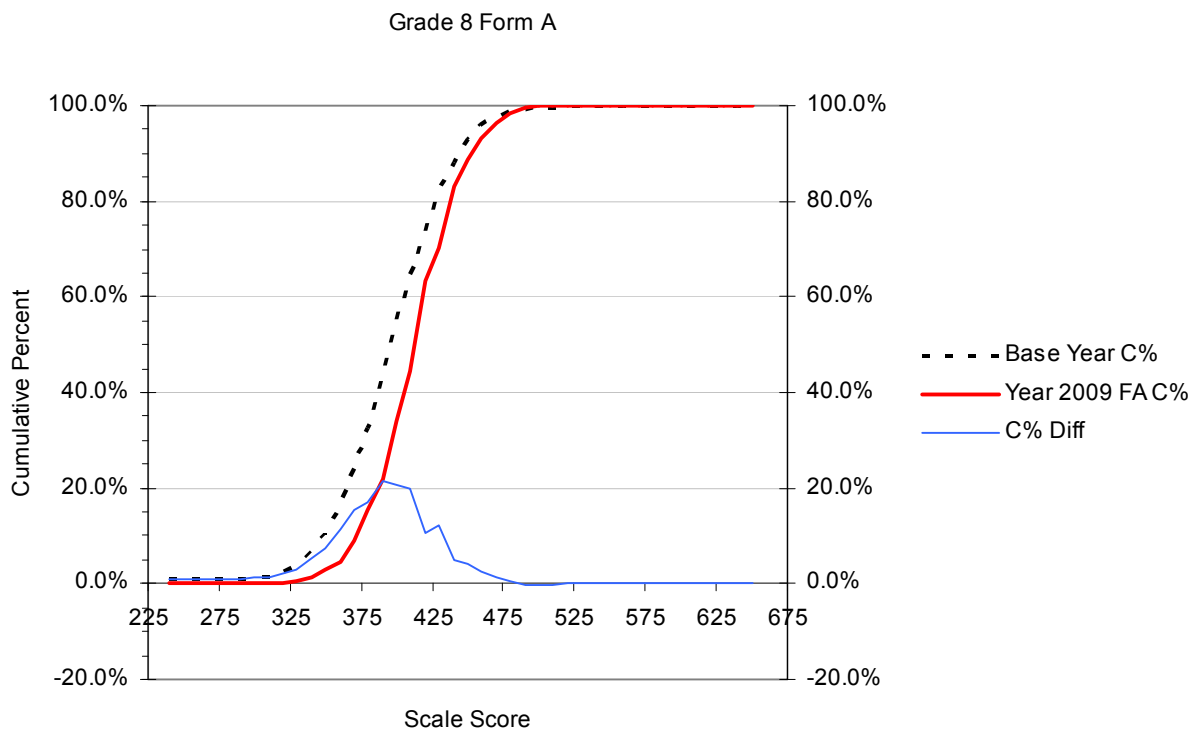
Grade 8 Form B

Figure B.42 Cumulative Distribution Functions (CDFs) for the Year 2003 vs. Year 2009 Scale Scores with the Cumulative Percent Differences between CDFs: Grade 8 Form B
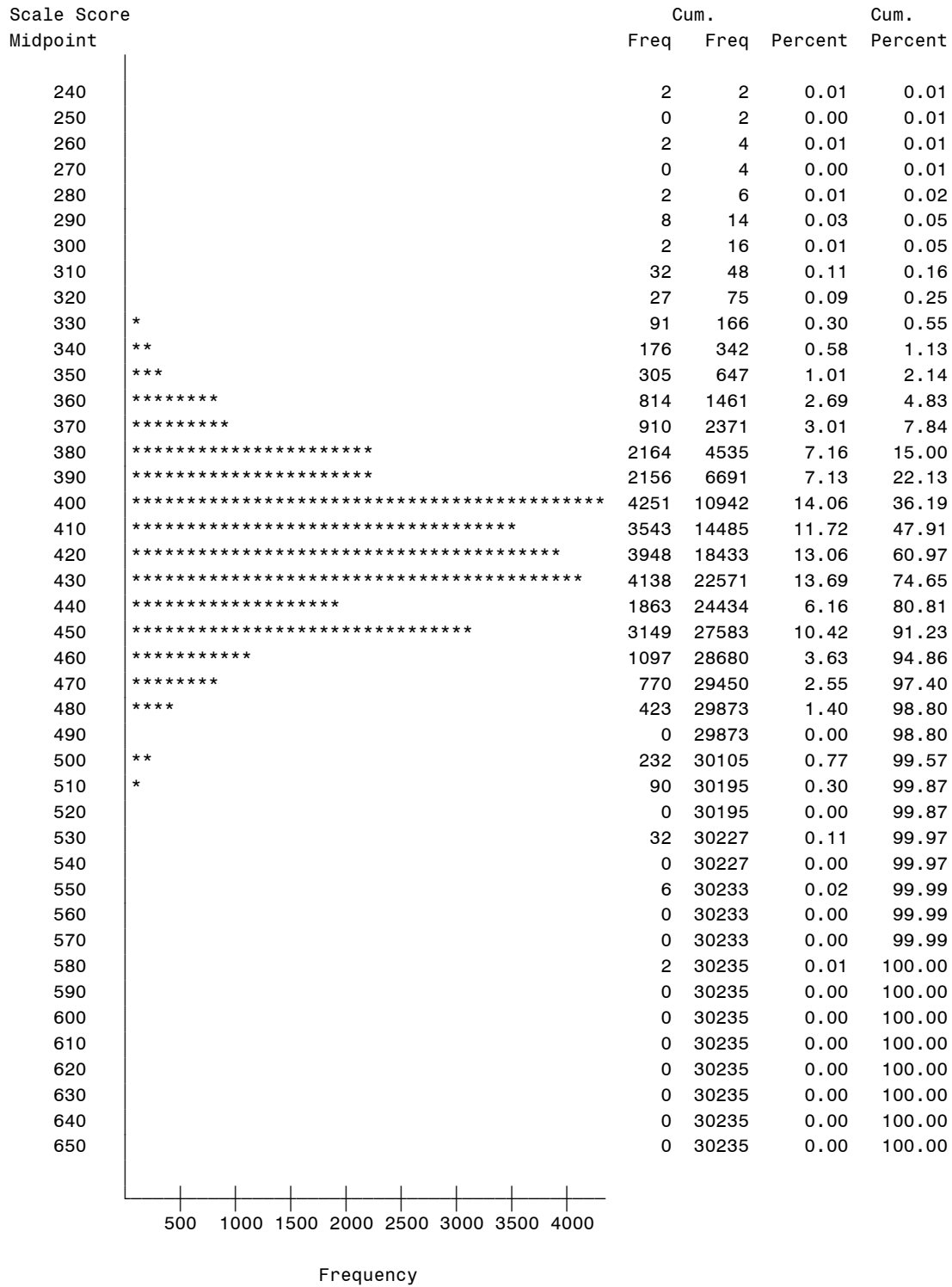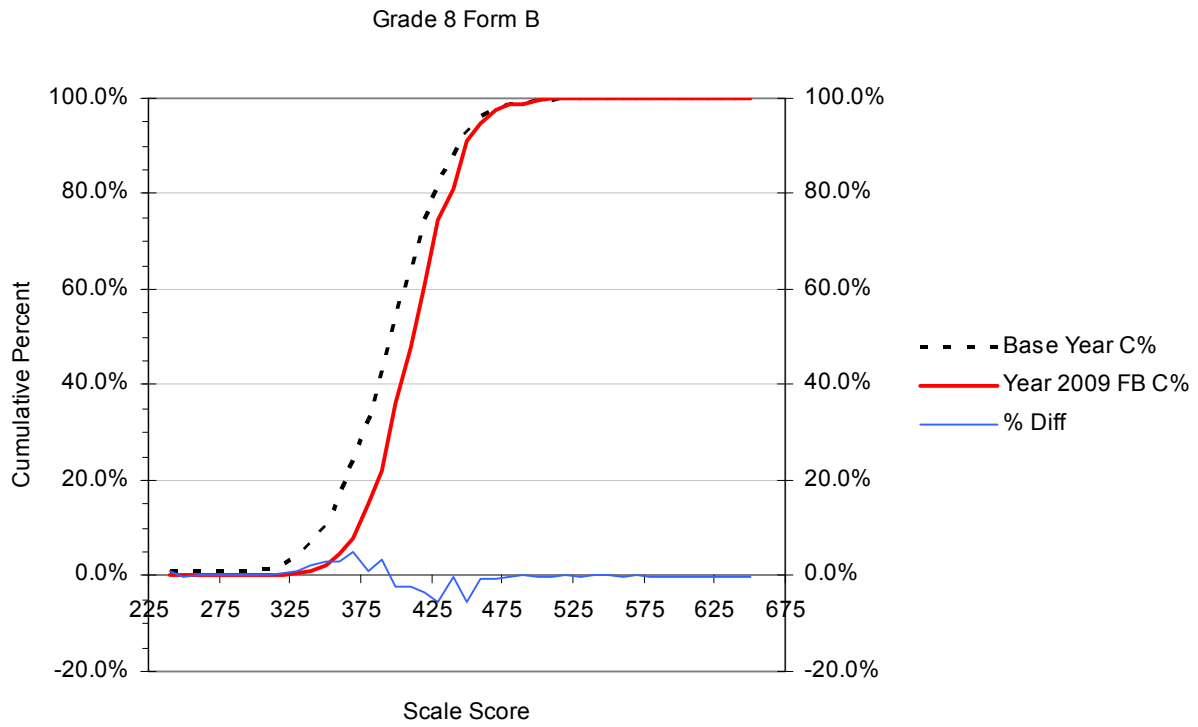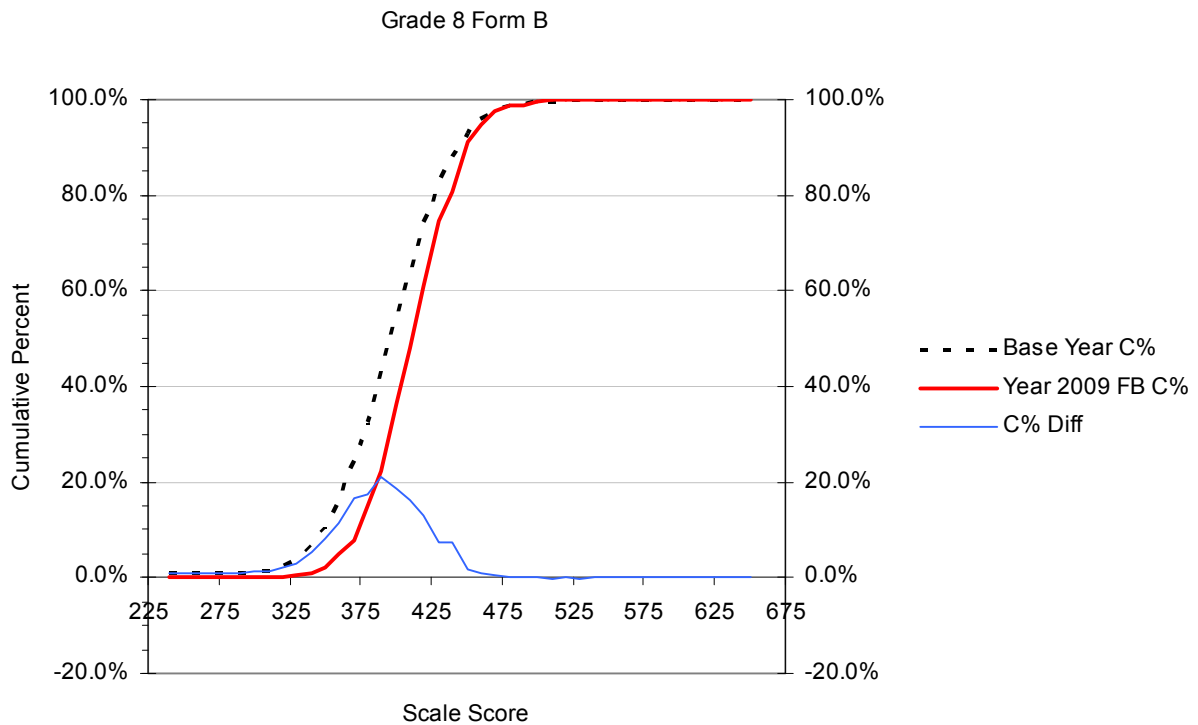
APPENDIX C: THE 2009 MSA-READING CLASSICAL AND RASCH ITEM PARAMETERS

Table C.1 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 3 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.94	0.24	-1.3708	0.0656	0.72	0.71			
2	SR	0.98	0.26	-3.3089	0.1397	1.00	0.41			
3	SR	0.75	0.47	-0.1994	0.0488	1.01	0.93			
4	SR	0.90	0.28	-1.1969	0.0621	0.96	1.03			
5	SR	0.92	0.29	-1.4394	0.0670	0.98	1.01			
6	SR	0.96	0.27	-2.1425	0.0860	0.96	0.72			
7	SR	0.72	0.32	0.1005	0.0463	1.11	1.18			
8	SR	0.71	0.35	0.4026	0.0446	1.05	1.04			
9	SR	0.79	0.34	-0.3764	0.0505	1.10	1.08			
10 A	SR	0.91	0.36	-1.0069	0.0588	0.79	0.64			
11 A	BCR	0.40	0.58	2.8042	0.0344	0.82	0.81	-3.5604	-0.5136	4.0741
12 A	SR	0.82	0.40	-0.3612	0.0503	0.94	0.94			
13 A	SR	0.81	0.43	-0.3214	0.0500	0.87	0.79			
14 A	BCR	0.40	0.55	2.4570	0.0355	0.85	0.85	-3.5613	-0.0615	3.6228
15 A	SR	0.69	0.29	0.3988	0.0448	1.10	1.10			
16 A	SR	0.67	0.24	0.8294	0.043	1.16	1.24			
17 A	BCR	0.35	0.33	3.0745	0.0341	1.18	1.19	-3.3108	-0.2529	3.5638
18 A	SR	0.81	0.38	-0.0978	0.0479	0.84	0.83			
19 A	SR	0.75	0.32	0.0727	0.0468	1.03	1.11			
20 A	BCR	0.40	0.35	2.5785	0.0335	1.15	1.16	-3.2384	-0.3404	3.5788
21 A	SR	0.77	0.35	0.2195	0.0457	0.90	0.90			
22	SR	0.82	0.36	-0.3948	0.0506	0.89	0.89			
23	SR	0.78	0.29	-0.0210	0.0473	1.00	1.07			
24	SR	0.71	0.43	0.2441	0.0456	0.93	0.87			
25	SR	0.55	0.41	1.0510	0.0429	0.98	0.98			
26	SR	0.76	0.43	-0.0453	0.0474	0.93	0.84			
27	SR	0.51	0.19	1.1168	0.0426	1.27	1.63			
28	SR	0.83	0.35	-0.7649	0.0552	1.07	1.10			
29	SR	0.70	0.46	0.2949	0.0453	0.94	0.85			
36	SR	0.62	0.30	0.5978	0.0438	1.13	1.20			
37	SR	0.89	0.41	-1.3870	0.0661	1.04	0.77			
38	SR	0.85	0.48	-0.8873	0.0572	0.95	0.78			
39	SR	0.78	0.43	-0.5402	0.0526	1.09	1.05			
40	SR	0.55	0.45	0.8290	0.0432	0.98	0.96			
41	SR	0.79	0.49	-0.5329	0.0525	0.96	0.79			
42	SR	0.64	0.47	0.3757	0.0450	0.97	0.88			
43	SR	0.60	0.42	0.5816	0.0441	1.04	1.07			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.2 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 3 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	*SE*	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.94	0.23	-1.3708	0.0659	0.69	0.69			
2	SR	0.98	0.27	-3.3089	0.1403	0.90	0.37			
3	SR	0.75	0.46	-0.1994	0.0488	0.98	0.90			
4	SR	0.90	0.29	-1.1969	0.0623	0.97	0.97			
5	SR	0.92	0.31	-1.4394	0.0673	0.90	0.70			
6	SR	0.96	0.28	-2.1425	0.0865	0.82	0.59			
7	SR	0.73	0.32	0.1005	0.0463	1.10	1.10			
8	SR	0.71	0.35	0.4026	0.0445	1.01	0.98			
9	SR	0.79	0.35	-0.3764	0.0506	1.07	1.07			
10 B	SR	0.80	0.39	-0.0200	0.0472	0.88	0.82			
11 B	BCR	0.46	0.48	2.3012	0.0333	0.98	0.98	-3.2529	-0.9743	4.2273
12 B	SR	0.80	0.22	-0.6084	0.0532	1.29	1.72			
13 B	SR	0.77	0.43	-0.0259	0.0473	0.86	0.79			
14 B	BCR	0.54	0.53	1.3125	0.0354	0.92	0.89	-3.1596	-0.6624	3.822
15 B	SR	0.78	0.38	-0.1183	0.0483	0.93	0.83			
16 B	SR	0.59	0.24	0.9690	0.0426	1.19	1.28			
17 B	BCR	0.45	0.35	2.1899	0.0341	1.19	1.19	-3.3766	-0.4784	3.855
18 B	SR	0.69	0.43	0.3083	0.0450	0.93	0.89			
19 B	SR	0.80	0.44	-0.5740	0.0533	0.96	0.87			
20 B	BCR	0.51	0.44	1.0425	0.0329	1.02	1.03	-3.1669	0.2284	2.9385
21 B	SR	0.75	0.42	0.2044	0.0462	0.86	0.79			
22	SR	0.83	0.35	-0.3948	0.0507	0.84	0.86			
23	SR	0.80	0.32	-0.021	0.0473	0.93	0.93			
24	SR	0.72	0.42	0.2441	0.0455	0.94	0.94			
25	SR	0.55	0.41	1.0510	0.0427	0.95	0.92			
26	SR	0.76	0.42	-0.0453	0.0474	0.93	0.85			
27	SR	0.50	0.18	1.1168	0.0425	1.26	1.40			
28	SR	0.83	0.34	-0.7649	0.0553	1.06	1.31			
29	SR	0.70	0.46	0.2949	0.0453	0.90	0.82			
36	SR	0.60	0.27	0.5978	0.0437	1.21	1.30			
37	SR	0.89	0.41	-1.3870	0.0665	0.96	0.76			
38	SR	0.85	0.47	-0.8873	0.0574	0.91	0.73			
39	SR	0.80	0.41	-0.5402	0.0528	1.04	1.04			
40	SR	0.56	0.45	0.8290	0.0432	0.95	0.94			
41	SR	0.79	0.50	-0.5329	0.0528	0.92	0.76			
42	SR	0.64	0.46	0.3757	0.0451	0.98	0.90			
43	SR	0.59	0.42	0.5816	0.0443	1.06	1.09			

Note. 'B indicates that it is a unique item appearing only on Form B

Table C.3 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 4 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.65	0.44	0.8485	0.0434	0.94	0.88			
2	SR	0.79	0.38	-0.2773	0.0526	1.07	0.91			
3	SR	0.78	0.39	-0.0474	0.0499	0.99	0.90			
4	SR	0.94	0.34	-1.6940	0.0820	0.89	0.52			
5	SR	0.96	0.32	-2.0951	0.0960	0.90	0.47			
6	SR	0.97	0.26	-2.3950	0.1088	0.92	0.47			
7	SR	0.56	0.20	1.2863	0.0422	1.22	1.35			
8	SR	0.94	0.28	-1.7138	0.0827	0.81	0.92			
9	SR	0.89	0.33	-0.9493	0.0635	0.86	0.78			
10 A	SR	0.80	0.51	0.0996	0.0485	0.76	0.59			
11 A	BCR	0.51	0.54	2.4003	0.0358	0.87	0.87	-3.5824	-1.4379	5.0203
12 A	SR	0.79	0.42	0.2402	0.0473	0.80	0.76			
13 A	SR	0.78	0.34	0.3033	0.0470	0.89	0.86			
14 A	BCR	0.42	0.54	2.2747	0.0349	0.88	0.88	-3.4363	0.0236	3.4127
15 A	SR	0.62	0.36	0.4782	0.0457	1.18	1.27			
16 A	SR	0.47	0.40	1.9046	0.0423	1.00	1.00			
17 A	BCR	0.49	0.48	1.7568	0.0298	1.06	1.06	-2.0543	-0.7715	2.8258
18 A	SR	0.63	0.31	0.9083	0.0432	1.09	1.10			
19 A	SR	0.66	0.34	0.7115	0.0442	1.06	1.13			
20 A	BCR	0.47	0.51	1.9270	0.0312	0.96	0.96	-2.5007	-0.6058	3.1064
21 A	SR	0.78	0.48	0.1834	0.0479	0.82	0.70			
22	SR	0.64	0.42	1.0781	0.0426	0.95	0.95			
23	SR	0.77	0.40	0.5162	0.0452	0.86	0.80			
24	SR	0.68	0.43	0.7249	0.0441	0.94	0.89			
25	SR	0.46	0.21	1.3574	0.0422	1.20	1.24			
26	SR	0.61	0.16	0.9364	0.0431	1.26	1.39			
27	SR	0.55	0.31	1.4992	0.042	1.12	1.18			
28	SR	0.54	0.45	1.2577	0.0423	0.96	0.94			
29	SR	0.77	0.33	0.1196	0.0484	1.02	1.11			
36	SR	0.67	0.41	0.6644	0.0444	1.00	1.00			
37	SR	0.57	0.42	0.9481	0.0431	1.00	1.00			
38	SR	0.65	0.38	0.7393	0.0441	1.04	1.12			
39	SR	0.78	0.37	-0.0274	0.0500	1.00	1.02			
40	SR	0.58	0.41	1.0705	0.0430	1.01	1.02			
41	SR	0.74	0.50	0.0061	0.0499	0.94	0.78			
42	SR	0.74	0.43	0.0810	0.0492	0.97	0.97			
43	SR	0.48	0.32	1.4931	0.0426	1.09	1.17			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.4 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 4 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	*SE*	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.65	0.45	0.8485	0.0433	0.91	0.83			
2	SR	0.80	0.38	-0.2773	0.0521	1.03	0.88			
3	SR	0.78	0.38	-0.0474	0.0495	0.97	0.85			
4	SR	0.94	0.33	-1.6940	0.0816	0.87	0.52			
5	SR	0.96	0.30	-2.0951	0.0958	0.84	0.46			
6	SR	0.97	0.25	-2.3950	0.1088	0.99	0.59			
7	SR	0.56	0.20	1.2863	0.0421	1.23	1.30			
8	SR	0.94	0.26	-1.7138	0.0825	0.77	0.63			
9	SR	0.89	0.32	-0.9493	0.0632	0.80	0.63			
10 B	SR	0.76	0.36	0.3535	0.0460	0.93	1.00			
11 B	BCR	0.35	0.54	3.0282	0.0300	0.92	0.91	-2.4597	-0.625	3.0847
12 B	SR	0.74	0.32	0.3765	0.0459	1.03	1.15			
13 B	SR	0.83	0.31	-0.2149	0.0515	0.93	1.00			
14 B	BCR	0.49	0.54	2.1630	0.0361	0.86	0.84	-3.7566	-0.6292	4.3858
15 B	SR	0.57	0.42	1.2219	0.0425	0.95	0.92			
16 B	SR	0.62	0.41	1.1396	0.0424	0.95	0.93			
17 B	BCR	0.30	0.52	3.0116	0.0285	0.97	0.97	-1.8045	-0.546	2.3505
18 B	SR	0.53	0.24	1.4526	0.0420	1.17	1.22			
19 B	SR	0.72	0.56	0.4873	0.0452	0.80	0.67			
20 B	BCR	0.39	0.54	2.5184	0.0318	0.89	0.89	-2.8116	-0.0477	2.8593
21 B	SR	0.82	0.41	-0.5476	0.0560	0.98	0.84			
22	SR	0.65	0.42	1.0781	0.0426	0.94	0.93			
23	SR	0.76	0.39	0.5162	0.0451	0.87	0.83			
24	SR	0.68	0.44	0.7249	0.0440	0.91	0.83			
25	SR	0.45	0.22	1.3574	0.0423	1.26	1.37			
26	SR	0.60	0.16	0.9364	0.0430	1.25	1.43			
27	SR	0.55	0.31	1.4992	0.0421	1.10	1.13			
28	SR	0.55	0.46	1.2577	0.0422	0.94	0.91			
29	SR	0.78	0.33	0.1196	0.0481	1.00	1.10			
36	SR	0.65	0.40	0.6644	0.0444	1.02	1.05			
37	SR	0.56	0.42	0.9481	0.0432	1.01	1.01			
38	SR	0.63	0.38	0.7393	0.0442	1.09	1.29			
39	SR	0.78	0.35	-0.0274	0.0499	0.98	0.96			
40	SR	0.56	0.39	1.0705	0.0432	1.08	1.12			
41	SR	0.74	0.49	0.0061	0.0498	0.96	0.81			
42	SR	0.73	0.44	0.0810	0.0493	0.98	1.00			
43	SR	0.48	0.32	1.4931	0.0429	1.09	1.20			

Note. 'B' indicates that it is a unique item appearing only on Form B

Table C.5 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 5 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	*SE*	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.87	0.20	-0.6371	0.0556	1.01	1.12			
2	SR	0.80	0.07	-0.2093	0.0502	1.22	1.59			
3	SR	0.91	0.26	-1.2263	0.0663	0.87	0.79			
4	SR	0.93	0.32	-1.4827	0.0723	0.78	0.59			
5	SR	0.93	0.37	-1.3213	0.0685	0.76	0.49			
6	SR	0.96	0.27	-1.8707	0.0836	0.73	0.61			
7	SR	0.91	0.35	-1.0118	0.0622	0.75	0.58			
8	SR	0.49	0.09	1.4561	0.0421	1.31	1.42			
9	SR	0.93	0.36	-1.7612	0.0808	1.12	0.75			
10 A	SR	0.90	0.30	-0.8817	0.0595	0.79	0.73			
11 A	BCR	0.60	0.54	0.3206	0.0420	0.82	0.78	-4.3169	-0.3328	4.6497
12 A	SR	0.74	0.38	0.1471	0.0468	0.99	0.92			
13 A	SR	0.67	0.30	0.1540	0.0468	1.26	1.29			
14 A	BCR	0.45	0.54	2.1384	0.0295	0.92	0.92	-2.1325	-0.9141	3.0466
15 A	SR	0.75	0.42	0.1906	0.0468	0.85	0.78			
16 A	SR	0.75	0.29	-0.1963	0.0500	1.20	1.33			
17 A	BCR	0.49	0.42	1.8843	0.0361	1.00	1.01	-3.6346	-0.6491	4.2837
18 A	SR	0.91	0.40	-1.2429	0.0666	0.87	0.56			
19 A	SR	0.74	0.45	0.1071	0.0473	0.98	0.89			
20 A	BCR	0.39	0.53	2.5891	0.0341	0.86	0.86	-3.1967	-0.0013	3.198
21 A	SR	0.72	0.37	0.1229	0.0472	1.04	1.08			
22	SR	0.72	0.30	0.1781	0.0466	1.13	1.39			
23	SR	0.55	0.29	1.4551	0.0420	1.09	1.13			
24	SR	0.76	0.40	0.3030	0.0457	0.91	0.85			
25	SR	0.84	0.36	-0.5030	0.0539	0.89	0.76			
26	SR	0.71	0.30	0.2006	0.0465	1.07	1.07			
27	SR	0.62	0.23	0.6870	0.0436	1.15	1.22			
28	SR	0.69	0.32	0.5988	0.0441	1.00	1.06			
29	SR	0.71	0.35	0.7593	0.0433	0.93	0.87			
36	SR	0.66	0.21	0.4436	0.0448	1.27	1.55			
37	SR	0.68	0.45	0.8269	0.0431	0.88	0.86			
38	SR	0.63	0.47	0.7861	0.0432	0.89	0.84			
39	SR	0.54	0.37	1.1761	0.0424	1.00	1.01			
40	SR	0.60	0.31	0.7230	0.0436	1.13	1.23			
41	SR	0.66	0.40	0.3088	0.0459	1.05	1.01			
42	SR	0.74	0.48	-0.0371	0.0488	0.95	0.80			
43	SR	0.74	0.45	-0.1849	0.0503	1.07	0.93			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.6 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 5 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.87	0.20	-0.6371	0.0551	0.97	1.04			
2	SR	0.80	0.05	-0.2093	0.0495	1.17	1.60			
3	SR	0.92	0.26	-1.2263	0.0663	0.83	0.75			
4	SR	0.94	0.30	-1.4827	0.0725	0.72	0.51			
5	SR	0.93	0.35	-1.3213	0.0685	0.77	0.52			
6	SR	0.96	0.26	-1.8707	0.0840	0.72	0.52			
7	SR	0.91	0.34	-1.0118	0.0619	0.75	0.60			
8	SR	0.49	0.10	1.4561	0.0414	1.24	1.34			
9	SR	0.93	0.36	-1.7612	0.0807	0.97	0.61			
10 B	SR	0.95	0.29	-1.8196	0.0822	0.91	0.90			
11 B	BCR	0.52	0.42	1.3236	0.0389	0.95	0.95	-4.3522	-0.4184	4.7706
12 B	SR	0.74	0.29	-0.2621	0.0501	1.25	1.31			
13 B	SR	0.63	0.37	0.7193	0.0426	0.97	0.96			
14 B	BCR	0.58	0.39	0.8486	0.0434	0.96	0.97	-4.5717	-0.7313	5.303
15 B	SR	0.69	0.41	0.1364	0.0462	1.04	0.99			
16 B	SR	0.74	0.32	-0.2328	0.0497	1.21	1.29			
17 B	BCR	0.31	0.33	2.9082	0.0300	1.11	1.11	-2.2503	-0.2926	2.5429
18 B	SR	0.60	0.40	0.5029	0.0437	1.06	1.06			
19 B	SR	0.53	0.28	1.1421	0.0418	1.06	1.07			
20 B	BCR	0.26	0.42	3.4047	0.0327	1.00	0.99	-2.5754	-0.0174	2.5928
21 B	SR	0.80	0.32	-0.4039	0.0523	1.01	0.99			
22	SR	0.74	0.29	0.1781	0.0458	0.99	1.05			
23	SR	0.53	0.29	1.4551	0.0414	1.07	1.10			
24	SR	0.76	0.38	0.3030	0.0450	0.87	0.78			
25	SR	0.86	0.35	-0.5030	0.0534	0.73	0.62			
26	SR	0.72	0.31	0.2006	0.0456	1.07	1.01			
27	SR	0.63	0.23	0.6870	0.0427	1.08	1.14			
28	SR	0.69	0.31	0.5988	0.0432	0.98	0.98			
29	SR	0.71	0.34	0.7593	0.0426	0.93	0.88			
36	SR	0.66	0.21	0.4436	0.0440	1.17	1.27			
37	SR	0.68	0.43	0.8269	0.0423	0.88	0.85			
38	SR	0.63	0.45	0.7861	0.0424	0.90	0.86			
39	SR	0.54	0.37	1.1761	0.0416	0.96	0.97			
40	SR	0.61	0.30	0.7230	0.0428	1.09	1.17			
41	SR	0.67	0.40	0.3088	0.0451	1.04	1.02			
42	SR	0.72	0.46	-0.0371	0.0481	0.97	0.93			
43	SR	0.74	0.43	-0.1849	0.0496	1.01	0.90			

Note. 'B' indicates that it is a unique item appearing only on Form B.

Table C.7 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 6 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.93	0.27	-1.3336	0.0710	0.69	0.55			
2	SR	0.97	0.23	-2.7349	0.1244	0.95	0.79			
3	SR	0.85	0.19	-0.9089	0.0621	1.27	1.77			
4	SR	0.88	0.27	-1.1479	0.0667	1.04	1.01			
5	SR	0.81	0.27	-0.5668	0.0561	1.12	1.15			
6	SR	0.93	0.35	-1.4246	0.0735	0.76	0.55			
7	SR	0.50	0.34	1.0944	0.0432	1.03	1.04			
8	SR	0.80	0.36	-0.4850	0.0551	1.08	0.95			
9	SR	0.93	0.29	-1.5147	0.0763	0.72	0.51			
10 A	SR	0.85	0.31	-0.5665	0.0561	0.89	0.88			
11 A	BCR	0.58	0.46	1.1024	0.0385	0.90	0.89	-2.6691	-1.1491	3.8183
12 A	SR	0.79	0.33	0.0720	0.0485	0.85	0.95			
13 A	SR	0.76	0.20	-0.1510	0.0507	1.28	1.70			
14 A	BCR	0.54	0.54	1.4032	0.0374	0.84	0.83	-2.7761	-1.1685	3.9446
15 A	SR	0.73	0.25	0.2778	0.0470	1.08	1.28			
16 A	SR	0.68	0.26	0.1214	0.0481	1.25	1.41			
17 A	BCR	0.45	0.40	1.3735	0.0392	0.99	0.98	-4.4358	0.7564	3.6794
18 A	SR	0.80	0.37	-0.2321	0.0517	0.93	0.84			
19 A	SR	0.78	0.37	0.0309	0.0491	0.87	0.81			
20 A	BCR	0.43	0.37	1.4715	0.0405	1.02	1.03	-4.5049	0.9811	3.5239
21 A	SR	0.58	0.29	1.0627	0.0434	1.03	1.04			
22	SR	0.51	0.30	1.2935	0.0429	1.04	1.05			
23	SR	0.88	0.33	-0.9772	0.0632	0.95	0.92			
24	SR	0.86	0.43	-0.6738	0.0577	0.78	0.56			
25	SR	0.82	0.29	-0.3487	0.0531	0.98	1.01			
26	SR	0.56	0.21	1.0501	0.0432	1.19	1.26			
27	SR	0.72	0.29	0.4286	0.0458	1.00	1.01			
28	SR	0.75	0.31	0.2397	0.0472	0.95	0.91			
29	SR	0.45	0.38	1.7013	0.0433	0.95	0.97			
36	SR	0.66	0.41	0.5357	0.0452	0.95	0.91			
37	SR	0.50	0.29	1.2684	0.0430	1.06	1.08			
38	SR	0.62	0.44	0.7073	0.0444	0.91	0.85			
39	SR	0.76	0.39	-0.1523	0.0512	0.95	0.82			
40	SR	0.85	0.43	-0.8265	0.0605	0.91	0.65			
41	SR	0.64	0.37	0.5323	0.0453	0.99	0.99			
42	SR	0.52	0.24	1.3246	0.0430	1.11	1.15			
43	SR	0.56	0.48	0.8915	0.0438	0.91	0.86			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.8 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 6 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.93	0.25	-1.3336	0.0697	0.75	0.64			
2	SR	0.97	0.21	-2.7349	0.1227	1.04	0.71			
3	SR	0.85	0.19	-0.9089	0.0609	1.16	1.43			
4	SR	0.88	0.26	-1.1479	0.0655	1.13	1.20			
5	SR	0.81	0.27	-0.5668	0.0551	1.17	1.23			
6	SR	0.93	0.34	-1.4246	0.0722	0.75	0.56			
7	SR	0.50	0.35	1.0944	0.0429	1.04	1.04			
8	SR	0.80	0.36	-0.4850	0.0541	0.99	0.86			
9	SR	0.94	0.29	-1.5147	0.0748	0.72	0.58			
10 B	SR	0.59	0.33	0.7440	0.0437	1.05	1.07			
11 B	BCR	0.49	0.42	1.5577	0.0320	1.05	1.05	-2.4112	-0.6607	3.0719
12 B	SR	0.69	0.13	0.1213	0.0474	1.31	1.51			
13 B	SR	0.81	0.32	-0.0287	0.0487	0.86	0.86			
14 B	BCR	0.58	0.41	1.0770	0.0396	0.94	0.94	-2.8849	-1.1457	4.0306
15 B	SR	0.61	0.19	0.5913	0.0445	1.23	1.38			
16 B	SR	0.84	0.42	-0.3767	0.0525	0.76	0.60			
17 B	BCR	0.49	0.34	1.0755	0.0391	1.06	1.06	-4.5144	0.1215	4.3928
18 B	SR	0.82	0.35	-0.5113	0.0543	0.99	0.93			
19 B	SR	0.68	0.31	0.4651	0.0451	1.01	1.00			
20 B	BCR	0.50	0.36	0.9476	0.0382	1.05	1.07	-4.4842	0.4649	4.0192
21 B	SR	0.76	0.40	-0.0913	0.0495	0.95	0.83			
22	SR	0.53	0.31	1.2935	0.0426	1.02	1.05			
23	SR	0.87	0.35	-0.9772	0.0620	0.98	0.84			
24	SR	0.86	0.41	-0.6738	0.0567	0.75	0.55			
25	SR	0.81	0.30	-0.3487	0.0523	0.92	0.95			
26	SR	0.56	0.23	1.0501	0.0429	1.08	1.09			
27	SR	0.71	0.30	0.4286	0.0452	0.98	0.99			
28	SR	0.75	0.30	0.2397	0.0465	0.94	0.90			
29	SR	0.44	0.38	1.7013	0.0432	0.96	0.99			
36	SR	0.66	0.42	0.5357	0.0447	0.91	0.90			
37	SR	0.49	0.28	1.2684	0.0428	1.05	1.07			
38	SR	0.60	0.44	0.7073	0.0440	0.92	0.88			
39	SR	0.77	0.38	-0.1523	0.0503	0.89	0.78			
40	SR	0.85	0.42	-0.8265	0.0594	0.90	0.65			
41	SR	0.63	0.37	0.5323	0.0448	1.02	1.05			
42	SR	0.51	0.26	1.3246	0.0428	1.09	1.15			
43	SR	0.56	0.49	0.8915	0.0434	0.87	0.82			

Note. 'B' indicates that it is a unique item appearing only on Form B.

Table C.9 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 7 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	*SE*	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.96	0.25	-2.4364	0.1119	0.95	0.72			
2	SR	0.93	0.21	-1.5468	0.0789	0.81	0.97			
3	SR	0.81	0.42	-0.5743	0.0580	1.02	0.83			
4	SR	0.91	0.15	-1.1399	0.0687	0.97	1.25			
5	SR	0.95	0.31	-1.8025	0.0870	0.70	0.50			
6 A	SR	0.85	0.37	-0.5886	0.0582	0.86	0.84			
7 A	BCR	0.58	0.48	0.4728	0.0420	0.96	0.96	-4.1484	-0.2496	4.398
8 A	SR	0.77	0.44	-0.0097	0.0510	0.89	0.83			
9 A	SR	0.87	0.37	-0.9725	0.0650	1.05	1.07			
10 A	BCR	0.52	0.51	1.3428	0.0375	0.93	0.93	-3.1612	-0.6117	3.7729
11 A	SR	0.68	0.36	0.4505	0.0473	1.04	1.07			
12 A	SR	0.69	0.34	0.5064	0.0469	1.04	1.09			
13 A	BCR	0.37	0.39	2.4622	0.0310	1.16	1.16	-2.2283	-0.2021	2.4304
14 A	SR	0.62	0.43	0.7000	0.0458	0.94	0.92			
15 A	SR	0.73	0.37	0.1619	0.0494	1.00	0.96			
16 A	BCR	0.55	0.52	0.7640	0.0384	0.90	0.90	-4.1250	0.2255	3.8995
17 A	SR	0.57	0.33	1.0169	0.0447	1.04	1.03			
18	SR	0.72	0.30	0.5791	0.0465	0.99	1.11			
19	SR	0.86	0.40	-0.5545	0.0578	0.86	0.73			
20	SR	0.66	0.13	0.4841	0.0471	1.33	1.71			
21	SR	0.70	0.30	0.6747	0.0460	0.99	0.96			
22	SR	0.85	0.32	-0.6174	0.0587	0.96	0.98			
23	SR	0.67	0.28	0.6158	0.0463	1.10	1.18			
24	SR	0.70	0.40	0.5929	0.0465	0.94	0.95			
25	SR	0.95	0.36	-2.2676	0.1046	0.89	0.42			
32	SR	0.88	0.43	-1.0643	0.0670	0.84	0.59			
33	SR	0.61	0.29	0.5496	0.0467	1.19	1.35			
34	SR	0.75	0.46	-0.0205	0.0512	0.91	0.81			
35	SR	0.75	0.38	0.0420	0.0507	0.95	0.86			
36	SR	0.54	0.41	0.9240	0.0451	1.03	1.07			
37	SR	0.71	0.44	0.1653	0.0495	0.97	0.91			
38	SR	0.83	0.47	-0.8093	0.0621	0.97	0.77			
39	SR	0.82	0.44	-0.4818	0.0570	0.93	0.76			
40	SR	0.73	0.41	-0.1892	0.0532	1.13	1.23			
41	SR	0.80	0.40	-0.5607	0.0585	0.98	0.91			
42	SR	0.74	0.46	-0.3731	0.0557	1.13	1.02			
43	SR	0.50	0.37	1.3477	0.0446	1.05	1.05			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.10 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 7 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	*SE*	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.96	0.25	-2.4364	0.1117	0.98	0.92			
2	SR	0.93	0.20	-1.5468	0.0784	0.79	0.88			
3	SR	0.82	0.42	-0.5743	0.0576	0.97	0.80			
4	SR	0.91	0.15	-1.1399	0.0683	0.90	1.30			
5	SR	0.95	0.31	-1.8025	0.0867	0.68	0.51			
6 B	SR	0.73	0.42	0.4223	0.0470	0.88	0.79			
7 B	BCR	0.48	0.47	0.8441	0.0408	0.92	0.91	-5.4570	0.8736	4.5834
8 B	SR	0.83	0.42	-0.5513	0.0572	0.90	0.75			
9 B	SR	0.81	0.38	-0.4917	0.0563	1.02	0.87			
10 B	BCR	0.44	0.47	1.4321	0.0429	0.87	0.85	-5.1787	0.9201	4.2586
11 B	SR	0.73	0.34	-0.2130	0.0527	1.16	1.19			
12 B	SR	0.68	0.19	0.4182	0.0470	1.19	1.58			
13 B	BCR	0.35	0.46	2.5970	0.0287	1.07	1.07	-1.6856	-0.9921	2.6777
14 B	SR	0.79	0.34	-0.4213	0.0553	1.06	1.01			
15 B	SR	0.60	0.16	0.5905	0.0460	1.34	1.54			
16 B	BCR	0.59	0.48	0.5434	0.0320	0.98	1.00	-3.0723	0.531	2.5413
17 B	SR	0.64	0.46	0.3397	0.0476	1.02	0.96			
18	SR	0.69	0.26	0.5791	0.0460	1.06	1.09			
19	SR	0.87	0.39	-0.5545	0.0573	0.74	0.57			
20	SR	0.66	0.12	0.4841	0.0466	1.31	1.68			
21	SR	0.71	0.31	0.6747	0.0457	0.97	0.90			
22	SR	0.86	0.32	-0.6174	0.0582	0.86	0.81			
23	SR	0.66	0.28	0.6158	0.0458	1.10	1.12			
24	SR	0.70	0.39	0.5929	0.0460	0.89	0.84			
25	SR	0.95	0.34	-2.2676	0.1045	0.89	0.48			
32	SR	0.89	0.41	-1.0643	0.0666	0.74	0.49			
33	SR	0.61	0.28	0.5496	0.0462	1.19	1.27			
34	SR	0.76	0.46	-0.0205	0.0507	0.88	0.75			
35	SR	0.75	0.37	0.0420	0.0502	0.94	0.86			
36	SR	0.54	0.41	0.9240	0.0446	1.01	1.01			
37	SR	0.72	0.44	0.1653	0.0490	0.94	0.89			
38	SR	0.84	0.45	-0.8093	0.0617	0.93	0.75			
39	SR	0.82	0.43	-0.4818	0.0565	0.88	0.71			
40	SR	0.73	0.40	-0.1892	0.0528	1.08	1.18			
41	SR	0.80	0.40	-0.5607	0.0578	0.99	0.96			
42	SR	0.74	0.46	-0.3731	0.0552	1.05	0.95			
43	SR	0.50	0.36	1.3477	0.0441	1.01	1.04			

Note. 'B' indicates that it is a unique item appearing only on Form B.

Table C.11 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 8 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	*SE*	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.95	0.24	-2.2671	0.0984	0.97	0.83			
2	SR	0.93	0.34	-1.6274	0.0765	0.86	0.67			
3	SR	0.85	0.34	-0.6076	0.0551	0.95	0.88			
4	SR	0.84	0.39	-0.6192	0.0553	1.03	0.96			
5	SR	0.91	0.36	-1.3966	0.0705	0.87	0.62			
6 A	SR	0.76	0.29	0.1001	0.0470	0.97	1.06			
7 A	BCR	0.59	0.54	1.1815	0.0341	0.87	0.87	-3.1976	0.0552	3.1424
8 A	SR	0.59	0.17	0.2165	0.0461	1.50	1.76			
9 A	SR	0.89	0.41	-0.3128	0.0512	0.89	0.79			
10 A	BCR	0.46	0.49	1.7222	0.0312	0.95	0.94	-2.4424	-0.4761	2.9186
11 A	SR	0.73	0.29	0.1675	0.0467	1.04	1.03			
12 A	SR	0.91	0.27	-1.2042	0.0659	0.93	0.85			
13 A	BCR	0.41	0.57	2.5193	0.0325	0.81	0.81	-2.9607	-0.5414	3.5021
14 A	SR	0.74	0.44	0.2223	0.0461	0.84	0.78			
15 A	SR	0.77	0.49	-0.0622	0.0485	0.92	0.84			
16 A	BCR	0.35	0.48	2.5818	0.0344	0.89	0.89	-3.0308	0.0831	2.9476
17 A	SR	0.72	0.37	0.2274	0.0462	0.95	0.9			
18	SR	0.75	0.41	0.4748	0.0444	0.83	0.78			
19	SR	0.72	0.45	0.5684	0.0439	0.83	0.76			
20	SR	0.83	0.42	-0.2440	0.0504	0.76	0.67			
21	SR	0.69	0.25	0.5198	0.0442	1.04	1.12			
22	SR	0.71	0.11	0.2093	0.0462	1.20	1.35			
23	SR	0.89	0.31	-1.2370	0.0666	0.98	0.96			
24	SR	0.57	0.14	0.7855	0.0430	1.23	1.37			
25	SR	0.63	0.26	0.3464	0.0452	1.16	1.21			
32	SR	0.72	0.49	0.2219	0.0461	0.93	0.87			
33	SR	0.52	0.22	1.2743	0.0421	1.09	1.14			
34	SR	0.72	0.25	0.0242	0.0477	1.11	1.32			
35	SR	0.87	0.16	-1.0659	0.0635	0.99	1.2			
36	SR	0.63	0.39	0.6577	0.0436	0.95	0.92			
37	SR	0.83	0.43	-0.6796	0.0563	0.99	0.83			
38	SR	0.49	0.21	1.0443	0.0424	1.15	1.18			
39	SR	0.88	0.43	-1.1736	0.0654	0.93	0.64			
40	SR	0.89	0.49	-0.3586	0.0519	0.92	0.79			
41	SR	0.27	0.09	2.5515	0.0473	1.15	1.52			
42	SR	0.59	0.27	0.4998	0.0445	1.18	1.21			
43	SR	0.54	0.37	1.2325	0.0422	0.96	0.96			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.12 The 2009 MSA-Reading Classical and Rasch Item Difficulty Parameters: Grade 8 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	*SE*	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.96	0.23	-2.2671	0.1014	0.77	0.54			
2	SR	0.93	0.32	-1.6274	0.0784	0.74	0.55			
3	SR	0.85	0.34	-0.6076	0.0557	0.94	0.87			
4	SR	0.84	0.29	-0.6192	0.0560	0.98	0.90			
5	SR	0.91	0.34	-1.3966	0.0719	0.91	0.64			
6 B	SR	0.76	0.33	0.2076	0.0463	0.91	0.85			
7 B	BCR	0.36	0.50	2.4400	0.0301	0.89	0.89	-2.2582	-0.1749	2.4331
8 B	SR	0.60	0.30	0.5854	0.0438	1.08	1.10			
9 B	SR	0.77	0.38	-0.0108	0.0483	0.86	0.81			
10 B	BCR	0.44	0.53	1.9256	0.0377	0.84	0.83	-3.8668	0.1164	3.7504
11 B	SR	0.87	0.30	-1.1335	0.0657	0.96	0.85			
12 B	SR	0.94	0.33	-1.8534	0.0855	0.93	0.61			
13 B	BCR	0.45	0.45	1.1781	0.0400	0.86	0.84	-5.0342	0.7254	4.3088
14 B	SR	0.75	0.38	-0.0088	0.0482	0.93	0.87			
15 B	SR	0.66	0.28	0.4904	0.0445	1.06	1.07			
16 B	BCR	0.38	0.37	2.2508	0.0429	0.97	0.97	-4.0963	0.8369	3.2594
17 B	SR	0.65	0.32	0.3771	0.0452	1.09	1.12			
18	SR	0.74	0.39	0.4748	0.0444	0.81	0.76			
19	SR	0.73	0.43	0.5684	0.0439	0.82	0.75			
20	SR	0.83	0.41	-0.2440	0.0507	0.78	0.66			
21	SR	0.69	0.23	0.5198	0.0442	1.05	1.12			
22	SR	0.72	0.09	0.2093	0.0463	1.17	1.28			
23	SR	0.89	0.29	-1.2370	0.0678	1.03	0.97			
24	SR	0.56	0.12	0.7855	0.0429	1.28	1.41			
25	SR	0.63	0.26	0.3464	0.0453	1.21	1.31			
32	SR	0.72	0.39	0.2219	0.0462	0.94	0.86			
33	SR	0.51	0.22	1.2743	0.0420	1.09	1.13			
34	SR	0.73	0.23	0.0242	0.0480	1.17	1.46			
35	SR	0.87	0.15	-1.0659	0.0647	1.03	1.23			
36	SR	0.62	0.38	0.6577	0.0436	0.97	0.93			
37	SR	0.84	0.41	-0.6796	0.0571	0.97	0.86			
38	SR	0.48	0.20	1.0443	0.0423	1.15	1.24			
39	SR	0.88	0.42	-1.1736	0.0668	0.89	0.59			
40	SR	0.80	0.38	-0.3586	0.0525	0.93	0.84			
41	SR	0.27	0.09	2.5515	0.0472	1.17	1.39			
42	SR	0.59	0.27	0.4998	0.0446	1.18	1.22			
43	SR	0.54	0.39	1.2325	0.0422	0.94	0.93			

Note. 'B' indicates that it is a unique item appearing only on Form B.

APPENDIX D: THE 2009 MSA-READING BLUEPRINTS

Table D.1 The 2009 MSA-Reading Blueprint: Grade 3

Code	Standard / Objective statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	*16* (3)		*16* (3)		*16* (3)		*16* (3)		*16* (3)	
1.B	**General Reading Process: Vocabulary: Students will apply their knowledge of letter/sound relationships and word structure to decode unfamiliar words**										
1.B.1	**Use a variety of phonetic skills to read unfamiliar words**										
1.B.1.a	Apply phonics skills										
1.B.2	**Decode words in grade-level texts**										
1.B.2.a	Sound out common word parts										
1.B.2.b	Break words into familiar parts										
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Develop a conceptual understanding of new words**										
1.D.2.b	Identify and explain word relationships to determine the meanings of words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to determine the meanings of words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										
1.E.4.a	Identify and explain the main idea										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	*16* (3)		*16* (3)		*16* (3)		*16* (3)		*16* (3)	
1.B	**General Reading Process: Vocabulary: Students will apply their knowledge of letter/sound relationships and word structure to decode unfamiliar words**										
1.B.1	**Use a variety of phonetic skills to read unfamiliar words**										
1.B.1.a	Apply phonics skills										
1.B.2	**Decode words in grade-level texts**										
1.B.2.a	Sound out common word parts										
1.B.2.b	Break words into familiar parts										
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Develop a conceptual understanding of new words**										
1.D.2.b	Identify and explain word relationships to determine the meanings of words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to determine the meanings of words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										
1.E.4.a	Identify and explain the main idea										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1.E.4.b	Identify and explain what is directly stated in the text										
1.E.4.c	Identify and explain what is not directly stated in the text by drawing inferences										
1.E.4.d	Draw conclusions based on the text and prior knowledge										
1.E.4.e	Confirm, refute, or make predictions and form new ideas										
1.E.4.f	Paraphrase the main idea of the text										
1.E.4.g	Summarize the text										
1.E.4.h	Connect the text to prior knowledge or personal experience										
2	**Comprehension of Informational Text**	***9*** **(7)**	***2*** **(3)**	***9*** **(3)**	***2***	***9*** **(7)**	***2*** **(3)**	***9*** **(3)**	***2***	***9*** **(7)**	***2*** **(3)**
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Develop comprehension skills by reading a variety of self-selected and assigned informational texts**										
2.A.1.a	Read, use, and identify the characteristics of nonfiction materials to gain information and content knowledge										
2.A.1.b	Read, use, and identify the characteristics of functional documents										
2.A.2	**Identify and use text features to facilitate understanding of informational texts**										
2.A.2.a	Use print features										
2.A.2.b	Use graphic aids										
2.A.2.c	Use informational aids										
2.A.2.d	Use organizational aids										
2.A.2.e	Use online features										
2.A.2.f	Identify and explain the contributions of text features to meaning										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1.E.4.b	Identify and explain what is directly stated in the text										
1.E.4.c	Identify and explain what is not directly stated in the text by drawing inferences										
1.E.4.d	Draw conclusions based on the text and prior knowledge										
1.E.4.e	Confirm, refute, or make predictions and form new ideas										
1.E.4.f	Paraphrase the main idea of the text										
1.E.4.g	Summarize the text										
1.E.4.h	Connect the text to prior knowledge or personal experience										
2	**Comprehension of Informational Text**	**9** **(3)**	**2**	**9** **(7)**	**2** **(3)**	**9** **(3)**	**2**	**9** **(7)**	**2** **(3)**	**9** **(3)**	**2**
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Develop comprehension skills by reading a variety of self-selected and assigned informational texts**										
2.A.1.a	Read, use, and identify the characteristics of nonfiction materials to gain information and content knowledge										
2.A.1.b	Read, use, and identify the characteristics of functional documents										
2.A.2	**Identify and use text features to facilitate understanding of informational texts**										
2.A.2.a	Use print features										
2.A.2.b	Use graphic aids										
2.A.2.c	Use informational aids										
2.A.2.d	Use organizational aids										
2.A.2.e	Use online features										
2.A.2.f	Identify and explain the contributions of text features to meaning										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
2.A.3	**Develop knowledge of organizational structure of informational text to understand what is read**										
2.A.3.a	Identify and analyze the organization of texts										
2.A.3.b	Identify and use words and phrases associated with common organizational patterns										
2.A.4	**Determine important ideas and messages in informational text**										
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's opinion										
2.A.4.c	State and support main ideas or messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information not related to the main idea										
2.A.4.f	Identify and explain relationships between and among ideas										
2.A.4.g	Draw conclusions and make generalizations from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Identify and explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Identify and explain the author's use of language**										
2.A.5.a	Identify and explain specific words or phrases that contribute to the meaning of a text										
2.A.5.b	Identify and explain specific words and punctuation that create tone										
2.A.5.c	Identify and explain the effect of repetition of words or phrases										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Explain whether the text fulfills the reading purpose										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.3	**Develop knowledge of organizational structure of informational text to understand what is read**										
2.A.3.a	Identify and analyze the organization of texts										
2.A.3.b	Identify and use words and phrases associated with common organizational patterns										
2.A.4	**Determine important ideas and messages in informational text**										
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's opinion										
2.A.4.c	State and support main ideas or messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information not related to the main idea										
2.A.4.f	Identify and explain relationships between and among ideas										
2.A.4.g	Draw conclusions and make generalizations from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Identify and explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Identify and explain the author's use of language**										
2.A.5.a	Identify and explain specific words or phrases that contribute to the meaning of a text										
2.A.5.b	Identify and explain specific words and punctuation that create tone										
2.A.5.c	Identify and explain the effect of repetition of words or phrases										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Explain whether the text fulfills the reading purpose										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.6.b	Identify and explain additions or changes that would make the text easier to understand										
2.A.6.c	Identify and explain what makes the text a reliable source of information										
2.A.6.d	Explain whether or not the author's opinion is presented fairly										
2.A.6.e	Identify and explain information not included in the text that would have made it easier to understand the author's point										
2.A.6.f	Identify and explain words that affect the reader's feelings										
3	**Comprehension of Literary Text**	***8*** **(3)**	***2***	***8*** **(7)**	***2*** **(3)**	***8*** **(3)**	***2***	***8*** **(7)**	***2*** **(3)**	***8*** **(2)**	***2*** **(1)**
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Use text features to facilitate understanding of literary texts**										
3.A.2.a	Identify and explain how organizational aids contribute to meaning										
3.A.2.b	Identify and explain how graphic aids contribute to meaning										
3.A.2.c	Identify and explain how informational aids contribute to meaning										
3.A.3	**Use elements of narrative texts to facilitate understanding**										
3.A.3.a	Identify and use structural features to distinguish among types of narrative text										
3.A.3.b	Identify and explain the elements of a story										
3.A.3.c	Identify and describe the setting										
3.A.3.d	Identify and analyze the characters										
3.A.3.e	Identify and explain the relationships between and among characters and events										
3.A.3.f	Identify and describe the narrator of the story										
3.A.4	**Use elements of poetry to facilitate understanding**										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
2.A.6.b	Identify and explain additions or changes that would make the text easier to understand										
2.A.6.c	Identify and explain what makes the text a reliable source of information										
2.A.6.d	Explain whether or not the author's opinion is presented fairly										
2.A.6.e	Identify and explain information not included in the text that would have made it easier to understand the author's point										
2.A.6.f	Identify and explain words that affect the reader's feelings										
3	**Comprehension of Literary Text**	*8* (7)	*2* (3)	*8* (3)	*2*	*8* (7)	*2* (3)	*8* (3)	*2*	*8* (7)	*2* (3)
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Use text features to facilitate understanding of literary texts**										
3.A.2.a	Identify and explain how organizational aids contribute to meaning										
3.A.2.b	Identify and explain how graphic aids contribute to meaning										
3.A.2.c	Identify and explain how informational aids contribute to meaning										
3.A.3	**Use elements of narrative texts to facilitate understanding**										
3.A.3.a	Identify and use structural features to distinguish among types of narrative text										
3.A.3.b	Identify and explain the elements of a story										
3.A.3.c	Identify and describe the setting										
3.A.3.d	Identify and analyze the characters										
3.A.3.e	Identify and explain the relationships between and among characters and events										
3.A.3.f	Identify and describe the narrator of the story										
3.A.4	**Use elements of poetry to facilitate understanding**										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.4.a	Use structural features to identify poetry as a literary form										
3.A.4.b	Identify and explain the meaning of words, lines, and stanzas										
3.A.4.c	Identify and explain sound elements of poetry										
3.A.5	**Use elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to identify a play as a literary form										
3.A.5.b	Identify and explain the action of a scene										
3.A.5.c	Identify and explain stage directions that help to create character and movement										
3.A.5.d	Identify and explain stage directions and dialogue that help to create character										
3.A.6	**Determine important ideas and messages in literary texts**										
3.A.6.a	Identify and explain main ideas and universal themes										
3.A.6.b	Identify and explain a similar theme in more than one text										
3.A.6.c	Retell the text										
3.A.6.d	Summarize the text										
3.A.6.e	Identify and explain personal connections to the text										
3.A.7	**Identify and describe the author's use of language**										
3.A.7.a	Identify and explain how the author's use of dialogue contributes to a story										
3.A.7.b	Identify and explain specific words and phrases that contribute to the meaning of a text										
3.A.7.c	Identify and explain words and punctuation that create tone										
3.A.7.d	Identify and explain figurative language										
3.A.7.e	Identify and explain language that appeals to the senses and feelings										
3.A.7.f	Identify and explain repetition and exaggeration										

Note. The number in the parenthesis indicates the total number of field test items.

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Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.4.a	Use structural features to identify poetry as a literary form										
3.A.4.b	Identify and explain the meaning of words, lines, and stanzas										
3.A.4.c	Identify and explain sound elements of poetry										
3.A.5	**Use elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to identify a play as a literary form										
3.A.5.b	Identify and explain the action of a scene										
3.A.5.c	Identify and explain stage directions that help to create character and movement										
3.A.5.d	Identify and explain stage directions and dialogue that help to create character										
3.A.6	**Determine important ideas and messages in literary texts**										
3.A.6.a	Identify and explain main ideas and universal themes										
3.A.6.b	Identify and explain a similar theme in more than one text										
3.A.6.c	Retell the text										
3.A.6.d	Summarize the text										
3.A.6.e	Identify and explain personal connections to the text										
3.A.7	**Identify and describe the author's use of language**										
3.A.7.a	Identify and explain how the author's use of dialogue contributes to a story										
3.A.7.b	Identify and explain specific words and phrases that contribute to the meaning of a text										
3.A.7.c	Identify and explain words and punctuation that create tone										
3.A.7.d	Identify and explain figurative language										
3.A.7.e	Identify and explain language that appeals to the senses and feelings										
3.A.7.f	Identify and explain repetition and exaggeration										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Identify and explain the believability of the characters' actions and the story's events										
3.A.8.b	Identify and explain questions left unanswered by the text										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Identify and explain the believability of the characters' actions and the story's events										
3.A.8.b	Identify and explain questions left unanswered by the text										

Note. Number in parentheses indicates the total number of field test items.

Table D.2 The 2009 MSA-Reading Blueprint: Grade 4

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	**15** **(3)**		**15** **(3)**		**15** **(3)**		**15** **(3)**		**15** **(3)**	
1.B	**General Reading Process: Phonics: Students will apply knowledge of letter/sound relationships and word structure to decode words**										
1.B.1	**Use a variety of phonetic skills to read unfamiliar words**										
1.B.1.a	Apply phonics skills										
1.B.2	**Decode words in grade-level texts**										
1.B.2.a	Sound out common word parts										
1.B.2.b	Break words into familiar parts										
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Develop a conceptual understanding of new words**										
1.D.2.b	Identify and explain word relationships to determine the meanings of words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to determine the meanings of words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	*15* (3)		*15* (4)		*15* (3)		*15* (3)		*15* (3)	
1.B	**General Reading Process: Phonics: Students will apply knowledge of letter/sound relationships and word structure to decode words**										
1.B.1	**Use a variety of phonetic skills to read unfamiliar words**										
1.B.1.a	Apply phonics skills										
1.B.2	**Decode words in grade-level texts**										
1.B.2.a	Sound out common word parts										
1.B.2.b	Break words into familiar parts										
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Develop a conceptual understanding of new words**										
1.D.2.b	Identify and explain word relationships to determine the meanings of words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to determine the meanings of words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1.E.4.a	Identify and explain the main idea										
1.E.4.b	Identify and explain what is directly stated in the text										
1.E.4.c	Identify and explain what is not directly stated in the text by drawing inferences										
1.E.4.d	Draw conclusions or make generalizations about the text										
1.E.4.e	Confirm, refute, or make predictions and form new ideas										
1.E.4.f	Paraphrase the main idea of the text										
1.E.4.g	Summarize the text										
1.E.4.h	Connect the text to prior knowledge or personal experience										
2	**Comprehension of Informational Text**	***9*** **(7)**	***2*** **(3)**	***9*** **(3)**	***2***	***9*** **(6)**	***2*** **(3)**	***9*** **(3)**	***2***	***9*** **(7)**	***2*** **(3)**
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Develop comprehension skills by reading a variety of self-selected and assigned informational texts**										
2.A.1.a	Read, use, and identify the characteristics of nonfiction materials to gain information and content knowledge										
2.A.1.b	Read, use, and identify the characteristics of functional documents										
2.A.2	**Identify and use text features to facilitate understanding of informational texts**										
2.A.2.a	Use print features										
2.A.2.b	Use graphic aids										
2.A.2.c	Use informational aids										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
1.E.4.a	Identify and explain the main idea										
1.E.4.b	Identify and explain what is directly stated in the text										
1.E.4.c	Identify and explain what is not directly stated in the text by drawing inferences										
1.E.4.d	Draw conclusions or make generalizations about the text										
1.E.4.e	Confirm, refute, or make predictions and form new ideas										
1.E.4.f	Paraphrase the main idea of the text										
1.E.4.g	Summarize the text										
1.E.4.h	Connect the text to prior knowledge or personal experience										
2	**Comprehension of Informational Text**	*9* (3)	*2*	*9* (7)	*2*	*9* (3)	*2*	*9* (4)	*2* (5)	*9* (3)	*2*
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Develop comprehension skills by reading a variety of self-selected and assigned informational texts**										
2.A.1.a	Read, use, and identify the characteristics of nonfiction materials to gain information and content knowledge										
2.A.1.b	Read, use, and identify the characteristics of functional documents										
2.A.2	**Identify and use text features to facilitate understanding of informational texts**										
2.A.2.a	Use print features										
2.A.2.b	Use graphic aids										
2.A.2.c	Use informational aids										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.2.d	Use organizational aids										
2.A.2.e	Use online features										
2.A.2.f	Identify and explain the contributions of text features to meaning										
2.A.3	**Develop knowledge of organizational structure of informational text to understand what is read**										
2.A.3.a	Identify and analyze the organization of texts										
2.A.3.b	Identify and use words and phrases associated with common organizational patterns										
2.A.4	**Determine important ideas and messages in informational text**										
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's opinion										
2.A.4.c	State and support main ideas or messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information not related to the main idea										
2.A.4.f	Identify and explain relationships between and among ideas										
2.A.4.g	Draw conclusions and make generalizations from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Identify and explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Identify and explain the author's use of language**										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.2.d	Use organizational aids										
2.A.2.e	Use online features										
2.A.2.f	Identify and explain the contributions of text features to meaning										
2.A.3	**Develop knowledge of organizational structure of informational text to understand what is read**										
2.A.3.a	Identify and analyze the organization of texts										
2.A.3.b	Identify and use words and phrases associated with common organizational patterns										
2.A.4	**Determine important ideas and messages in informational text**										
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's opinion										
2.A.4.c	State and support main ideas or messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information not related to the main idea										
2.A.4.f	Identify and explain relationships between and among ideas										
2.A.4.g	Draw conclusions and make generalizations from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Identify and explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Identify and explain the author's use of language**										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.5.a	Identify and explain specific words or phrases that contribute to the meaning of a text										
2.A.5.b	Identify and explain specific words and punctuation that create tone										
2.A.5.c	Identify and explain the effect of repetition of words or phrases										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Explain whether the text fulfills the reading purpose										
2.A.6.b	Identify and explain additions or changes that would make the text easier to understand										
2.A.6.c	Identify and explain what makes the text a reliable source of information										
2.A.6.d	Explain whether or not the author's opinion is presented fairly										
2.A.6.e	Identify and explain information not included in the text that would have made it easier to understand the author's point										
2.A.6.f	Identify and explain words that affect the reader's feelings										
3	**Comprehension of Literary Text**	***9*** **(3)**	***2***	***9*** **(7)**	***2*** **(3)**	***9*** **(3)**	***2***	***9*** **(7)**	***2*** **(3)**	***9*** **(3)**	***2***
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Use text features to facilitate understanding of literary texts**										
3.A.2.a	Identify and explain how organizational aids contribute to meaning										
3.A.2.b	Identify and explain how print features contribute to meaning										
3.A.2.c	Identify and explain how informational aids contribute to meaning										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.5.a	Identify and explain specific words or phrases that contribute to the meaning of a text										
2.A.5.b	Identify and explain specific words and punctuation that create tone										
2.A.5.c	Identify and explain the effect of repetition of words or phrases										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Explain whether the text fulfills the reading purpose										
2.A.6.b	Identify and explain additions or changes that would make the text easier to understand										
2.A.6.c	Identify and explain what makes the text a reliable source of information										
2.A.6.d	Explain whether or not the author's opinion is presented fairly										
2.A.6.e	Identify and explain information not included in the text that would have made it easier to understand the author's point										
2.A.6.f	Identify and explain words that affect the reader's feelings										
3	**Comprehension of Literary Text**	*9* (7)	*2* (3)	*9* (3)	*2*	*9* (7)	*2*	*9* (3)	*2*	*9* (7)	*2* (3)
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Use text features to facilitate understanding of literary texts**										
3.A.2.a	Identify and explain how organizational aids contribute to meaning										
3.A.2.b	Identify and explain how print features contribute to meaning										
3.A.2.c	Identify and explain how informational aids contribute to meaning										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.3	**Use elements of narrative texts to facilitate understanding**										
3.A.3.a	Identify and use structural features to distinguish among types of narrative text										
3.A.3.b	Identify and explain the elements of a story										
3.A.3.c	Identify and describe the setting										
3.A.3.d	Identify and analyze the characters										
3.A.3.e	Identify and explain the relationships between and among characters and events										
3.A.3.f	Identify and describe the narrator of the story										
3.A.3.g	Identify and describe the narrator										
3.A.4	**Use elements of poetry to facilitate understanding**										
3.A.4.a	Use structural features to identify poetry as a literary form										
3.A.4.b	Identify and explain the meaning of words, lines, and stanzas										
3.A.4.c	Identify and explain sound elements of poetry										
3.A.5	**Use elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to identify a play as a literary form										
3.A.5.b	Identify and explain the action of a scene										
3.A.5.c	Identify and explain stage directions that help to create character and movement										
3.A.5.d	Identify and explain stage directions and dialogue that help to create character										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
3.A.3	**Use elements of narrative texts to facilitate understanding**										
3.A.3.a	Identify and use structural features to distinguish among types of narrative text										
3.A.3.b	Identify and explain the elements of a story										
3.A.3.c	Identify and describe the setting										
3.A.3.d	Identify and analyze the characters										
3.A.3.e	Identify and explain the relationships between and among characters and events										
3.A.3.f	Identify and describe the narrator of the story										
3.A.3.g	Identify and describe the narrator										
3.A.4	**Use elements of poetry to facilitate understanding**										
3.A.4.a	Use structural features to identify poetry as a literary form										
3.A.4.b	Identify and explain the meaning of words, lines, and stanzas										
3.A.4.c	Identify and explain sound elements of poetry										
3.A.5	**Use elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to identify a play as a literary form										
3.A.5.b	Identify and explain the action of a scene										
3.A.5.c	Identify and explain stage directions that help to create character and movement										
3.A.5.d	Identify and explain stage directions and dialogue that help to create character										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.6.a	Identify and explain main ideas and universal themes										
3.A.6.b	Identify and explain a similar theme in more than one text										
3.A.6.c	Paraphrase the text										
3.A.6.d	Summarize the text										
3.A.6.e	Identify and explain personal connections to the text										
3.A.7	**Identify and describe the author's use of language**										
3.A.7.a	Identify and explain how the author's use of dialogue contributes to a story										
3.A.7.b	Identify and explain specific words and phrases that contribute to the meaning of a text										
3.A.7.c	Identify and explain words and punctuation that create tone										
3.A.7.d	Identify and explain figurative language										
3.A.7.e	Identify and explain language that appeals to the senses and feelings										
3.A.7.f	Identify and explain repetition and exaggeration										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Identify and explain the believability of the characters' actions and the story's events										
3.A.8.b	Identify and explain questions left unanswered by the text										
3.A.8.c	Identify and explain the relationship between a literary text and its historical context										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
3.A.6.a	Identify and explain main ideas and universal themes										
3.A.6.b	Identify and explain a similar theme in more than one text										
3.A.6.c	Paraphrase the text										
3.A.6.d	Summarize the text										
3.A.6.e	Identify and explain personal connections to the text										
3.A.7	**Identify and describe the author's use of language**										
3.A.7.a	Identify and explain how the author's use of dialogue contributes to a story										
3.A.7.b	Identify and explain specific words and phrases that contribute to the meaning of a text										
3.A.7.c	Identify and explain words and punctuation that create tone										
3.A.7.d	Identify and explain figurative language										
3.A.7.e	Identify and explain language that appeals to the senses and feelings										
3.A.7.f	Identify and explain repetition and exaggeration										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Identify and explain the believability of the characters' actions and the story's events										
3.A.8.b	Identify and explain questions left unanswered by the text										
3.A.8.c	Identify and explain the relationship between a literary text and its historical context										

Note. Number in parentheses indicates the total number of field test items.

Table D.3 The 2009 MSA-Reading Blueprint: Grade 5

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	**15** **(3)**		**15** **(3)**		**15** **(3)**		**15** **(3)**		**15** **(3)**	
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Develop and apply a conceptual understanding of new words**										
1.D.2.b	Identify and explain relationships between and among words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to confirm definitions and gather further information about words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										
1.E.4.a	Identify and explain the main idea										
1.E.4.b	Identify and explain what is directly stated in the text										
1.E.4.c	Identify and explain what is not directly stated in the text by drawing inferences										
1.E.4.d	Draw conclusions or make generalizations about the text										
1.E.4.e	Confirm, refute, or make predictions and form new ideas										
1.E.4.f	Paraphrase the main idea of the text										
1.E.4.g	Summarize the text										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	***15*** **(3)**		***15*** **(3)**		***15*** **(3)**		***15*** **(3)**		***15*** **(3)**	
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Develop and apply a conceptual understanding of new words**										
1.D.2.b	Identify and explain relationships between and among words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to confirm definitions and gather further information about words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										
1.E.4.a	Identify and explain the main idea										
1.E.4.b	Identify and explain what is directly stated in the text										
1.E.4.c	Identify and explain what is not directly stated in the text by drawing inferences										
1.E.4.d	Draw conclusions or make generalizations about the text										
1.E.4.e	Confirm, refute, or make predictions and form new ideas										
1.E.4.f	Paraphrase the main idea of the text										
1.E.4.g	Summarize the text										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
1.E.4.h	Connect the text to prior knowledge or personal experience										
2	**Comprehension of Informational Text**	**9** (7)	**2** (3)	**9** (3)	**2**	**9** (7)	**2** (3)	**9** (3)	**2**	**9** (7)	**2** (3)
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Develop and apply comprehension skills by reading a variety of self-selected and assigned print and electronic informational texts**										
2.A.1.a	Read, use, and identify the characteristics of nonfiction materials to gain information and content knowledge										
2.A.1.b	Read, use, and identify the characteristics of functional documents										
2.A.2	**Identify and use text features to facilitate understanding of informational texts**										
2.A.2.a	Use print features										
2.A.2.b	Use graphic aids										
2.A.2.c	Use informational aids										
2.A.2.d	Use organizational aids										
2.A.2.e	Use online features										
2.A.2.f	Identify and explain the contributions of text features to meaning										
2.A.3	**Develop and apply knowledge of organizational structure of informational text to understand what is read**										
2.A.3.a	Identify and analyze the organizational patterns of texts										
2.A.3.b	Identify and use words and phrases associated with common organizational patterns										
2.A.4	**Determine and analyze important ideas and messages in informational text**										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
1.E.4.h	Connect the text to prior knowledge or personal experience										
2	**Comprehension of Informational Text**	**9** **(3)**	**2**	**9** **(7)**	**2** **(3)**	**9** **(3)**	**2**	**9** **(7)**	**2** **(3)**	**9** **(3)**	**2**
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Develop and apply comprehension skills by reading a variety of self-selected and assigned print and electronic informational texts**										
2.A.1.a	Read, use, and identify the characteristics of nonfiction materials to gain information and content knowledge										
2.A.1.b	Read, use, and identify the characteristics of functional documents										
2.A.2	**Identify and use text features to facilitate understanding of informational texts**										
2.A.2.a	Use print features										
2.A.2.b	Use graphic aids										
2.A.2.c	Use informational aids										
2.A.2.d	Use organizational aids										
2.A.2.e	Use online features										
2.A.2.f	Identify and explain the contributions of text features to meaning										
2.A.3	**Develop and apply knowledge of organizational structure of informational text to understand what is read**										
2.A.3.a	Identify and analyze the organizational patterns of texts										
2.A.3.b	Identify and use words and phrases associated with common organizational patterns										
2.A.4	**Determine and analyze important ideas and messages in informational text**										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's opinion										
2.A.4.c	State and support main ideas or messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information not related to the main idea										
2.A.4.f	Identify and explain relationships between and among ideas										
2.A.4.g	Draw conclusions and make generalizations from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Identify and explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Identify and explain the author's use of language**										
2.A.5.a	Identify and explain specific words or phrases that contribute to the meaning of a text										
2.A.5.b	Identify and explain specific words and punctuation that create tone										
2.A.5.c	Identify and explain the effect of repetition of words and phrases										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Explain whether the text fulfills the reading purpose										
2.A.6.b	Identify and explain additions and changes that would make the text easier to understand										
2.A.6.c	Identify and explain what makes the text a reliable source of information										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's opinion										
2.A.4.c	State and support main ideas or messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information not related to the main idea										
2.A.4.f	Identify and explain relationships between and among ideas										
2.A.4.g	Draw conclusions and make generalizations from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Identify and explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Identify and explain the author's use of language**										
2.A.5.a	Identify and explain specific words or phrases that contribute to the meaning of a text										
2.A.5.b	Identify and explain specific words and punctuation that create tone										
2.A.5.c	Identify and explain the effect of repetition of words and phrases										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Explain whether the text fulfills the reading purpose										
2.A.6.b	Identify and explain additions and changes that would make the text easier to understand										
2.A.6.c	Identify and explain what makes the text a reliable source of information										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.6.d	Determine and explain whether or not the author's opinion is presented fairly										
2.A.6.e	Identify and explain information not included in the text that would have clarified the author's point										
2.A.6.f	Identify and explain words the author uses to appeal to emotion										
3	**Comprehension of Literary Text**	***9*** **(3)**	***2***	***9*** **(7)**	***2*** **(3)**	***9*** **(3)**	***2***	***9*** **(7)**	***2*** **(5)**	***9*** **(3)**	***2***
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Analyze text features to facilitate understanding of literary texts**										
3.A.2.a	Identify and explain how organizational aids contribute to meaning										
3.A.2.b	Identify and explain how print features contribute to meaning										
3.A.2.c	Identify and explain how informational aids contribute to meaning										
3.A.3	**Analyze elements of narrative texts to facilitate understanding and interpretation**										
3.A.3.a	Identify and use structural features to distinguish among types of narrative text										
3.A.3.b	Identify and explain the conflict and the events of the plot										
3.A.3.c	Identify and describe the setting and explain how the setting affects the characters and the mood										
3.A.3.d	Analyze the characterization										
3.A.3.e	Identify and explain relationships between and among characters and events										
3.A.3.f	Identify and explain how the actions of the character(s) affect the plot										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.6.d	Determine and explain whether or not the author's opinion is presented fairly										
2.A.6.e	Identify and explain information not included in the text that would have clarified the author's point										
2.A.6.f	Identify and explain words the author uses to appeal to emotion										
3	**Comprehension of Literary Text**	***9***	***2***	***9***	***2***	***9***	***2***	***9***	***2***	***9***	***2***
		(7)	**(3)**	**(3)**		**(7)**	**(3)**	**(3)**		**(6)**	**(4)**
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Analyze text features to facilitate understanding of literary texts**										
3.A.2.a	Identify and explain how organizational aids contribute to meaning										
3.A.2.b	Identify and explain how print features contribute to meaning										
3.A.2.c	Identify and explain how informational aids contribute to meaning										
3.A.3	**Analyze elements of narrative texts to facilitate understanding and interpretation**										
3.A.3.a	Identify and use structural features to distinguish among types of narrative text										
3.A.3.b	Identify and explain the conflict and the events of the plot										
3.A.3.c	Identify and describe the setting and explain how the setting affects the characters and the mood										
3.A.3.d	Analyze the characterization										
3.A.3.e	Identify and explain relationships between and among characters and events										
3.A.3.f	Identify and explain how the actions of the character(s) affect the plot										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.3.g	Identify and describe the narrator										
3.A.4	**Analyze elements of poetry to facilitate understanding and interpretation**										
3.A.4.a	Use structural features to identify poetry as a literary form and distinguish among types of poems										
3.A.4.b	Identify and explain the meaning of words, lines, and stanzas										
3.A.4.c	Identify and explain sound elements of poetry										
3.A.5	**Analyze elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to identify a play as a literary form and distinguish among types of plays										
3.A.5.b	Identify and explain the action of a scene										
3.A.5.c	Identify and explain how stage directions create character and movement										
3.A.6	**Determine important ideas and messages in literary texts**										
3.A.6.a	Identify and explain main ideas and universal themes										
3.A.6.b	Identify and explain similar themes across multiple texts										
3.A.6.c	Paraphrase the text										
3.A.6.d	Summarize the text										
3.A.6.e	Identify and explain personal connections to the text										
3.A.6.f	Explain the implications for the reader and/or society										
3.A.7	**Identify and describe the author's use of language**										
3.A.7.a	Identify and explain how the author's use of dialogue contributes to a story										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.3.g	Identify and describe the narrator										
3.A.4	**Analyze elements of poetry to facilitate understanding and interpretation**										
3.A.4.a	Use structural features to identify poetry as a literary form and distinguish among types of poems										
3.A.4.b	Identify and explain the meaning of words, lines, and stanzas										
3.A.4.c	Identify and explain sound elements of poetry										
3.A.5	**Analyze elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to identify a play as a literary form and distinguish among types of plays										
3.A.5.b	Identify and explain the action of a scene										
3.A.5.c	Identify and explain how stage directions create character and movement										
3.A.6	**Determine important ideas and messages in literary texts**										
3.A.6.a	Identify and explain main ideas and universal themes										
3.A.6.b	Identify and explain similar themes across multiple texts										
3.A.6.c	Paraphrase the text										
3.A.6.d	Summarize the text										
3.A.6.e	Identify and explain personal connections to the text										
3.A.6.f	Explain the implications for the reader and/or society										
3.A.7	**Identify and describe the author's use of language**										
3.A.7.a	Identify and explain how the author's use of dialogue contributes to a story										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.7.b	Identify and explain specific words and phrases that contribute to the meaning of a text										
3.A.7.c	Identify and explain words and phrases that create tone										
3.A.7.d	Identify and explain figurative language that contributes to meaning										
3.A.7.e	Identify and explain language that appeals to the senses and feelings										
3.A.7.f	Identify and explain repetition and exaggeration contribute to meaning										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Determine and explain the plausibility of the characters' actions and the plot										
3.A.8.b	Identify and explain questions left unanswered by the text										
3.A.8.c	Identify and explain the relationship between a literary text and its historical context										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.7.b	Identify and explain specific words and phrases that contribute to the meaning of a text										
3.A.7.c	Identify and explain words and phrases that create tone										
3.A.7.d	Identify and explain figurative language that contributes to meaning										
3.A.7.e	Identify and explain language that appeals to the senses and feelings										
3.A.7.f	Identify and explain repetition and exaggeration contribute to meaning										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Determine and explain the plausibility of the characters' actions and the plot										
3.A.8.b	Identify and explain questions left unanswered by the text										
3.A.8.c	Identify and explain the relationship between a literary text and its historical context										

Note. Number in parentheses indicates the total number of field test items.

Table D.4 The 2009 MSA-Reading Blueprint: Grade 6

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	**15** **(3)**		**15** **(3)**		**15** **(3)**		**15** **(3)**		**15**	
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Apply a conceptual understanding of new words**										
1.D.2.b	Explain relationships between and among words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to confirm definitions and gather further information about words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										
1.E.4.a	Identify and explain the main idea										
1.E.4.b	Identify and explain what is directly stated in the text										
1.E.4.c	Identify and explain what is not directly stated in the text by drawing inferences										
1.E.4.d	Draw conclusions or make generalizations about the text										
1.E.4.e	Confirm, refute, or make predictions and form new ideas										

Note. The number in the parenthesis indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	**15** **(6)**		**15** **(3)**		**15** **(3)**		**15** **(3)**		**15** **(3)**	
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Apply a conceptual understanding of new words**										
1.D.2.b	Explain relationships between and among words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to confirm definitions and gather further information about words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										
1.E.4.a	Identify and explain the main idea										
1.E.4.b	Identify and explain what is directly stated in the text										
1.E.4.c	Identify and explain what is not directly stated in the text by drawing inferences										
1.E.4.d	Draw conclusions or make generalizations about the text										
1.E.4.e	Confirm, refute, or make predictions and form new ideas										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1.E.4.f	Paraphrase the main idea of the text										
1.E.4.g	Summarize the text										
1.E.4.h	Connect the text to prior knowledge or personal experience										
2	**Comprehension of Informational Text**	***9*** (7)	***2*** (3)	***9*** (3)	***2***	***9*** (7)	***2*** (3)	***9*** (3)	***2***	***9*** (6)	***2*** (2)
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Develop and apply comprehension skills by reading a variety of self-selected and assigned print and electronic informational texts**										
2.A.1.a	Read, use, and identify the characteristics of nonfiction materials to gain information and content knowledge										
2.A.1.b	Read, use, and identify the characteristics of functional documents										
2.A.2	**Identify and use text features to facilitate understanding of informational texts**										
2.A.2.a	Use print features										
2.A.2.b	Use graphic aids										
2.A.2.c	Use informational aids										
2.A.2.d	Use organizational aids										
2.A.2.e	Use online features										
2.A.2.f	Identify and explain the contributions of text features to supporting the main idea of the text										
2.A.3	**Develop and apply knowledge of organizational structure of informational text to facilitate understanding**										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1.E.4.f	Paraphrase the main idea of the text										
1.E.4.g	Summarize the text										
1.E.4.h	Connect the text to prior knowledge or personal experience										
2	**Comprehension of Informational Text**	**9** (4)	**2** (1)	**9** (7)	**2** (3)	**9** (3)	**2**	**9** (7)	**2** (3)	**9** (3)	**2**
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Develop and apply comprehension skills by reading a variety of self-selected and assigned print and electronic informational texts**										
2.A.1.a	Read, use, and identify the characteristics of nonfiction materials to gain information and content knowledge										
2.A.1.b	Read, use, and identify the characteristics of functional documents										
2.A.2	**Identify and use text features to facilitate understanding of informational texts**										
2.A.2.a	Use print features										
2.A.2.b	Use graphic aids										
2.A.2.c	Use informational aids										
2.A.2.d	Use organizational aids										
2.A.2.e	Use online features										
2.A.2.f	Identify and explain the contributions of text features to supporting the main idea of the text										
2.A.3	**Develop and apply knowledge of organizational structure of informational text to facilitate understanding**										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.3.a	Identify and analyze the organizational patterns of texts										
2.A.3.b	Explain how the organizational pattern clarifies and reinforces meaning and supports the author's/text's purpose										
2.A.4	**Determine and analyze important ideas and messages in informational text**										
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's opinion										
2.A.4.c	State and support main ideas or messages.										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information not related to the main idea										
2.A.4.f	Explain relationships between and among ideas										
2.A.4.g	Synthesize ideas from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Analyze purposeful use of language**										
2.A.5.a	Analyze specific words or phrases that contribute to the meaning of a text										
2.A.5.b	Analyze specific language choices that create tone										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.3.a	Identify and analyze the organizational patterns of texts										
2.A.3.b	Explain how the organizational pattern clarifies and reinforces meaning and supports the author's/text's purpose										
2.A.4	**Determine and analyze important ideas and messages in informational text**										
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's opinion										
2.A.4.c	State and support main ideas or messages.										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information not related to the main idea										
2.A.4.f	Explain relationships between and among ideas										
2.A.4.g	Synthesize ideas from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Analyze purposeful use of language**										
2.A.5.a	Analyze specific words or phrases that contribute to the meaning of a text										
2.A.5.b	Analyze specific language choices that create tone										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.5.c	Analyze the effect of repetition of words or phrases on meaning										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Explain whether the text fulfills the reading purpose										
2.A.6.b	Analyze changes or additions to the structures and features of the text that would make the text easier to understand										
2.A.6.c	Analyze the text and its information for reliability										
2.A.6.d	Determine and explain whether or not the author's argument or position is presented fairly										
2.A.6.e	Identify and explain information not included in the text that would have clarified the author's point.										
2.A.6.f	Identify and explain language intended to persuade the reader										
3	**Comprehension of Literary Text**	***9*** **(3)**	***2***	***9*** **(7)**	***2*** **(3)**	***9*** **(3)**	***2***	***9*** **(7)**	***2*** **(3)**	***9*** **(3)**	***2***
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Analyze text features to facilitate understanding of literary texts**										
3.A.2.a	Identify and explain how organizational aids contribute to meaning										
3.A.2.b	Identify and explain how print features contribute to meaning										
3.A.2.c	Identify and explain how informational aids contribute to meaning										
3.A.3	**Analyze elements of narrative texts to facilitate understanding and interpretation**										
3.A.3.a	Identify and use structural features to distinguish among types of narrative text										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.5.c	Analyze the effect of repetition of words or phrases on meaning										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Explain whether the text fulfills the reading purpose										
2.A.6.b	Analyze changes or additions to the structures and features of the text that would make the text easier to understand										
2.A.6.c	Analyze the text and its information for reliability										
2.A.6.d	Determine and explain whether or not the author's argument or position is presented fairly										
2.A.6.e	Identify and explain information not included in the text that would have clarified the author's point.										
2.A.6.f	Identify and explain language intended to persuade the reader										
3	**Comprehension of Literary Text**	*9* (7)	*2* (3)	*9* (3)	*2*	*9* (6)	*2* (4)	*9* (3)	*2*	*9* (7)	*2* (3)
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Analyze text features to facilitate understanding of literary texts**										
3.A.2.a	Identify and explain how organizational aids contribute to meaning										
3.A.2.b	Identify and explain how print features contribute to meaning										
3.A.2.c	Identify and explain how informational aids contribute to meaning										
3.A.3	**Analyze elements of narrative texts to facilitate understanding and interpretation**										
3.A.3.a	Identify and use structural features to distinguish among types of narrative text										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
3.A.3.b	Analyze the conflict and the events of the plot										
3.A.3.c	Analyze details that provide information about the setting, the mood created by the setting, and ways in which the setting affects the characters										
3.A.3.d	Analyze the characterization										
3.A.3.e	Analyze relationships between and among characters and events										
3.A.3.f	Identify and explain how the actions of the character(s) affect the plot										
3.A.3.g	Analyze conflicts that motivate characters and those that advance the plot										
3.A.3.h	Identify and explain the author's approach to issues of time in a narrative										
3.A.3.i	Identify and explain the point of view										
3.A.4	**Analyze elements of poetry to facilitate understanding and interpretation**										
3.A.4.a	Use structural features to distinguish among types of poems										
3.A.4.b	Identify and explain the meaning of words, lines, and stanzas										
3.A.4.c	Identify and explain how sound elements of poetry contribute to meaning										
3.A.5	**Analyze elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to distinguish among types of plays										
3.A.5.b	Identify and explain the action of scenes and acts										
3.A.5.c	Identify and explain how stage directions create character and movement										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.3.b	Analyze the conflict and the events of the plot										
3.A.3.c	Analyze details that provide information about the setting, the mood created by the setting, and ways in which the setting affects the characters										
3.A.3.d	Analyze the characterization										
3.A.3.e	Analyze relationships between and among characters and events										
3.A.3.f	Identify and explain how the actions of the character(s) affect the plot										
3.A.3.g	Analyze conflicts that motivate characters and those that advance the plot										
3.A.3.h	Identify and explain the author's approach to issues of time in a narrative										
3.A.3.i	Identify and explain the point of view										
3.A.4	**Analyze elements of poetry to facilitate understanding and interpretation**										
3.A.4.a	Use structural features to distinguish among types of poems										
3.A.4.b	Identify and explain the meaning of words, lines, and stanzas										
3.A.4.c	Identify and explain how sound elements of poetry contribute to meaning										
3.A.5	**Analyze elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to distinguish among types of plays										
3.A.5.b	Identify and explain the action of scenes and acts										
3.A.5.c	Identify and explain how stage directions create character and movement										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.5.d	Identify and explain stage directions and dialogue that help to create character										
3.A.6	**Determine important ideas and messages in literary texts**										
3.A.6.a	Analyze main ideas and universal themes										
3.A.6.b	Analyze similar themes across multiple texts										
3.A.6.c	Paraphrase the text										
3.A.6.d	Summarize the text										
3.A.6.e	Identify and explain personal connections to the text										
3.A.6.f	Explain the implications for the reader and/or society										
3.A.7	**Analyze the author's purposeful use of language**										
3.A.7.a	Analyze specific words and phrases that contribute to the meaning of a text										
3.A.7.b	Analyze words and phrases that create tone										
3.A.7.c	Identify and explain figurative language that contributes to meaning										
3.A.7.d	Analyze how sensory language contributes to meaning										
3.A.7.e	Analyze how repetition and exaggeration contribute to meaning										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Determine and explain the plausibility of the characters' actions and the plot										
3.A.8.b	Identify and explain questions left unanswered by the text										
3.A.8.c	Identify and explain the relationship between a literary text and its historical and social context										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.5.d	Identify and explain stage directions and dialogue that help to create character										
3.A.6	**Determine important ideas and messages in literary texts**										
3.A.6.a	Analyze main ideas and universal themes										
3.A.6.b	Analyze similar themes across multiple texts										
3.A.6.c	Paraphrase the text										
3.A.6.d	Summarize the text										
3.A.6.e	Identify and explain personal connections to the text										
3.A.6.f	Explain the implications for the reader and/or society										
3.A.7	**Analyze the author's purposeful use of language**										
3.A.7.a	Analyze specific words and phrases that contribute to the meaning of a text										
3.A.7.b	Analyze words and phrases that create tone										
3.A.7.c	Identify and explain figurative language that contributes to meaning										
3.A.7.d	Analyze how sensory language contributes to meaning										
3.A.7.e	Analyze how repetition and exaggeration contribute to meaning										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Determine and explain the plausibility of the characters' actions and the plot										
3.A.8.b	Identify and explain questions left unanswered by the text										
3.A.8.c	Identify and explain the relationship between a literary text and its historical and social context										

Note. Number in parentheses indicates the total number of field test items.

Table D.5 The 2009 MSA-Reading Blueprint: Grade 7

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
1	**General Reading Process**	**15** **(3)**		**15** **(6)**		**15** **(3)**		**15** **(3)**		**15** **(3)**	
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Apply a conceptual understanding of new words**										
1.D.2.b	Explain relationships between and among words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to confirm definitions and gather further information about words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										
1.E.4.a	Identify and explain the main idea										
1.E.4.b	Identify and explain information directly stated in the text										
1.E.4.c	Draw inferences and/or conclusions or make generalizations										
1.E.4.d	Confirm, refute, or make predictions and form new ideas										
1.E.4.e	Summarize or paraphrase the text										
1.E.4.f	Connect the text to prior knowledge or personal experience										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	*15* (6)		*15* (3)		*15* (3)		*15* (3)		*15* (3)	
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Apply a conceptual understanding of new words**										
1.D.2.b	Explain relationships between and among words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Use resources to confirm definitions and gather further information about words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	**Use strategies to demonstrate understanding of the text (after reading)**										
1.E.4.a	Identify and explain the main idea										
1.E.4.b	Identify and explain information directly stated in the text										
1.E.4.c	Draw inferences and/or conclusions or make generalizations										
1.E.4.d	Confirm, refute, or make predictions and form new ideas										
1.E.4.e	Summarize or paraphrase the text										
1.E.4.f	Connect the text to prior knowledge or personal experience										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2	**Comprehension of Informational Text**	***9*** **(7)**	***2*** **(3)**	***9***	***2***	***9*** **(7)**	***2*** **(3)**	***9*** **(3)**	***2***	***9*** **(6)**	***2*** **(3)**
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Apply comprehension skills by selecting, reading, and interpreting a variety of print and electronic informational texts**										
2.A.1.a	Read, use, and identify the characteristics of primary and secondary sources of academic information										
2.A.1.b	Read, use, and identify the characteristics of workplace and other real-world documents										
2.A.2	**Analyze text features to facilitate understanding of informational texts**										
2.A.2.a	Analyze print features that contribute to meaning										
2.A.2.b	Analyze graphic aids that contribute to meaning										
2.A.2.c	Analyze informational aids that contribute to meaning										
2.A.2.d	Analyze organizational aids that contribute to meaning										
2.A.2.e	Analyze online features that contribute to meaning										
2.A.2.f	Analyze the relationship between the text features and the content of the text as a whole										
2.A.3	**Apply knowledge of organizational patterns of informational text to facilitate understanding**										
2.A.3.a	Analyze the organizational patterns of texts										
2.A.3.b	Analyze the contribution of the organizational pattern to clarifying or reinforcing meaning and supporting the author's purpose and/or argument										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2	**Comprehension of Informational Text**	***9***	***2***	***9***	***2***	***9***	***2***	***9***	***2***	***9***	***2***
				(7)	**(3)**	**(3)**		**(10)**	**(3)**	**(3)**	
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Apply comprehension skills by selecting, reading, and interpreting a variety of print and electronic informational texts**										
2.A.1.a	Read, use, and identify the characteristics of primary and secondary sources of academic information										
2.A.1.b	Read, use, and identify the characteristics of workplace and other real-world documents										
2.A.2	**Analyze text features to facilitate understanding of informational texts**										
2.A.2.a	Analyze print features that contribute to meaning										
2.A.2.b	Analyze graphic aids that contribute to meaning										
2.A.2.c	Analyze informational aids that contribute to meaning										
2.A.2.d	Analyze organizational aids that contribute to meaning										
2.A.2.e	Analyze online features that contribute to meaning										
2.A.2.f	Analyze the relationship between the text features and the content of the text as a whole										
2.A.3	**Apply knowledge of organizational patterns of informational text to facilitate understanding**										
2.A.3.a	Analyze the organizational patterns of texts										
2.A.3.b	Analyze the contribution of the organizational pattern to clarifying or reinforcing meaning and supporting the author's purpose and/or argument										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.3.c	Use organizational structure to locate specific information										
2.A.4	**Analyze important ideas and messages in informational text**										
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's argument, viewpoint, or perspective										
2.A.4.c	State and support main ideas and messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information or ideas peripheral to the main idea or message										
2.A.4.f	Explain relationships between and among ideas										
2.A.4.g	Synthesize ideas from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Analyze purposeful use of language**										
2.A.5.a	Analyze specific word choice that contributes to meaning and/or creates style										
2.A.5.b	Analyze specific language choices to determine tone										
2.A.5.c	Analyze repetition and variation of specific words and phrases that contribute to meaning										
2.A.6	**Read critically to evaluate informational text**										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.3.c	Use organizational structure to locate specific information										
2.A.4	**Analyze important ideas and messages in informational text**										
2.A.4.a	Identify and explain the author's/text's purpose and intended audience										
2.A.4.b	Identify and explain the author's argument, viewpoint, or perspective										
2.A.4.c	State and support main ideas and messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Identify and explain information or ideas peripheral to the main idea or message										
2.A.4.f	Explain relationships between and among ideas										
2.A.4.g	Synthesize ideas from text to form new understanding										
2.A.4.h	Distinguish between a fact and an opinion										
2.A.4.i	Explain how someone might use the text										
2.A.4.j	Connect the text to prior knowledge or experience										
2.A.5	**Analyze purposeful use of language**										
2.A.5.a	Analyze specific word choice that contributes to meaning and/or creates style										
2.A.5.b	Analyze specific language choices to determine tone										
2.A.5.c	Analyze repetition and variation of specific words and phrases that contribute to meaning										
2.A.6	**Read critically to evaluate informational text**										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.6.a	Analyze the extent to which the text fulfills the reading purpose										
2.A.6.b	Analyze the extent to which the structure and features of the text clarify the purpose and the information										
2.A.6.c	Analyze the text and its information for reliability										
2.A.6.d	Analyze the author's argument or position for clarity and/or bias										
2.A.6.e	Analyze additional information that would clarify or strengthen the author's argument or viewpoint										
2.A.6.f	Analyze language intended to persuade the reader										
3	**Comprehension of Literary Text**	*9* (3)	*2*	*9* (7)	*2* (3)	*9* (3)	*2*	*9* (7)	*2* (3)	*9* (3)	*2*
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Analyze text features to facilitate understanding of literary texts**										
3.A.2.a	Analyze text features that contribute to meaning										
3.A.3	**Analyze elements of narrative texts to facilitate understanding and interpretation**										
3.A.3.a	Use structural features to distinguish among types of narrative text										
3.A.3.b	Analyze the conflict and the events of the plot										
3.A.3.c	Analyze details that provide information about the setting, the mood created by the setting, and ways in which the setting affects the characters										
3.A.3.d	Analyze the characterization										
3.A.3.e	Analyze relationships between and among characters and events										
3.A.3.f	Analyze the actions of characters that serve to advance the plot										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.6.a	Analyze the extent to which the text fulfills the reading purpose										
2.A.6.b	Analyze the extent to which the structure and features of the text clarify the purpose and the information										
2.A.6.c	Analyze the text and its information for reliability										
2.A.6.d	Analyze the author's argument or position for clarity and/or bias										
2.A.6.e	Analyze additional information that would clarify or strengthen the author's argument or viewpoint										
2.A.6.f	Analyze language intended to persuade the reader										
3	**Comprehension of Literary Text**	*9* (7)	*2* (3)	*9* (3)	*2*	*9* (7)	*2* (3)	*9*	*2*	*9* (7)	*2* (3)
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Analyze text features to facilitate understanding of literary texts**										
3.A.2.a	Analyze text features that contribute to meaning										
3.A.3	**Analyze elements of narrative texts to facilitate understanding and interpretation**										
3.A.3.a	Use structural features to distinguish among types of narrative text										
3.A.3.b	Analyze the conflict and the events of the plot										
3.A.3.c	Analyze details that provide information about the setting, the mood created by the setting, and ways in which the setting affects the characters										
3.A.3.d	Analyze the characterization										
3.A.3.e	Analyze relationships between and among characters and events										
3.A.3.f	Analyze the actions of characters that serve to advance the plot										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.3.g	Analyze conflicts that motivate characters and those that advance the plot										
3.A.3.h	Analyze the author's approach to issues of time in a narrative										
3.A.3.i	Analyze the point of view										
3.A.3.j	Analyze the interactions among narrative elements and their contribution to meaning										
3.A.4	**Analyze elements of poetry to facilitate understanding and interpretation**										
3.A.4.a	Use structural features to distinguish among types of poems										
3.A.4.b	Analyze language and structural features to determine meaning										
3.A.4.c	Analyze sound elements of poetry that contribute to meaning										
3.A.4.d	Analyze other poetic elements, such as setting, mood, tone, etc. that contribute to meaning										
3.A.5	**Analyze elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to distinguish among types of plays										
3.A.5.b	Analyze the action of individual scenes and acts and its relationship to the plot										
3.A.5.c	Analyze how stage directions affect dialogue, characters, and plot										
3.A.6	**Analyze important ideas and messages in literary texts**										
3.A.6.a	Analyze main ideas and universal themes										
3.A.6.b	Analyze similar themes across multiple texts										
3.A.6.c	Summarize or paraphrase the text										
3.A.6.d	Reflect on and explain personal connections to the text										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.3.g	Analyze conflicts that motivate characters and those that advance the plot										
3.A.3.h	Analyze the author's approach to issues of time in a narrative										
3.A.3.i	Analyze the point of view										
3.A.3.j	Analyze the interactions among narrative elements and their contribution to meaning										
3.A.4	**Analyze elements of poetry to facilitate understanding and interpretation**										
3.A.4.a	Use structural features to distinguish among types of poems										
3.A.4.b	Analyze language and structural features to determine meaning										
3.A.4.c	Analyze sound elements of poetry that contribute to meaning										
3.A.4.d	Analyze other poetic elements, such as setting, mood, tone, etc. that contribute to meaning										
3.A.5	**Analyze elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to distinguish among types of plays										
3.A.5.b	Analyze the action of individual scenes and acts and its relationship to the plot										
3.A.5.c	Analyze how stage directions affect dialogue, characters, and plot										
3.A.6	**Analyze important ideas and messages in literary texts**										
3.A.6.a	Analyze main ideas and universal themes										
3.A.6.b	Analyze similar themes across multiple texts										
3.A.6.c	Summarize or paraphrase the text										
3.A.6.d	Reflect on and explain personal connections to the text										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.6.e	Explain the implications for the reader and/or society										
3.A.7	**Analyze the author's purposeful use of language**										
3.A.7.a	Analyze how specific language choices contribute to meaning and create style										
3.A.7.b	Analyze language choices that create tone										
3.A.7.c	Analyze figurative language that contributes to meaning and/or creates style										
3.A.7.d	Analyze imagery that contributes to meaning and/or creates style										
3.A.7.e	Analyze elements of style and their contribution to meaning										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Analyze the plausibility of the plot and the credibility of the characters										
3.A.8.b	Analyze the extent to which the text contains ambiguities, subtleties, or contradictions										
3.A.8.c	Analyze and evaluate the relationship between a literary text and its historical, social, and political contexts										

Note. Number in parentheses indicates the total number of field test items.

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Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.6.e	Explain the implications for the reader and/or society										
3.A.7	**Analyze the author's purposeful use of language**										
3.A.7.a	Analyze how specific language choices contribute to meaning and create style										
3.A.7.b	Analyze language choices that create tone										
3.A.7.c	Analyze figurative language that contributes to meaning and/or creates style										
3.A.7.d	Analyze imagery that contributes to meaning and/or creates style										
3.A.7.e	Analyze elements of style and their contribution to meaning										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Analyze the plausibility of the plot and the credibility of the characters										
3.A.8.b	Analyze the extent to which the text contains ambiguities, subtleties, or contradictions										
3.A.8.c	Analyze and evaluate the relationship between a literary text and its historical, social, and political contexts										

Note. Number in parentheses indicates the total number of field test items.

Table D.6 The 2009 MSA-Reading Blueprint: Grade 8

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
1	**General Reading Process**	*16* (3)		*16* (6)		*16* (3)		*16* (3)		*16* (3)	
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Apply a conceptual understanding of new words**										
1.D.2.b	Explain relationships between and among words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Select and use resources to confirm definitions and gather further information about words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	Use strategies to demonstrate understanding of the text (after reading)										
1.E.4.a	Identify and explain the main idea or argument										
1.E.4.b	Identify and explain information directly stated in the text										
1.E.4.c	Draw inferences and/or conclusions or make generalizations										
1.E.4.d	Confirm, refute, or make predictions and form new ideas										
1.E.4.e	Summarize or paraphrase the text										
1.E.4.f	Connect the text to prior knowledge or personal experience										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
1	**General Reading Process**	**16**		**16**		**16**		**16**		**16**	
		(6)		**(3)**		**(3)**		**(3)**		**(3)**	
1.D	**General Reading Process: Vocabulary: Students will use a variety of strategies and opportunities to understand word meanings and to increase vocabulary**										
1.D.2	**Apply a conceptual understanding of new words**										
1.D.2.b	Explain relationships between and among words										
1.D.3	**Understand, acquire, and use new vocabulary**										
1.D.3.a	Use context to determine the meanings of words										
1.D.3.b	Use word structure to determine the meanings of words										
1.D.3.c	Select and use resources to confirm definitions and gather further information about words										
1.E	**General Reading Processes: Comprehension: Students will use a variety of strategies to understand what they read (construct meaning)**										
1.E.4	Use strategies to demonstrate understanding of the text (after reading)										
1.E.4.a	Identify and explain the main idea or argument										
1.E.4.b	Identify and explain information directly stated in the text										
1.E.4.c	Draw inferences and/or conclusions or make generalizations										
1.E.4.d	Confirm, refute, or make predictions and form new ideas										
1.E.4.e	Summarize or paraphrase the text										
1.E.4.f	Connect the text to prior knowledge or personal experience										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2	**Comprehension of Informational Text**	**9**	**2**	**9**	**2**	**9**	**2**	**9**	**2**	**9**	**2**
		(7)	**(3)**			**(7)**		**(3)**		**(7)**	**(3)**
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Apply comprehension skills by selecting, reading, and interpreting a variety of print and electronic informational texts**										
2.A.1.a	Read, use, and identify the characteristics of primary and secondary sources of academic information										
2.A.1.b	Read, use, and identify the characteristics of workplace and other real-world documents										
2.A.2	**Analyze text features to facilitate and extend understanding of informational texts**										
2.A.2.a	Analyze print features that contribute to meaning										
2.A.2.b	Analyze graphic aids that contribute to meaning										
2.A.2.c	Analyze informational aids that contribute to meaning										
2.A.2.d	Analyze organizational aids that contribute to meaning										
2.A.2.e	Analyze online features that contribute to meaning										
2.A.2.f	Analyze the relationship between the text features and the content of the text as a whole										
2.A.3	**Apply knowledge of organizational patterns of informational text to facilitate understanding**										
2.A.3.a	Analyze the organizational patterns of texts										
2.A.3.b	Analyze the contribution of the organizational pattern to clarifying or reinforcing meaning and supporting the author's purpose and/or argument										
2.A.3.c	Analyze shifts in organizational patterns										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2	**Comprehension of Informational Text**	**9**	**2**	**9**	**2**	**9**	**2**	**9**	**2**	**9**	**2**
				(7)	**(3)**	**(3)**		**(10)**	**(3)**	**(3)**	
2.A	**Comprehension of Informational Text: Students will read, comprehend, interpret, analyze, and evaluate informational texts**										
2.A.1	**Apply comprehension skills by selecting, reading, and interpreting a variety of print and electronic informational texts**										
2.A.1.a	Read, use, and identify the characteristics of primary and secondary sources of academic information										
2.A.1.b	Read, use, and identify the characteristics of workplace and other real-world documents										
2.A.2	**Analyze text features to facilitate and extend understanding of informational texts**										
2.A.2.a	Analyze print features that contribute to meaning										
2.A.2.b	Analyze graphic aids that contribute to meaning										
2.A.2.c	Analyze informational aids that contribute to meaning										
2.A.2.d	Analyze organizational aids that contribute to meaning										
2.A.2.e	Analyze online features that contribute to meaning										
2.A.2.f	Analyze the relationship between the text features and the content of the text as a whole										
2.A.3	**Apply knowledge of organizational patterns of informational text to facilitate understanding**										
2.A.3.a	Analyze the organizational patterns of texts										
2.A.3.b	Analyze the contribution of the organizational pattern to clarifying or reinforcing meaning and supporting the author's purpose and/or argument										
2.A.3.c	Analyze shifts in organizational patterns										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.3.d	Use organizational structure to locate specific information										
2.A.4	**Analyze important ideas and messages in informational text**										
2.A.4.a	Analyze the author's/text's purpose and intended audience										
2.A.4.b	Analyze the author's argument, viewpoint, or perspective										
2.A.4.c	State and support main ideas and messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Analyze information or ideas peripheral to the main idea or message										
2.A.4.f	Analyze relationships between and among ideas										
2.A.4.g	Synthesize ideas from text to form new understanding										
2.A.4.h	Explain the implications of the text or now someone might use the text										
2.A.4.i	Connect the text to prior knowledge or experience										
2.A.5	**Analyze purposeful use of language**										
2.A.5.a	Analyze specific word choice that contributes to meaning and/or creates style										
2.A.5.b	Analyze specific language choices to determine tone										
2.A.5.c	Analyze the appropriateness of tone										
2.A.5.d	Analyze repetition and variation of specific words and phrases that contribute to meaning										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Analyze the extent to which the text fulfills the reading purpose										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
2.A.3.d	Use organizational structure to locate specific information										
2.A.4	**Analyze important ideas and messages in informational text**										
2.A.4.a	Analyze the author's/text's purpose and intended audience										
2.A.4.b	Analyze the author's argument, viewpoint, or perspective										
2.A.4.c	State and support main ideas and messages										
2.A.4.d	Summarize the text or a portion of text										
2.A.4.e	Analyze information or ideas peripheral to the main idea or message										
2.A.4.f	Analyze relationships between and among ideas										
2.A.4.g	Synthesize ideas from text to form new understanding										
2.A.4.h	Explain the implications of the text or now someone might use the text										
2.A.4.i	Connect the text to prior knowledge or experience										
2.A.5	**Analyze purposeful use of language**										
2.A.5.a	Analyze specific word choice that contributes to meaning and/or creates style										
2.A.5.b	Analyze specific language choices to determine tone										
2.A.5.c	Analyze the appropriateness of tone										
2.A.5.d	Analyze repetition and variation of specific words and phrases that contribute to meaning										
2.A.6	**Read critically to evaluate informational text**										
2.A.6.a	Analyze the extent to which the text fulfills the reading purpose										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.6.b	Analyze the extent to which the structure and features of the text clarify the purpose and the information										
2.A.6.c	Analyze the text and its information for reliability										
2.A.6.d	Analyze the author's argument or position for clarity and/or bias										
2.A.6.e	Analyze additional information that would clarify or strengthen the author's argument or viewpoint										
2.A.6.f	Analyze the effectiveness of persuasive techniques to sway the reader to a particular point of view										
2.A.6.g	Analyze the effect of elements of style on meaning										
3	**Comprehension of Literary Text**	***8*** **(3)**	***2***	***8*** **(7)**	***2*** **(3)**	***8*** **(3)**	***2***	***8*** **(7)**	***2*** **(3)**	***8*** **(3)**	***2***
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Analyze and evaluate text features to facilitate and extend understanding of literary texts**										
3.A.2.a	Analyze text features that contribute to meaning										
3.A.3	**Analyze elements of narrative texts to facilitate understanding and interpretation**										
3.A.3.a	Use structural features to distinguish among types of narrative text										
3.A.3.b	Analyze the conflict and its role in advancing the plot										
3.A.3.c	Analyze details that provide information about the setting, the mood created by the setting, and the role the setting plays in the text										
3.A.3.d	Analyze the characterization										
3.A.3.e	Analyze relationships between and among characters and events										

Note. Number in parentheses indicates the total number of field test items.

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Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
2.A.6.b	Analyze the extent to which the structure and features of the text clarify the purpose and the information										
2.A.6.c	Analyze the text and its information for reliability										
2.A.6.d	Analyze the author's argument or position for clarity and/or bias										
2.A.6.e	Analyze additional information that would clarify or strengthen the author's argument or viewpoint										
2.A.6.f	Analyze the effectiveness of persuasive techniques to sway the reader to a particular point of view										
2.A.6.g	Analyze the effect of elements of style on meaning										
3	**Comprehension of Literary Text**	**8** (7)	**2** (3)	**8** (3)	**2**	**8** (7)	**2** (3)	**8**	**2**	**8** (7)	**2** (3)
3.A.	**Comprehension of Literary Text: Students will read, comprehend, interpret, analyze, and evaluate literary texts**										
3.A.2	**Analyze and evaluate text features to facilitate and extend understanding of literary texts**										
3.A.2.a	Analyze text features that contribute to meaning										
3.A.3	**Analyze elements of narrative texts to facilitate understanding and interpretation**										
3.A.3.a	Use structural features to distinguish among types of narrative text										
3.A.3.b	Analyze the conflict and its role in advancing the plot										
3.A.3.c	Analyze details that provide information about the setting, the mood created by the setting, and the role the setting plays in the text										
3.A.3.d	Analyze the characterization										
3.A.3.e	Analyze relationships between and among characters and events										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.3.f	Analyze the actions of characters that serve to advance the plot										
3.A.3.g	Analyze conflicts that motivate characters and those that advance the plot										
3.A.3.h	Analyze the author's approach to issues of time in a narrative										
3.A.3.i	Analyze the point of view and its effect on meaning										
3.A.3.j	Analyze the interactions among narrative elements and their contribution to meaning										
3.A.4	**Analyze and evaluate elements of poetry to facilitate understanding and interpretation**										
3.A.4.a	Use structural features to distinguish among types of poems										
3.A.4.b	Analyze language and structural features to determine meaning										
3.A.4.c	Analyze sound elements of poetry that contribute to meaning										
3.A.4.d	Analyze other poetic elements, such as, setting, mood, tone, etc. that contribute to meaning										
3.A.5	**Analyze and evaluate elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to distinguish among types of dramas										
3.A.5.b	Analyze structural features of drama that contribute to meaning										
3.A.5.c	Analyze how dialogue and stage directions work together to create characters and plot										
3.A.6	**Analyze important ideas and messages in literary texts**										
3.A.6.a	Analyze main ideas and universal themes										
3.A.6.b	Analyze similar themes across multiple texts										
3.A.6.c	Summarize or paraphrase the text										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.3.f	Analyze the actions of characters that serve to advance the plot										
3.A.3.g	Analyze conflicts that motivate characters and those that advance the plot										
3.A.3.h	Analyze the author's approach to issues of time in a narrative										
3.A.3.i	Analyze the point of view and its effect on meaning										
3.A.3.j	Analyze the interactions among narrative elements and their contribution to meaning										
3.A.4	**Analyze and evaluate elements of poetry to facilitate understanding and interpretation**										
3.A.4.a	Use structural features to distinguish among types of poems										
3.A.4.b	Analyze language and structural features to determine meaning										
3.A.4.c	Analyze sound elements of poetry that contribute to meaning										
3.A.4.d	Analyze other poetic elements, such as, setting, mood, tone, etc. that contribute to meaning										
3.A.5	**Analyze and evaluate elements of drama to facilitate understanding**										
3.A.5.a	Use structural features to distinguish among types of dramas										
3.A.5.b	Analyze structural features of drama that contribute to meaning										
3.A.5.c	Analyze how dialogue and stage directions work together to create characters and plot										
3.A.6	**Analyze important ideas and messages in literary texts**										
3.A.6.a	Analyze main ideas and universal themes										
3.A.6.b	Analyze similar themes across multiple texts										
3.A.6.c	Summarize or paraphrase the text										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 1)		No. of Augmented Items (Form 2)		No. of Augmented Items (Form 3)		No. of Augmented Items (Form 4)		No. of Augmented Items (Form 5)	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
3.A.6.d	Reflect on and explain personal connections to the text										
3.A.6.e	Explain the implications for the reader and/or society										
3.A.7	**Analyze and evaluate the author's purposeful use of language**										
3.A.7.a	Analyze and evaluate how specific language choices contribute to meaning and create style										
3.A.7.b	Analyze and evaluate language choices that create tone										
3.A.7.c	Analyze the appropriateness of a particular tone										
3.A.7.d	Analyze and evaluate figurative language that contributes to meaning and/or creates style										
3.A.7.e	Analyze imagery that contributes to meaning and/or creates style										
3.A.7.f	Analyze elements of style and their contribution to meaning										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Analyze and evaluate the plausibility of the plot and the credibility of the characters										
3.A.8.b	Analyze and evaluate the extent to which the text contains ambiguities, subtleties, or contradictions										
3.A.8.c	Analyze and evaluate the relationship between a literary text and its historical, social, and political contexts										
3.A.8.d	Analyze the relationship between the structure and the purpose of the text										

Note. Number in parentheses indicates the total number of field test items.

Code	Standard / Objective Statement	No. of Augmented Items (Form 6)		No. of Augmented Items (Form 7)		No. of Augmented Items (Form 8)		No. of Augmented Items (Form 9)		No. of Augmented Items (Form 10)	
		SR	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*	*SR*	*BCR*
3.A.6.d	Reflect on and explain personal connections to the text										
3.A.6.e	Explain the implications for the reader and/or society										
3.A.7	**Analyze and evaluate the author's purposeful use of language**										
3.A.7.a	Analyze and evaluate how specific language choices contribute to meaning and create style										
3.A.7.b	Analyze and evaluate language choices that create tone										
3.A.7.c	Analyze the appropriateness of a particular tone										
3.A.7.d	Analyze and evaluate figurative language that contributes to meaning and/or creates style										
3.A.7.e	Analyze imagery that contributes to meaning and/or creates style										
3.A.7.f	Analyze elements of style and their contribution to meaning										
3.A.8	**Read critically to evaluate literary texts**										
3.A.8.a	Analyze and evaluate the plausibility of the plot and the credibility of the characters										
3.A.8.b	Analyze and evaluate the extent to which the text contains ambiguities, subtleties, or contradictions										
3.A.8.c	Analyze and evaluate the relationship between a literary text and its historical, social, and political contexts										
3.A.8.d	Analyze the relationship between the structure and the purpose of the text										

Note. Number in parentheses indicates the total number of field test items.