

# 2007 CSAPA

## Operational Technical Report

Submitted

October 15, 2007



CTB/McGraw-Hill  
Monterey, California 93940

---

## Copyright

---

Developed and published under contract with State of Colorado Department of Education by CTB/McGraw-Hill LLC, a subsidiary of The McGraw-Hill Companies, Inc., 20 Ryan Ranch Road, Monterey, California 93940-5703. Copyright © 2007 by State of Colorado Department of Education. All rights reserved. Based on a template copyright © 1996 by CTB/McGraw-Hill LLC. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of State of Colorado Department of Education and the publisher.

---

## Acknowledgments

---

Karen Barton  
Research Scientist Manager/Project Monitor

Lara Osleson  
Senior Research Associate

Ping Wan  
Statistical Analyst

---

# Revision History

---

## Table of Contents

Copyright.....	i
Acknowledgments.....	ii
Revision History.....	iii
Table of Contents.....	iv
List of Tables.....	v
List of Figures.....	viii
Acronyms and Abbreviations.....	ix
Overview.....	1
Part 1: Standards.....	1
Part 2: Test Development.....	2
Part 3: Description of the Population.....	3
Part 4: Test Administration.....	4
Part 5: Scoring.....	5
Part 6: Analyses and Results.....	6
Part 7: Summary of Results – Reliability and Validity.....	10
Part 8. Special Studies.....	15
References.....	17
Tables 1 – 46.....	18
Figures 1-19.....	192
Appendix A.....	212
CSAPA Assessment Frameworks.....	212
Appendix B.....	260
Item Presentation Protocol – MA (3 – 10) and SC (10).....	260
Appendix C.....	263
CSAPA Level of Independence Rubric – RD and WR (3 – 10) and SC (5 & 8).....	263

## List of Tables

<b>Table 1 Reading Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible</b> .....	<b>19</b>
<b>Table 2 Writing Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible</b> .....	<b>21</b>
<b>Table 3 Mathematics Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible</b> .....	<b>23</b>
<b>Table 4 Science Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible</b> .....	<b>25</b>
<b>Table 5 Test Design: Number of Items by Maximum Item Score</b> .....	<b>26</b>
<b>Table 6 Descriptive Statistics for Reading by Gender and Ethnicity</b> .....	<b>27</b>
<b>Table 7 Descriptive Statistics for Writing by Gender and Ethnicity</b> .....	<b>30</b>
<b>Table 8 Descriptive Statistics for Mathematics by Gender and Ethnicity</b> .....	<b>33</b>
<b>Table 9 Descriptive Statistics for Science by Gender and Ethnicity</b> .....	<b>36</b>
<b>Table 10 Descriptive Statistics for Reading by Disability</b> .....	<b>37</b>
<b>Table 11 Descriptive Statistics for Writing by Disability</b> .....	<b>41</b>
<b>Table 12 Descriptive Statistics for Mathematics by Disability</b> .....	<b>45</b>
<b>Table 13 Descriptive Statistics for Science by Disability</b> .....	<b>49</b>
<b>Table 14 Descriptive Statistics for Reading by Adaptation</b> .....	<b>51</b>
<b>Table 15 Descriptive Statistics for Writing by Adaptation</b> .....	<b>55</b>
<b>Table 16 Descriptive Statistics for Mathematics by Adaptation</b> .....	<b>59</b>
<b>Table 17 Descriptive Statistics for Science by Adaptation</b> .....	<b>63</b>
<b>Table 18 Descriptive Statistics for Reading by Approximate Administration Time Required</b> .....	<b>65</b>
<b>Table 19 Descriptive Statistics for Writing by Approximate Administration Time Required</b> .....	<b>67</b>
<b>Table 20 Descriptive Statistics for Mathematics by Approximate Administration Time Required</b> .....	<b>69</b>
<b>Table 21 Descriptive Statistics for Science by Approximate Administration Time Required</b> .....	<b>71</b>

<b>Table 22 Scoring Rubric for Multiple Choice Item Types .....</b>	<b>72</b>
<b>Table 23 Scoring Rubric for Constructed Response Item Types.....</b>	<b>73</b>
<b>Table 24 Summary of Invalids.....</b>	<b>74</b>
<b>Table 25 Breakdown of Invalids Due to Teachers Marking Bubbles on Answer Document.....</b>	<b>75</b>
<b>Table 26 Frequency Distributions of CR (6 Point) Items – Mathematics and Science.....</b>	<b>76</b>
<b>Table 27 Item Level Statistics With Level of Independence-Reading .....</b>	<b>79</b>
<b>Table 28 Item Level Statistics With and Without Level of Independence-Writing .</b>	<b>87</b>
<b>Table 29 Item Level Statistics With and Without Level of Independence-Mathematics .....</b>	<b>91</b>
<b>Table 30 Item Level Statistics With and Without Level of Independence-Science</b>	<b>99</b>
<b>Table 31 Summary of P-values and Point Biserial by Grade and Content .....</b>	<b>102</b>
<b>Table 32 Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Reading .....</b>	<b>103</b>
<b>Table 33 Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Writing .....</b>	<b>105</b>
<b>Table 34 Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Mathematics .....</b>	<b>107</b>
<b>Table 35 Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Science.....</b>	<b>109</b>
<b>Table 36 Raw Score Frequency Distributions-Reading .....</b>	<b>110</b>
<b>Table 37 Raw Score Frequency Distributions-Writing.....</b>	<b>135</b>
<b>Table 38 Raw Score Frequency Distributions-Mathematics.....</b>	<b>151</b>
<b>Table 39 Raw Score Frequency Distributions-Science.....</b>	<b>176</b>
<b>Table 40 Cut Scores and Percent of Students in Each Proficiency Level.....</b>	<b>185</b>
<b>Table 41 Total Group Statistics, Including Reliability .....</b>	<b>186</b>
<b>Table 42 Classification Consistency and Accuracy .....</b>	<b>187</b>
<b>Table 43 Level of Independence – Total Percentage by Level Across All Items .</b>	<b>188</b>
<b>Table 44 Reliability of Levels of Independence .....</b>	<b>189</b>

**Table 45 Percentages of Test Administrator Coding Errors ..... 190**  
**Table 46 Reliability of Teacher Rated Performance Level (via Contrasting Groups Surveys) versus Earned Performance Level..... 191**



**List of Figures**

<b>Figure 1. Total Number of Participating Students Participating in CSAPA 2007 by Grade and Content.....</b>	<b>193</b>
<b>Figure 2. Percent of Participating Students by Coded Disability.....</b>	<b>194</b>
<b>Figure 3. Percent of Adaptations Utilized- Reading.....</b>	<b>195</b>
<b>Figure 4. Percent of Adaptations Utilized- Writing.....</b>	<b>196</b>
<b>Figure 5. Percent of Adaptations Utilized- Mathematics.....</b>	<b>197</b>
<b>Figure 6. Percent of Adaptations Utilized- Science.....</b>	<b>198</b>
<b>Figure 7. Mean Raw Score by Gender- Reading.....</b>	<b>199</b>
<b>Figure 8. Mean Raw Score by Gender- Writing.....</b>	<b>200</b>
<b>Figure 9. Mean Raw Score by Gender- Mathematics.....</b>	<b>201</b>
<b>Figure 10. Mean Raw Score by Gender- Science.....</b>	<b>202</b>
<b>Figure 11. Mean Raw Score by Ethnicity- Reading.....</b>	<b>203</b>
<b>Figure 12. Mean Raw Score by Ethnicity- Writing.....</b>	<b>204</b>
<b>Figure 13. Mean Raw Score by Ethnicity- Mathematics.....</b>	<b>205</b>
<b>Figure 14. Mean Raw Score by Ethnicity- Science.....</b>	<b>206</b>
<b>Figure 15. Impact Data- Reading.....</b>	<b>207</b>
<b>Figure 16. Impact Data- Writing.....</b>	<b>208</b>
<b>Figure 17. Impact Data- Mathematics.....</b>	<b>209</b>
<b>Figure 18. Impact Data- Science.....</b>	<b>210</b>
<b>Figure 19. Impact Data- Developing and Novice Combined.....</b>	<b>211</b>

## **Acronyms and Abbreviations**

APA American Psychological Association

CDE Colorado Department of Education

CR Constructed Response

CSAPA Colorado Student Assessment Program Alternate

MA Mathematics

MC Multiple Choice

RD Reading

SC Science

SE Standard Error

SEM Standard Error of Measurement

WR Writing

## **Overview**

This working document describes the Operational Colorado Student Assessment Program Alternate (CSAPA). The CSAPA is an alternate assessment for students with a disability that represents a severe cognitive challenge and who are unable to participate in the general, on-grade Colorado assessment (Colorado Student Assessment Program, CSAP), even with accommodations.

The operational CSAPA was administered to students in grades 3 –10 Reading (RD), Writing (WR), Mathematics (MA), and grades 5, 8, and 10 Science (SC). The MA (grades 3 – 10) and the SC (grade 10, only) CSAPA test forms and administration guidelines were new for the 2007 administration. The RD, WR, and SC (grades 5, 8) test forms and administration guidelines are consistent with the 2006 and prior CSAPA (to be revised and consistent with MA and SC (10) in the 2008 administration). The testing window opened February 7, 2007 and closed March 9, 2007 for grade 3 and March 30, 2007 for grades 4 – 10.

The work involved in the development of the curriculum standards, the test forms, administration, scoring, standard setting, and analyses are all important steps in the process of developing a valid assessment system, regardless of the format of the assessment. This document serves to capture a small portion of the enormous amount of time and effort devoted to the CSAPA in relation to the importance, reliability, and validity of the assessment as part of the CO assessment system. From the *Standards for Educational and Psychological Testing* (1999), guidance is given in Standard 3.6 that is of particular relevance to alternate assessments and the uniqueness of the “intended test takers.” It reads:

The type of items, the response formats, scoring procedures, and test administration procedures should be selected based on the purposes of the test, the domain to be measured, and the intended test takers. To the extent possible, test content should be chosen to ensure that intended inferences from test scores are equally valid for members of different groups of test takers. The test review process should include empirical analyses and, when appropriate, the use of expert judges to review items and response formats. The qualifications, relevant experiences, and demographic characteristics of expert judges should also be documented. (p. 44)

The CSAPA process has paid close attention to each of these directions.

In addition to being guided by the *Standards* (1999), guidance from the *Standards and Assessments Peer Review Guidance* (2004) is beneficial. This technical report provides evidence towards a variety of Critical Elements (CE) as part of the guidance for Peer Review. The bulk of this document covers evidence in Section 4 – Technical Quality, CEs 4.1 (validity), 4.2 (reliability), and 4.5 (administration, scoring, analysis, and reporting). For other CEs, text boxes are used to highlight areas for general reference, where complete review of text reveals additional links to CEs.

### **Part 1: Standards**

CE 1.1. 1.3
-------------

The Operational 2007 CSAPA forms consisted of custom multiple choice (MC) and constructed-response (CR) performance task items that measure skills associated with the Colorado Model Content Standards and associated assessment frameworks for RD, WR, MA, and SC. The Colorado Model Content Standards consist of a set of standards that are found across grades within a given content area. For each standard, the knowledge and skills students are expected

to acquire at a given grade level are described by Benchmarks that vary across grade spans: K – 4, 5 – 8, and 9 – 12. The Assessment Frameworks further describe the Assessment Objectives within each benchmark by grade that is assessed. The Colorado Model Content Standards and *Expanded* Benchmarks were developed for the CSAPA. These were the basis for the CSAPA Assessment Frameworks, which describe Critical Concepts (like the Benchmarks) and Assessment Objectives. A copy of the CSAPA Assessment Frameworks for each content area is found in Appendix A.

The standards for MA and SC 10 were reviewed in light of rigor and cross-grade articulation. Some refinements were made as a result, improving both rigor and articulation.

## **Part 2: Test Development**

CE 3.6. 5.4
-------------

The items for Mathematics (MA) grades 3 – 10 and Science (SC) grade 10 were written by Development staff from CTB with guidance and input from the Colorado Department of Education. The tests consist of custom selected response (SR) and constructed-response (CR) items that measure skills associated with CSAPA Assessment Frameworks in Mathematics and Science. Information about the level of student independence for each item was also gathered during administration. The test forms included some item overages by standard as the new forms administration is akin to an embedded field test or combined operational/field test design, similar to the current CSAP approach. The purpose was to provide ample alignment even if some items did not perform to expectation and required suppression. (In the end, only 2 items across all new forms were suppressed.)

The test forms for RD and WR (grades 3 – 10), built as a single RD/WR test for each grade, and SC grades 5 and 8 were developed by a previous vendor. These test forms follow a different layout and administration technique than the newly developed MA and SC (grade 10).

### **Test Design**

The test items appear in one consumable book for each grade for MA and for SC. RD and WR, appear in the same book, one for each grade. Tables 1 - 4 show the test design (blueprints), where the total number of items and maximum points per content, grade, and standard are provided. Further illustration of the breakdown of the number of CR items and the maximum number of score points possible on those items appears in Table 5.

### **Item Review and Test Fairness**

All items are expected to be fair for all examinees. Various procedures are employed to review item fairness, also referred to as bias. Once the items are developed, they must go through a series of reviews and analyses prior to being selected as part of the item pool. A content and bias review has two purposes: to ensure that the items are grade level appropriate and to ensure that any sensitivity issues are identified and addressed. Grade level appropriateness is evaluated by grade level experts who possess the on-the-ground knowledge of how content is taught in the classroom. Sensitivity reviews ensure that items are free of offensive, disturbing, or inappropriate language or content.

Content reviews and sensitivity and bias reviews were conducted on all operational items by internal and external experts. The CSAPA Steering Committee reviewed all operational items before the operational test administration. The review was lead by CDE. CTB/McGraw-Hill participated in the review process, under the direction of CDE, by providing papers for the event and staff from the Project Development Team for instruction and interpretation.

Due to the extremely small sample sizes, statistical bias analyses were not performed as part of the development, review, and fairness efforts. However, descriptions about the test level performances of various subgroups are described in greater detail below.

### **Item Selection**

After the item writing workshops were completed, Items were then selected to fulfill the test blueprint. Item selection for CSAPA was completed by content editors in CTB Development, and reviewed and approved by CDE. The primary criterion for the selection of items was to meet the content specifications represented by test blueprints. Future operational test item selections will also incorporate the statistical research guidelines and operational analyses results such that selected items will reflect the best content relevant and statistical characteristics. Such characteristics are described in the section on analyses and results.

### **Alignment Studies**

On October 16 – 17, 2006 in Denver, Colorado, an alignment study was conducted to evaluate the degree of alignment of the CSAPA Science grade 10 to the Colorado Expanded Benchmarks for Science and CSAPA Mathematics to the CSAPA Mathematics Assessment Frameworks. The study was completed by Dr. Gerald Tindal (University of Oregon) and Dr. Lindy Crawford (University of Colorado). Eighteen teachers of special education and general education across grade spans participated: 4 elementary school teachers (special education), 5 middle school teachers (1 math, 4 special education), 9 secondary level (2 math, 7 special education).

A complete description of the study can be found in the final report, *The results of the study, "Alignment: Science Alternate Assessment in Grade 10 to Science Content Standards; Mathematics Alternate Assessment in Grades 3-10 to Mathematics Assessment Frameworks Indicators; Mathematics Assessment Frameworks Indicators to Mathematics Content Standards. Final Report."* (November 16, 2006). In summary, the results of the study indicate the link between standards or benchmarks to the assessment was present and it is believed that the improvements to the existing frameworks (a previously identified need) will only strengthen that link. The report also described the items at higher depths of knowledge and levels of complexity of skills required by items.

### **Part 3: Description of the Population**

CE 3.7, 6.1
-------------

It is important to understand the types of students that participated in the CSAPA, particularly given the eligibility criteria are currently in draft form. It is anticipated that the characteristics of and resulting performance of students who participated will provide clarity about which students benefit the most from the CSAPA.

Demographic data were collected and are reported in Tables 6 – 9. Across grades and content areas, there were as few as 447 (Grade 10 MA) and as many as 626 (Grade 3 RLA) students who participated. Note: Due to late data arrival from a single district, 26 grade 3 students in RD, WR, and MA were not included in any of the analyses reported herein. As can be seen in Figure 1, the total number of students participating in MA is lower than in RD and WR, respectively. Additional insight into eligibility decisions may shed light on the variations across subject areas. In all grades, there were as much as twice as many boys than girls, typically, and the majority of students were of white ethnicity.

Teachers were asked to code their students' primary disabilities. The data collected by disability can be found in Tables 10 –13. Figure 2 also captures the data to more easily illustrate the predominant disabilities reported. Most of the students fall into the Limited Intellectual Capacity and Multiple Disabilities categories, followed by Autism, Physical Disabilities, and Specific Learning Disabilities.

Data were also collected on the types of accommodations provided students during the CSAPA testing. While the test is a one on one administration, there were a variety of additional accommodations teachers utilized to assure accessibility by students of the test items. These are listed in Tables 14 – 17. As Figures 3 – 6 display, the majority of students used “objects” and “picture symbols” across grades and content areas. For MA, logically, a greater percentage of students also used “math manipulatives.”

#### **Part 4: Test Administration**

For MA and SC 10, each test was administered on an individual student basis where teachers/test administrators mark each student's response and the level of independence at which the student performed. Teachers marked two bubbles per item: actual student raw responses in addition to marking the response and level of independence in the actual test booklet. The administration was guided by the Item Presentation Protocol, found in Appendix B.

For WR, RD, and SC 5 and 8, teachers marked only one bubble per item to reflect both the amount of scaffolding (assistance provided by the teachers) and student response. Students and teachers were permitted to administer the test over multiple days to accommodate the students and minimize fatigue. The administration was guided by the scaffolded “rubric” presented in Appendix C.

Collecting the information about a student's level of independence (or engagement) and the amount of assistance provided by teachers, even if not utilized in scores, provides specific data on how standardized were the administrations of the assessment, the level at which students were able to respond independently, and to provide specific data to help train teachers to administer the assessment in a supportive and still valid environment.

It was expected that all students be presented and attempt all items of each test. While this is an untimed testing situation, data were collected about the amount of time required to complete test administration. Most teachers reported that administration time required per student was 1 hour. Average percentages of tests, across grades, given within one hour were 45% (RD), 45% (WR), 69% (MA), and 63% (SC); given within two hours were 38% (RD), 38% (WR), 19% (MA), and 23% (SC); given within three hours were 7% (RD), 7% (WR), 3% (MA), and 4% (SC); given for four hours or more were 3% (RD), 3% (WR), 1% (MA), and 2% (SC). From these data, it appears the RD and WR tests take more time to administer than do the MA and SC. Given the differences in administration procedures between RD/WR (scaffolded approach) and MA/SC (standardized items with adaptations), these data are not surprising. In addition, by a review of the mean raw scores across grades (presented by content area in Tables 18 – 21) it appears, as would be expected, that students who needed less administration time tend to earn higher scores.

#### **Teacher Training**

District and School Assessment Coordinators and Special Education teachers were convened in various locations around the state for a train-the-trainer model of training on the administration of CSAPA which was provided by the Unit of Student Assessment Services with

the support of CTB. The participants were given sample items, the item presentation protocol, and were allowed to look over live test booklets. (All participants signed security agreements prior to participation.) The training format included a power point presentation (found at [http://www.cde.state.co.us/cdeassess/documents/csapa/CSAPA\\_2007jan\\_11new.ppt](http://www.cde.state.co.us/cdeassess/documents/csapa/CSAPA_2007jan_11new.ppt)) video training clips of teachers administering sample items to students, small and large group discussions, and question/answer sessions. The participants were responsible for the training of the CSAPA test examiners within their districts and schools.

### **Additional Training**

As the results of the operational administrations are evaluated, continuous improvements in administration training will be ongoing. The Unit of Student Assessment is already preparing for and will continue to provide staff development and training on the operational administration and scoring of CSAPA each year.

## **Part 5: Scoring**

### **Scoring Rubrics**

Three different types of scoring rubrics were used to collect student responses and provide item by item scores. One rubric is the original scoring rubric used for all RD, WR, and SC grades 5 and 8 items. A copy of the rubric is found in Appendix C. The remaining two are found in Tables 22 and 23 and were used for MC and CR items, respectively across all MA and SC grade 10 items.

The scoring rubrics for MA and SC 10, incorporating the level of student independence or assistance received accompanied each item and each score level therein. This type score was developed in an effort to both recognize and capture how students taking the CSAPA actually respond, their level of content knowledge, and the amount of support they need during the test administration – apart from typical accommodations and adaptations. This type of scaffolded scoring rubric is often used in alternate assessments. According to Thompson, et al. (2005), 25 states use a scoring rubric that incorporates level of assistance. In addition, Almond and Case (2004) note that such a scoring approach, where level of assistance (independence) is captured extends beyond scoring accuracy to provide additional and appropriate data for students with significant cognitive disabilities administered performance type assessments.

Table 22 describes the scoring rubric for all MC item types. These are items where students select their answer among options, similar to traditional MC items, such that the student response is evaluated as correct or incorrect (dichotomous) and then, depending upon the level of independence a final score is provided. For example, the teacher or student marks the response option chosen/demonstrated by the student and if the student received no help (level of independence is “independent”) the teacher would mark Level 4. If the response option is correct, the student would receive a score of “3” on that item. If the option is incorrect, the student would receive a score of “0.” However, the information about level of independence is still collected to provide item and test level data on the amount of assistance students receive or do not receive when their level of content knowledge is incorrect. This is important information for policy development to assure teachers are trained and able to assist students accurately, without over assisting, to provide adequate support to students while allowing the opportunities to grow independently, as well as provide a clearer evaluation of what students really know and can do academically.

Similarly, CR type items where student responses reflect multiple steps or where students provide multiple responses. The rubric for CR item types is found in Table 23. For multiple

responses the student received up to two points for each correct response. This is akin to a 0 – 2 rubric. For example, an item might require the student to correctly group positive and negative numbers. The teacher marks the frequency of numbers correctly identified (i.e. 5 out of 5, 3 or 4 out of 5, 2 or less out of 5; note: this is only an example and not an actual item description). If the student grouped all numbers correctly (say, 5 out of 5) and did so independently, a score of “6” is awarded. If the student grouped only some of the numbers correctly (say 3 out of 5) and did so with some help (Level 3: Partial), then that student would receive a score of “3,” partially correct/some error. Note that the scoring is completed automatically based upon the teacher coded responses; meaning, all items are designed such that the teacher can bubble on a scannable answer sheet the level of student response as well as the level of independence, from which scoring programs assign item by item scores.

### **Score Validation**

All students who participated in the operational administration were scored. However, specific validation and logic rules were applied to the data to assure each student’s score is based on a valid set of items scored. It is critical that the information reported is trustworthy. Without valid and therefore trustworthy data, there are safeguards in place to assure those data are not reported and inappropriate decisions made thereupon. For example, when a student’s test was indicated as “invalid” (by the teacher via a specific bubble on the answer document or rating form) or if a student’s response array included 15% or more items that were flagged, the student did not receive a score. Student items were flagged if item scores were out of range (beyond the max value), invalid or illogical (such as a level of independence 1 (no response) and a correct answer marked), items with multiple marks (i.e. more than one response option or level of independence bubbled), items with an incomplete response where either the response option OR level of independence were not marked, or when both the response option and level of independence were omitted (recall all items must be attempted and documented).

A summary of the percentages of invalid test scores due to the rule or 15% and due to teacher bubbling of the “invalid” bubble on a student’s answer document is located in Table 24. Table 25 provides further details about the types of bubbles available to teachers for test score invalidation and the frequency with which they were used on CSAPA. In grades 3 – 8 the typical reason for test invalidation is that students were “taking the CSAP assessment.” In grades 9 and 10, there were also a higher number of students for whom parents refused testing (“parent refusal”). Less than 1% of students had invalidations across multiple content areas.

## **Part 6: Analyses and Results**

CE 1.3, 4.1, 4.2
------------------

This section describes the item and total test level statistics calculated and analyzed along with the results thereof. Due to the small sample sizes at each grade, only raw score statistics were calculated. These include raw scores at the total test level and at each Standard. No scaling of scores was conducted. Furthermore and because the same test form will be used each year, no equating was or will be conducted on these or future operational CSAPA items. This requires heavy reliance on raw score and classical test statistics. Note: caution should be used in any interpretations of the statistics associated with the Reading, Writing, or Science (grades 5 and 8) given these test items are highly complex and often include multiple test items within a given item identification (i.e., item 1 might include more than one item for which the student responds).

### **Item Level Statistics**

Each test was first reviewed in terms of classical raw score statistics. Each item’s frequency distribution (number of students at each score level), as well as each item’s overall p-value



(proportion of students choosing the correct answer) and point biserial item-test correlation (how correlated each individual item is with the test as a whole) was reviewed.

The frequency distribution for each CR item in MA and SC (only), where the number of students scored in each score level for all items with 6-point scoring rubrics is found in Table 26. Interestingly, many CR items show a distribution that is quite dichotomous, where the majority of students either received 0 score points or the max (6) score points. This could very well be reflective of the diversity of students within this population. Teachers in other states mentioned their students, eligible for alternate assessments, can be distinguished into two groups by the severity and/or nature of their disabilities: those who are generally non-responsive or are pre-symbolic and those who are responsive or are considered symbolic.

Due to the nature of the rubrics, where level of independence weights each students' score, data analyses were conducted in two working sets: 1 – the weighted set (“with level of independence”) based on both student response and level of independence (data as received); and 2 – non-weighted set (“without level of independence”) based on the transformation of all MC item scores of 0 – 2 as “0” and all 3’s as “1” in all MC items such that only fully independent student scores are counted correct and all scores of 0, 1, 3, and 5 as “0” and 2, 4, and 6 as “1” for all CR items scored on the 6-point rubric. The purpose for removing the level of independence information from the data was to provide information about content only performance apart from prompting or teacher provided assistance.

Typically in traditional assessments, and as seen in similar alternate assessments, p-values range between 0.30 and 0.90. Items less than 0.30 are considered more difficult, as less than 30% of the students are getting the correct answer, while greater than 0.90 indicates a fairly easy item. Sometimes with a new assessment on new content standards, the lower bound of p-values can drop below 0.30. Those items must be reviewed in light of content to ensure the difficulty is due only to the newness of content and skill assessed and not due to some illogic within the item. Items that are unduly easy or above 0.90 should be reviewed in light of content as well and whether or not the item is providing additive information about students' skills. If the items are too easy, they are typically replaced by items that better discriminate between students who do or do not know certain skills. These approaches make for efficient use of test length and administration time.

For this very new alternate assessment, where students are being assessed for the very first time in this manner, the p-values are remarkably stable across grades and contents for the group as a whole. (Data weighted by level of independence are reported first with unweighted data (without level of independence included) in parentheses in this text.) The p-values of MA items range from 0.08 to 0.90 (0.06 to 0.88). The one item at 0.08 (0.06) p-value is in Grade 10 and is an item that measures students' ability to calculate the perimeter of a shape. Without that item the minimum p-value for all grades is 0.15 (0.11). The mean p-value across all MA items (including the 0.08 (0.06) was 0.55 (0.42) which is a nice middle range average. SC items' p-values range 0.25 to 0.93 (0.21 to 0.86) with a mean p-value across all items of 0.71 (0.55). This indicates the MA and SC items, in general are not too easy or too difficult for the tested population as a whole. The items with very low p-values in both MA (in particular) and SC were reviewed in light of content and complexity. For both RD and WR, p-values are reported, akin to traditional CR item p-values; however, these should be reviewed with caution and in light of the scaffolded rubric. In RD, the range of p-values was from 0.59 to 0.96 (0.21 to 0.91), with a mean p-value across all items of 0.82 (0.65). WR, the range of p-values was 0.49-.92 (0.12 to 0.86) with a mean p-value across all items of 0.73 (0.50).

Acceptable point biserial item-test correlations are usually in the range of 0.30 and above. The range and mean of the MA, RD, WR and SC point biserials both with and without level of independence are, respectively, as follows: MA 0.12 to 0.81 (0.06 to 0.88) with a mean of 0.58 (0.42); RD 0.54 to 0.88 (0.28 to 0.79) with a mean of 0.77 (0.65); WR 0.56 to 0.88 (0.34 to 0.81) with a mean of 0.79 (0.64); SC 0.27 to 0.85 (0.24 to 0.76) with a mean of 0.72 (0.61) These are also within acceptable ranges of correlations. The item with the lowest point biserial and below the critical cut-off of 0.15 is in Math grade 10 with a point biserial of 0.12 (0.14). This item measures students' ability to extend a growing numeric pattern by supplying the next element. The p-value for this item was 0.17 (0.13). What that means is this item has low discriminating power, such that students with high and low ability may have a similar probability of incorrectly responding to this item (since the p-value is also low).

Detailed lists of p-values and item-test correlations are provided in Tables 27 – 30. A summary of the range of p-values and point biserial item-test correlations by grade and content are found in Table 31.

### Content Standards Level Statistics

CE 1.3, 5.2
-------------

Student performance on individual content standards (“critical concepts”) is reported in terms of the percentage of items within each standard students answered correctly. This proportion can be considered an average p-value across items within a specific standard. The standards' p-values can also be evaluated from the standpoint of balanced difficulty across the standards. To illustrate the level of difficulty by standard, standards at each grade are ranked according to proportion of students responding correctly to items within each standard. This type of analysis is also meant to show the most difficult standards for the tested population. The results of the rankings are found in Table 32 – 35. As the table indicates, the areas that are difficult for RD, WR, MA, and SC vary by grade.

In RD, “understanding of symbolic representation” is the least difficult (by mean p-value) for all grades. The most difficulty standards tend to be “make connections to reading passages” or “demonstrate knowledge that various texts have different purposes” followed by the less difficult “identify elements of literature (character, plot, setting).” For WR, the least difficult standard is “uses systematic conventions to make written product understandable by others,” where the standard “apply elements of writing through appropriate word usage” is the most difficult.

Mean p-values in MA grades 3, 5, and 8 are highest for “identifies, sorts, and matches geometric shapes.” Grades 4, 6, 7, 9, and 10 standard that is the least difficult, on average, is “counts, represents quantities, reads and writes numbers” standards which measure recognition of length, weight, and temperature (grade 4), perimeter (grade 6), and time (grade 7). The most difficult MA standards involved patterns and calculations, across grades. For SC grade 5, the least difficult standard is “makes observations, collects and organizes data” while “interacts with living things” is the most difficult. For SC grades 8, and 10, “interacts with the weather and earth systems” is the least difficult. The most difficult for grade 8 is “analyzes data and communicates results of scientific investigations,” which is not nearly as difficult for tenth graders. In grade 10, the most difficult is “demonstrates an understanding of the fundamental properties of matter and energy.” Note that the grade 5 and 8 SC tests are administered with the scaffolded administration approach, where grade 10 SC is new this year and is administered with the level of independence rubric.

In general, the range of p-values (about 0.50 to about 0.80) is fairly consistent across all standards in each grade/content area demonstrating a nice balance of difficulty across standards. The exception is at the upper grades in MA where the range is only 0.30 to 0.60 and

the most difficult standards have mean p-values of 0.38 (grade 9) and 0.28 (grade 10). This may be due to the newness of the tests and the rigor of content assessed at the upper grades. Again, all low p-value items were reviewed for content and appropriateness by CTB content experts and the CDE.

### Total Test Level Statistics

Student performance is described in different ways, including total raw scores, performance on specific content standards (as mentioned), and proficiency levels (the documentation of which are described in detail in the CSAPA Standard Setting Technical Report). The maximum number of points per grade and content area varies across grades and across content areas. The number of items and points can be found in Table 5. The raw score performance statistics by grade and content, broken down by gender and ethnicity can be found in Tables 6 – 9. Typically, boys and girls perform similarly in RD, WR, MA, and SC (Figures 7 – 10). For RD and WR (Figures 11 and 12), most students across ethnicities perform similarly. African American students slightly out perform other ethnicities with the exception of grade 5 RD where Hispanic students perform slightly better than African American students. Hispanic and White students perform similarly across grades in RD and WR, while Asian/Pacific Islander/Native American/Alaskan Native have the lowest mean scores in all grades of RD and WR. In MA (Figure 13) and similarly in SC (Figure 14), African American students have the highest mean scores, with the exception of grade 4 (MA) where Hispanics do better and in grade 5 (MA and SC) where both Hispanics and Whites have higher mean scores.

Raw score frequency distributions by grade and content are found in Tables 36 – 39.

### Proficiency Level Data

CE 2.1, 2.3.1, 5.6
--------------------

Student performance on the operational assessment will also be described in terms of proficiency levels. The purpose of setting standards on a test is to enhance its validity by increasing the interpretability of test taker's scores. CTB/McGraw-Hill and the CDE conducted a Standard Setting Workshop for the MA grades 3 – 10 and SC grade 10, held in Colorado *June 13–15, 2007*.

Recommended cut scores defining Exploring, Emerging, Developing, and Novice were developed via a Profile Sorting procedure, accompanied by a Contrasting Groups Survey administered to teachers during the testing window. Live CSAPA data for all valid students were included in the Profile Sorting procedure. The response profiles were sorted into proficiency levels by participants reflecting their judgments on the content specific performance characterized by each profile. A complete description of the standard setting for CSAPA MA (all grades) and SC (grade 10) is found in the *CSAPA Standard Setting Technical Report 2007 for Grades 3 – 10 Mathematics and Grade 10 Science*.

Table 40 details the final cut scores by for each proficiency level by grade and content area, along with the associating impact data: percentages of students in each proficiency level. To see the impact data in graphical form, refer to Figures 15 – 18. RD, WR, and SC grades 5 and 8 impact data are distinct from the MA and SC graded 10 data. Overall pass rates, as defined by the combination of the two highest proficiency levels, Developing and Novice, (and shown in Figure 19) are higher for RD and for WR compared to MA and SC at all grades. Pass rates range 64 to 84 percent in RD, 53 to 81 percent in WR, and 63 and 66 percent respectively in grades 5 and 8 SC. Comparatively, MA rates range 20 to 53 percent and 28 percent in grade 10 SC. This is very likely a reflection of the differing test designs, administration procedures, and standard setting processes.

## **Part 7: Summary of Results – Reliability and Validity**

This section summarizes results and describes some of the evidence that establishes the degree to which the CSAPA results are reliable and valid.

### **Reliability**

Assessment scores always contain some amount of measurement error. There are two types of errors customarily defined in measurement: random and systematic. Both random and systematic errors can easily threaten and compromise the accessibility and therefore the precision, reliability (to include accuracy), and validity of an assessment.

Random errors are just that – random. They are varied, inconsistent, and usually are inherent to the assessment or administration thereof. Standardization of assessments is meant to minimize random error that occurs because of random factors that affect a student's performance on the assessment.

Systematic errors are inherent to examinees and are typically specific to some subgroup characteristic (i.e., student who need accommodations but are not offered them). Systematic error arises if the test or test administration in and of itself presents an inaccessible situation of students to items and items measuring to student ability. An example of systematic error is when students with disabilities are administered a test without the accommodation(s) they require (giving a blind student a regular, non-Braille, non-Large Print form). Other systematic errors can include when test administrators are trained improperly, test materials are mishandled, or when scanners malfunction.

Errors are additionally introduced if the sampling of content on a test is too narrow and does not provide a solid representation of the skills being measured. This is circumvented by clear blueprints that show a variety of items and item approaches to assess each standard.

Reliability refers to the degree to which students' scores are free from such effects and provides a measure of consistency. In other words, reliability helps to describe how consistent students' performance would be if given the assessment over multiple occasions.

For the CSAPA several measures of reliability are available. First, the tests are administered in standard fashion to all students, where teachers administer the assessments to the students in an individualized manner. In addition, students all respond to the same items in the same forms and those who need accommodations are provided such. Providing accommodations ensures that what is standard for the student in daily instruction carries over to and supports the validity of the CSAPA administration. CTB's policy (CTB/McGraw-Hill, 2004) on accommodations and the use on standardized tests has long stood by the philosophy that what is standard for the student in the classroom and instruction should be what is standard for that student during the assessment, minimizing systematic errors.

Recall that the Reading, Writing, and Science (grades 5 and 8) test items are highly complex and often include multiple test items within a given item identification. Therefore, continued caution should be used in any interpretations of the statistics associated with the Reading, Writing, or Science (grades 5 and 8) tests described.

**Item specific reliability** statistics include the point biserial correlation, also called an item-test correlation. It is one type of internal consistency measure that is the correlation between each item to the group of items remaining on the test overall. The correlation provides a source of how consistent each item measures information similar to the other items on a test that measures a single overall construct, such as Mathematics. On traditional assessments, the minimum point biserial acceptable is preferably 0.30 and absolutely no less than 0.15. Any items less than 0.30 should be reviewed from a content perspective to assure the items actually contribute to the overall construct of the assessment and not some skill that does not contribute to evidence about the construct measured. Table 31 summarizes the point biserials (and p-values) for each grade and content area. In RD and WR, the point biserials range 0.54 to 0.88, and quite similarly, the SC grades 5 and 8 point biserials range 0.52 to 0.85. For MA, the range is 0.12 (lowest at grade 10) to 0.81 (grade 9). As mentioned, the item with the lowest point biserial and below the critical cut-off of 0.15 is in MA grade 10 with a point biserial of 0.12 (and without level of independence it is 0.14). This item measures students' ability to extend a growing numeric pattern by supplying the next element. This is a skill that is measured across different items that are directly associated with Critical Concept 2: *Identifies, describes, and creates patterns to solve problems*, for which 7 items (21 points) contribute to the test and students' total score. Again, the p-value for this item was 0.17 (0.13) which indicates is this item has low discriminating power, such that students with high and low ability may have a similar probability of incorrectly responding to this item (since the p-value is also low). For SC grade 10, the point biserials are also in acceptable range of 0.27 to 0.78.

**Total test reliability** measures consider the level of consistency (reliability) of performance over all test questions in a given form, the results of which imply how well the questions measure the content domain and could continue to do so over repeated administrations. Total test reliability coefficients (in this case measured by Cronbach's alpha (1951) may range from 0.00 to 1.00, where 1.00 refers to a perfectly consistent test. Achievement tests are typically considered of sound reliability when their reliability coefficients are in the range of .80 and above. The total test reliabilities of the CSAPA forms were evaluated first by Cronbach's  $\alpha$  (Cronbach, 1951) index of internal consistency. The specific calculation for Cronbach's  $\alpha$  is calculated as

$$\hat{\alpha} = \frac{k}{k-1} \left( 1 - \frac{\sum \hat{\sigma}_i^2}{\hat{\sigma}_x^2} \right)$$

Where  $k$  is the number of items on the test form, and  $\hat{\sigma}_i^2$  is the variance of item  $i$  and  $\hat{\sigma}_x^2$  is the total test variance. Tables 6 – 9 show the reliability coefficients (Coefficient Alpha) for the grades and content areas involved in the Spring 2007 CSAPA test administration. As is evident in the tables, the coefficients are quite high. Please note that alpha is not reported for samples sizes of 10 or fewer.

At the total group level (summarized in Table 41), the reliabilities are quite high. Ranges are: RD 0.98 to 0.99; WR 0.95 to 0.98; SC 5 and 8 0.97 and 0.98, respectively; MA 0.93 to 0.95; and SC 10 0.93. These ranges are indicative of high reliability of the CSAPA tests. It is likely that the low variance and fairly flat distributions contribute to the very high reliabilities for WR, RD, and SC 5 and 8, especially. (See Tables 36 – 39 for frequency distributions of scores) . At the subgroup level (Tables 6 – 9) the ranges were quite similar and the lowest reliability (0.90) was found for the African American group in MA grades 6 and 7.

Another measure of reliability is a direct estimate of the degree of measurement error in students' total score on a test. In the case of the CSAPA, this total score is a raw score. This second measure is called a standard error of measurement (SEM). This represents the number of score points about which a given score can vary, similar to the standard deviation of a score: the smaller the SEM, the smaller the variability, the higher the reliability. The SEMs are computed with the following formula:

$$SEM = SD\_TS(\sqrt{1 - \hat{\alpha}})$$

where SD\_TS is the standard deviation of the total score and  $\hat{\alpha}$  is the result of the calculation of Cronbach's  $\alpha$  above. The SEMs represent the total standard error of measurement in the raw score metric across all items in a given form. The SEMs for each form are given in Tables 6 – 9, and summarized at the total group level in Table 41. At the total group, these range 4.75 to 6.59 (RD); 2.74 to 5.70 (WR); 4.48 (grade 5 SC); 6.29 (grade 8 SC); 7.74 to 9.92 (MA); and 7.31 (grade 10 SC). These are within acceptable ranges given this on a raw score scale, and for MA and SC grade 10 since this is the very first operational administration of an assessment of this type to this group of very diverse students. It is also helpful to keep in mind that each item contributes at least 3 points and a max of 6 points to the total scores. Therefore, even the highest SEM of 9.92 reflects at most three MC items, two CR items, or some combination thereof.

Classification consistency and accuracy are additional measures of reliability, as well as validity. Reliability coefficients, such as Cronbach's Alpha, are used to check for the internal consistency within a single test. Test-retest reliability requires two administrations of the same test which requires another test as an external reference. When retesting students is not feasible, classification consistency is a viable and often utilized alternative. Consistency in the classification sense represents how well two forms of an assessment with equal difficulty agree (Livingston & Lewis, 1995). It is estimated using actual response data and total test reliability from an administered form of an assessment, from which two parallel forms of the assessment are statistically modeled and classifications compared.

Table 42 shows classification consistency and classification accuracy indices based on the Livingston and Lewis (1995) method. Note that the values of all indices depend on several factors, such as the reliability of actual test form, the distribution of scores, the number of cut scores, and location of each cut score. The probability of a correct classification (PC) is the probability that the classification the student received is consistent with (correct) the classification that the student would have received on a parallel form. This is akin to the exact agreement rate in inter-rater reliability and the expectation is that this probability would be high. The average PC is .59 across all grades and content areas and ranges from 0.50 (RD grade 6) to 0.73 (WR Grade 3). Comparison across administration type (scaffolded (RD, WR, SC 5 and 8) or not (MA, SC 10), reveals similar PC averages (0.60 and 0.58, respectively). Probability of misclassification (PM) is simply  $1 - PC$ .

The probability of a correct classification by chance (Chance) is probability that the classification is correct and is due to chance alone. The probability of Chance is estimated under a complete random assignment procedure using the marginal distribution of each form. The Chance probability is expected to be low. Average Chance across all grade and content areas is 0.29 and ranges 0.21 (MA Grade 6) to 0.44 (RD Grade 8). A further look by administration type reveals some differences (average PC is 0.32 for scaffolded and 0.24, otherwise).

Cohen's kappa ( $\kappa$ ) provides the same type of reliability or agreement statistic as described previously, representing the agreement of the classifications between the two parallel forms with the consideration of the probability of a correct classification by chance,  $(PC - \text{Chance}) / (1 - \text{Chance})$ . In general, the value of kappa is lower than the value of PC because the probability of a correct classification by chance is larger than 0. This is true of the CSAPA data in Table 42. Average kappa is 0.42 and ranges 0.30 (RD Grade 4) to 0.69 (WR Grade 4) overall grades and content, and across administration type the average kappa is 0.41 (scaffolded) and 0.44. The relative similarity in grades with lowest and highest kappa supports the PC findings.

Consistency and accuracy are important to consider in concert. The probability of accuracy (PA) represents the agreement between the observed classification based on the actual test form and true classification, given the modeled form. The average PA is 0.69 ranging 0.59 (RD Grade 6) to 0.80 (RD Grade 8 and WR Grade 3), with averages across administration types quite similar at 0.69 (scaffolded) and 0.68. Finally, the table provides the probability of false positives (FP) and false negatives (FN) as measures of error in the data table, and these are low, as expected.

## Validity

Validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of the test (AERA, APA, & NCME, 1999). The American Psychological Association (APA) *Standards for Educational and Psychological Testing* (1999) addressed the concept of validity in testing:

The American Psychological Association (APA) *Standards for Educational and Psychological Testing* (1999) addressed the concept of validity in testing:

Validity is the most important consideration in test evaluation. The concept refers to the appropriateness, meaningfulness, and usefulness of the specific inferences made from test scores. Test validation is the process for accumulating evidence to support any particular inference. Validity, however, is a unitary concept. Although evidence may be accumulated in many ways, validity always refers to the degree to which that evidence supports the inferences that are made from the scores. The inferences regarding specific uses of a test are validated, not the test itself (p.9).

Test validation is an on-going process of gathering evidence from many sources to evaluate the soundness of the desired score interpretation or use. This evidence is acquired from studies of the procedures surrounding the targeted student group, the history of the content standards and their development, and the development of the test (procedural validity); the content of the test (content validity); as well as from studies involving scores produced by the test. Additionally, reliability is a necessary element for validity. A test cannot be valid if it is not also reliable. There are various sources of validity evidence, such as evidence based on procedures and process in the development and scoring of the assessment, alignment of the assessment items with standards, and relations to other variables.

The purpose of the assessment, described in the Overview of this document, is not only to meet accountability requirements but also provide students, parents, teachers, and schools information on how their students are progress against the Colorado Model Content Standards and *Expanded Benchmarks*, as described in Part 1: Standards.

Generally, achievement tests are used for student level outcomes, either (1) making predictions about students, or (2) describing students' performance (Mehrens & Lehmann, 1991). In addition, tests are now also used for the purpose of accountability and adequate yearly progress (AYP). CDE uses various assessment data in reporting AYP and in various programmatic and policy level decisions. Specific to student level outcomes, CSAPA documents student performance in the areas of RD, WR, MA, and SC as defined by the standards. To ensure that test scores allow interpretations appropriate for this purpose, the content of the test must be carefully matched to the specified standards. The 1999 APA Standards state:

Content-related evidence of validity is a central concern during test development. Expert professional judgment should play an integral part in developing the definition of what is to be measured, such as describing the universe of the content, generating or selecting the content sample, and specifying the item format and scoring system (p.12).

In regards to content validity evidence, logical analyses of test content indicate the degree to which the content of a test covers the domain of content the test is intended to measure. In the case of the CSAPA, the content is defined by test blueprints that describe the skills that must be measured to assess the content standards. The test development process requires specific attention to content representation and the balance thereof within each test form. In addition, several item review committees contribute to the item review and approval process, assuring the items assess the content standards and are mapped accordingly. Part 2: Test Development of this report contains more information specific to these reviews. The reviews also help to assure fair and unbiased items so that items function similarly for members of different ethnic, gender, or disability groups.

In addition, the CSAPA MA and SC grade 10 have gone through an alignment study under the direction of Drs Gerald Tindal and Lindy Crawford. Their approach was based upon a published extension of the Webb alignment tools. As a result of the study, the standards and test items were adjusted to improve alignment, resulting in a well aligned, rigorous CSAPA.

The internal structure of the test also provides evidence of validity. For example, high internal consistency like that described by the coefficients above, constitutes evidence of validity. This is because high coefficients imply that the test questions are measuring the same domain of skill, are reliable and consistent.

The validity of an assessment also is evidenced by establishing that the population of students for which the assessment is purposed and built is well targeted and that those are the students who participate. The targeted student population is defined as students with severe cognitive disability who can not otherwise participate in the general CSAP even with accommodations. Given the high-stakes nature of the CSAPA and the requirements of NCLB and Peer Review Evidence, as well as the need for eligibility criteria data, it is important to note who was actually included in CSAPA and data on their performance. The number of students in various subgroups who participated along with each group's summary scores are presented in Tables 6 – 9 (specific to gender and ethnicity) and Tables 10 – 13 (specific to disabilities reported). Given the available data on student disability and as illustrated in Figure 2, it appears most students fall into the categories of "Multiple Disabilities," "Limited Intellectual Capacity," and "Specific Learning Disability," or "Autism." A review of these data should help to refine eligibility criteria.

It is also important to demonstrate via student performance that students are able to demonstrate a range of performances commensurate with the expectation of the targeted population. Total raw



score results for each grade and content area for the total groups are found in Table 41 and raw score frequency distributions by grade and content are found in Tables 36 – 39. Data by standard or critical concept are found in Tables 32 – 35. These data were reviewed and explained in greater detail in Part 6: Analyses and Results.

An assessment that is valid should be similarly reliable for subgroups of similar sample sizes. Therefore, in addition to the total group data, subgroup total test performance and the associated test reliabilities and standard errors must also be reported. Tables 6 – 13 show these by subgroup for only those subgroups with ample sample sizes to report (no groups less than 10 are reported). Specific details on test reliability and standard errors are further described in the reliability section.

## **Part 8. Special Studies**

Special studies, which were conducted as specific data analyses for the CSAPA, are meant to inform policy and provide additional evidences about reliability and validity.

First, to get a sense of the magnitude of student levels of independence, the percent of each was evaluated. The percentage of total items across all grades, by content, on which students responded with each level of independence are found in Table 43. Overall, students responded independently to most items. Seventy-one percent of students responded independently (Level 4 according to the Item Presentation Protocol in Appendix C) across items in MA, 81% in SC 10. By review of the Performance Rubric (scaffolded) found in Appendix B, the highest level of independence is “5,” and the percentage of students marked at Level 5 in RD is 65%, 51% in WR, and 57% in SC 5 and 8. Considering a combination of Level 4 and Level 5, as students who are simply redirected (just as any student might need to re-read an item), the percentages across Level 4 and Level 5 are 73% in RD, 60% in WR, and 68% in SC 5 and 8. In summary, it appears most students are performing at the highest level of independence, across all items.

Additional reliability coefficients were calculated (KR20) in effort to describe the consistency of the levels of independence performed by students and documented teachers. These data, shown in Table 44, describe by grade and content the reliability of students at the highest level of independence (level 4 for MA and SC grade 10 and level 5 for RD, WR, and SC 5 and 8) compared with students at the remaining lower levels. The data clearly demonstrate high reliabilities, above 0.95 across the board. This is an indication that the level of independence at which students perform and/or teachers provide assistance is consistent across items.

Given that students tend to respond independently is a good sign that teachers are not over assisting their students on CSAPA and provides clearer data on the students’ level of content-based understanding. An additional bit of information regarding the level of independence for the non-scaffolded administrations (MA and SC 10) is looking at the number of occurrences where the student performed at the lowest level of independence, level 1 “no response,” but responded correctly to the item, or where students performed at the upper levels (2 – 4) but had no response, per test administrator coding. This is believed to be an indication of coding errors more than anything else. The percentages of item responses where these errors occurred are found in Table 45. The occurrences of coding errors due to a level 1 “no response” and a correct response given (average about 3%) are lower than error due to no response with levels 2 – 4 (about 8%, where grades 3 – 5 were higher at an average 11%). These types of errors can easily be addressed in administrator training.

It is also important to gauge the range of scores across students. One way to look at this is to evaluate the number of students earning the max total raw score (the ceiling) and those not

earning any points (the floor). This type of data can help provide information regarding eligibility policy. The number of students at the max and minimum raw scores is found in Tables 6 – 9 and 41. Another way of looking at this is to view the distribution of students across the raw score scale. Raw score frequency distributions are found in Tables 36 – 39. It is clear from these that students are fairly evenly spread out across the range of scores.

Finally, a matched dataset of teacher provided ratings via the contrasting groups survey to each student's earned performance level was created to evaluate the relationship between teacher judgments regarding the proficiency of their students, as defined by the state-generated proficiency level descriptors and collected through the survey, and the earned proficiency level as a result of the standard setting process and final student score. The purpose of these analyses is to provide not only reliability evidence between final scores and teacher judgment, but additionally to begin the collection of criteria-related validity evidence to demonstrate how well the CSAPA represents, in teachers' views, the performance of their students. It should be noted that these data are based only on valid cases where no missing data are considered. Agreement rates and rater reliabilities are found in Table 46. Percent exact agreement and kappa rates are lower than anticipated, averaging 46.25 and 0.30, respectively. It is clear upon review of the agreement rates that teachers tend not to differ at all in their ratings and performance level earned based on the standard setting and scored data (mean difference is 0.18, standard deviation of difference is 0.93). Any differences tend to be within a single rating where teachers estimated their students to be in one level higher than what students actually earned, followed by ratings of one level lower than earned. There were some ratings as much as plus or minus three levels, though few. As teachers and test administrators become more familiar with the performance levels and are able to reflect on the performance levels students received based on their CSAPA score, it is hypothesized that these rates of agreement and kappa indices will improve.

## References

---

- Almond, P., & Case, B. (2004). *Alternate assessments for students with significant cognitive disabilities*. Harcourt. Retrieved [January 31, 2007] from the World Wide Web: <http://harcourtassessment.com/hai/Images/pdf/assessmentReports/AlternateAssessments-Final.pdf>
- American Psychological Association, American Educational Research Association, & National Council on Measurement in Education. (1999). *Standards for educational and psychological testing*. Washington, D.C.: American Psychological Association.
- CTB/McGraw-Hill (2004). *Guidelines to Inclusive Test Administration*. CTB/McGraw-Hill. [http://www.ctb.com/media/articles/pdfs/general/guidelines\\_inclusive.pdf](http://www.ctb.com/media/articles/pdfs/general/guidelines_inclusive.pdf)
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297–334.
- Livingston, S. A., & Lewis, C. (1995). Estimating the consistency and accuracy of classifications based on test scores. *Journal of Educational Measurement*, 32, 179–197.
- Mehrens, W. A., & Lehmann, I. J. (1991). *Measurement and Evaluation in Education and Psychology*, 3rd ed. New York: Holt, Rinehart, and Winston.
- Thompson, S. J., Thurlow, M. L., Johnstone, C. J., & Altman, J. R. (2005). *2005 State special education outcomes: Steps forward in a decade of change*. Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes. Retrieved [January 31, 2007], from the World Wide Web: <http://education.umn.edu/NCEO/OnlinePubs/2005StateReport.htm/>

---

**Tables 1 – 46**

---

**Table 1**  
**Reading Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible**

Content	Grade	Standard	Standard Description	No. Items	Total No. Score Points	Max Score Possible	Final as a Result of Suppressed Items	
							Number of Suppressed	Final Max Score Possible
RD	3	1	Attend to reading activity literacy materials	12	60	160	-	160
		2	Demonstrate understanding of symbolic representation	4	20		-	
		4	Use a variety of strategies to make meaning of text	9	45		-	
		5	Make connections to reading passages	1	5		-	
		6	Identify elements of literature (character, plot, setting)	6	30		-	
	4	1	Attend to reading activity literacy materials	10	50	175	-	175
		2	Demonstrate understanding of symbolic representation	4	20		-	
		3	Demonstrate understanding of beginning principles of phonics	2	10		-	
		4	Use a variety of strategies to make meaning of text	7	35		-	
		5	Make connections to reading passages	4	20		-	
	5	6	Identify elements of literature (character, plot, setting)	8	40	-	-	
		1	Attend to reading activity literacy materials	12	60	165	-	165
		2	Demonstrate understanding of symbolic representation	3	15		-	
		4	Use a variety of strategies to make meaning of text	9	45		-	
		5	Make connections to reading passages	1	5		-	
	6	Identify elements of literature (character, plot, setting)	8	40	-			
	6	1	Attend to reading activity literacy materials	12	60	150	-	150
		2	Demonstrate understanding of symbolic representation	3	15		-	
		4	Use a variety of strategies to make meaning of text	9	45		-	
		5	Make connections to reading passages	1	5		-	
		6	Identify elements of literature (character, plot, setting)	5	25		-	
	7	1	Attend to reading activity literacy materials	11	55	260	-	260
		2	Demonstrate understanding of symbolic representation	5	25		-	
		3	phonics	3	15		-	
4		Use a variety of strategies to make meaning of text	10	50	-			
5		Make connections to reading passages	5	25	-			
6		Identify elements of literature (character, plot, setting)	13	65	-			
7		Demonstrate knowledge that various texts have different purposes	3	15	-			
8		Understand informational text	2	10	-			

**Table 1**  
**Reading Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible (continued)**

Content	Grade	Standard	Standard Description	No. Items	Total No. Score Points	Max Score Possible	Final as a Result of Suppressed Items	
							Number of Items Suppressed	Final Max Score Possible
RD	8	1	Attend to reading activity literacy materials	12	60	165	-	165
		2	Demonstrate understanding of symbolic representation	3	15		-	
		4	Use a variety of strategies to make meaning of text	9	45		-	
		5	Make connections to reading passages	1	5		-	
		6	Identify elements of literature (character, plot, setting)	8	40		-	
		1	Attend to reading activity literacy materials	12	60		-	
	9	2	Demonstrate understanding of symbolic representation	3	15	200	-	200
		4	Use a variety of strategies to make meaning of text	10	50		-	
		5	Make connections to reading passages	1	5		-	
		6	Identify elements of literature (character, plot, setting)	11	55		-	
		9	Understand and apply literary techniques/elements to appreciate and react to lit	3	15		-	
		1	Attend to reading activity literacy materials	12	60		-	
	10	2	Demonstrate understanding of symbolic representation	4	20	270	-	270
		3	Demonstrate understanding of beginning principles of phonics	3	15		-	
		4	Use a variety of strategies to make meaning of text	10	50		-	
		5	Make connections to reading passages	5	25		-	
		6	Identify elements of literature (character, plot, setting)	13	65		-	
		7	Demonstrate knowledge that various texts have different purposes	3	15		-	
8		Understand informational text	2	10	-			
9		Understand and apply literary techniques/elements to appreciate and react to lit	2	10	-			

**Table 2**  
**Writing Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible**

Content	Grade	Standard	Standard Description	No. Items	Total No. Score Points	Max Score Possible	Final as a Result of Suppressed Items	
							Number of Items Suppressed	Final Max Score Possible
WR	3	10	Demonstrate an understanding that writing communicates a message	6	30	55	-	55
		11	Use systematic conventions to make written product understandable by others	4	20		-	
		12	Apply elements of writing through appropriate word usage	1	5		-	
	4	10	Demonstrate an understanding that writing	14	70	100	-	100
		11	Use systematic conventions to make written product understandable by others	4	20		-	
		12	Apply elements of writing through appropriate word usage	1	5		-	
		13	Edit a written product using legible handwriting/word processor for publication	1	5		-	
	5	10	Demonstrate an understanding that writing	6	30	55	-	55
		11	Use systematic conventions to make written product understandable by others	4	20		-	
		12	Apply elements of writing through appropriate word	1	5		-	
	6	10	Demonstrate an understanding that writing	8	40	65	-	65
		11	Use systematic conventions to make written product understandable by others	4	20		-	
12		Apply elements of writing through appropriate word	1	5	-			

**Table 2**  
**Writing Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible (continued)**

Content	Grade	Standard	Standard Description	No. Items	Total No. Score Points	Max Score Possible	Final as a Result of Suppressed Items	
							Number of Items Suppressed	Final Max Score Possible
WR	7	10	Demonstrate an understanding that writing	13	65	150	-	150
		11	Use systematic conventions to make written product understandable by others	8	40		-	
		12	Apply elements of writing through appropriate word usage	5	25		-	
		13	Edit a written product using legible handwriting/word	4	20		-	
	8	10	Demonstrate an understanding that writing	9	45	70	-	70
		11	Use systematic conventions to make written product understandable by others	4	20		-	
		12	Apply elements of writing through appropriate word	1	5		-	
	9	10	Demonstrate an understanding that writing	8	40	65	-	65
		11	Use systematic conventions to make written product understandable by others	4	20		-	
		12	Apply elements of writing through appropriate word	1	5		-	
	10	10	Demonstrate an understanding that writing	13	65	175	-	175
		11	Use systematic conventions to make written product understandable by others	10	50		-	
		12	Apply elements of writing through appropriate word usage	7	35		-	
		13	Edit a written product using legible handwriting/word	5	25		-	



**Table 3**  
**Mathematics Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible**

Content	Grade	Standard	Standard Description	No. Items	Total No. Score Points	Max Score Possible	Final as a Result of Suppressed Items	
							Number of Suppressed Items	Final Max Score Possible
MA	3	1	Counts, represents quantities, reads and writes numbers	8	33	126	-	126
		2	Identifies, describes, and creates patterns to solve problems	4	18		-	
		3	Displays and analyzes data	5	21		-	
		4	Identifies, sorts, and matches geometric shapes	6	21		-	
		5	Applies a variety of measurement skills	5	21		-	
		6	Uses calculation strategies to compute problems	4	12		-	
	4	1	Counts, represents quantities, reads and writes numbers	8	33	135	-	135
		2	Identifies, describes, and creates patterns to solve problems	4	18		-	
		3	Displays and analyzes data	5	21		-	
		4	Identifies, sorts, and matches geometric shapes	6	24		-	
		5	Applies a variety of measurement skills	6	27		-	
		6	Uses calculation strategies to compute problems	4	12		-	
	5	1	Counts, represents quantities, reads and writes numbers	12	54	171	-	171
		2	Identifies, describes, and creates patterns to solve problems	6	27		-	
		3	Displays and analyzes data	5	21		-	
		4	Identifies, sorts, and matches geometric shapes	6	27		-	
		5	Applies a variety of measurement skills	7	30		-	
		6	Uses calculation strategies to compute problems	4	12		-	
6	1	Counts, represents quantities, reads and writes numbers	8	39	138	-	138	
	2	Identifies, describes, and creates patterns to solve problems	5	18		-		
	3	Displays and analyzes data	6	27		-		
	4	Identifies, sorts, and matches geometric shapes	5	15		-		
	5	Applies a variety of measurement skills	6	27		-		
	6	Uses calculation strategies to compute problems	4	12		-		

**Table 3  
Mathematics Test Design: Number of Items and Score Points per Standard per Grade, Content, and Maximum Score Possible (continued)**

Content	Grade	Standard	Standard Description	No. Items	Total No. Score Points	Max Score Possible	Final as a Result of Suppressed Items	
							Number of Items Suppressed	Final Max Score Possible
MA	7	1	Counts, represents quantities, reads and writes numbers	7	36		-	
		2	Identifies, describes, and creates patterns to solve problems	7	21		-	
		3	Displays and analyzes data	5	24	132	-	132
		4	Identifies, sorts, and matches geometric shapes	4	12		-	
		5	Applies a variety of measurement skills	6	27		-	
		6	Uses calculation strategies to compute problems	4	12		-	
	8	1	Counts, represents quantities, reads and writes numbers	8	42		-	
		2	Identifies, describes, and creates patterns to solve problems	7	21		1	
		3	Displays and analyzes data	6	24	150	-	147
		4	Identifies, sorts, and matches geometric shapes	5	15		-	
		5	Applies a variety of measurement skills	8	33		-	
		6	Uses calculation strategies to compute problems	5	15		-	
	9	1	Counts, represents quantities, reads and writes numbers	7	36		-	
		2	Identifies, describes, and creates patterns to solve problems	7	21		1	
		3	Displays and analyzes data	6	24	147	-	144
		4	Identifies, sorts, and matches geometric shapes	5	15		-	
		5	Applies a variety of measurement skills	8	33		-	
		6	Uses calculation strategies to compute problems	6	18		-	
	10	1	Counts, represents quantities, reads and writes numbers	8	42		-	
		2	Identifies, describes, and creates patterns to solve problems	7	21		-	
		3	Displays and analyzes data	6	24	156	-	156
		4	Identifies, sorts, and matches geometric shapes	5	18		-	
		5	Applies a variety of measurement skills	8	33		-	
		6	Uses calculation strategies to compute problems	6	18		-	

**Table 4  
Science Test Design: Number of Items and Score Points per Standard per Grade,  
Content, and Maximum Score Possible**

Content	Grade	Standard	Standard Description	No. Items	Total No. Score Points	Max Score Possible	Final as a Result of Suppressed Items	
							Number of Suppressed	Final Max Score Possible
SC	5	1	Makes observations, collects and organizes data	5	25	115	-	115
		2	Analyzes data and communicates results of scientific investigations	9	45		-	
		4	Interacts with living things	6	30		-	
		6	Common connections	3	15		-	
	8	1	Makes observations, collects and organizes data	13	65	225	-	225
		2	Analyzes data and communicates results of scientific investigations	7	35		-	
		3	Demonstrates an understanding of the fundamental properties of matter and energy	9	45		-	
		5	Interacts with the weather and Earth systems	16	80		-	
	10	1	Makes observations, collects and organizes data	6	18	102	-	102
		2	Analyzes data and communicates results of scientific investigations	3	15		-	
		3	Demonstrates an understanding of the fundamental properties of matter and energy	5	15		-	
		4	Interacts with living things	8	30		-	
		5	Interacts with the weather and Earth systems	8	24		-	

**Table 5**  
**Test Design: Number of Items by Maximum Item Score**

Content	Grade	Total Number of Items	Number of Items with a Maximum Score of:			Max Score
			3	5	6	
RD	3	32	-	32	-	160
	4	35	-	35	-	175
	5	33	-	33	-	165
	6	30	-	30	-	150
	7	53	-	52	-	260
	8	33	-	33	-	165
	9	40	-	40	-	200
	10	54	-	54	-	270
WR	3	11	-	11	-	55
	4	20	-	20	-	100
	5	11	-	11	-	55
	6	13	-	13	-	65
	7	30	-	30	-	150
	8	14	-	14	-	70
	9	13	-	13	-	65
	10	35	-	35	-	175
MA	3	32	22	-	10	126
	4	33	21	-	12	135
	5	40	23	-	17	171
	6	34	22	-	12	138
	7	33	22	-	11	132
	8	39	28	-	11	150
	9	39	29	-	10	147
	10	40	28	-	12	156
SC	5	32	-	23	-	115
	8	45	-	45	-	225
	10	30	26	-	4	102

**Table 6**  
**Descriptive Statistics for Reading by Gender and Ethnicity**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	3	Total	626	100.00%	131.57	31.36	22	5	0.98	4.96
		Female	236	37.70%	131.92	32.30	8	2	0.98	4.80
		Male	390	62.30%	131.37	30.81	14	3	0.97	5.04
		African American	53	8.47%	137.70	28.39	3	0	0.98	4.41
		Asian/ Pacific Islander/American Indian/Alaskan Native	26	4.15%	133.50	33.09	2	0	0.98	4.45
		Hispanic	208	33.23%	130.80	30.43	6	2	0.97	5.01
		White (not Hispanic)	339	54.15%	130.94	32.24	11	3	0.98	5.03
		Other	-	-	-	-	-	-	-	-
		Total	606	100.00%	145.04	35.50	11	4	0.98	5.09
	Female	229	37.79%	141.75	39.12	4	2	0.98	5.03	
	Male	374	61.72%	146.86	33.07	7	2	0.98	5.13	
	African American	57	9.41%	149.47	31.05	2	1	0.97	4.98	
	Asian/ Pacific Islander/American Indian/Alaskan Native	21	3.47%	116.05	54.58	0	1	0.99	5.23	
	Hispanic	215	35.48%	146.55	34.13	6	1	0.98	5.06	
	White (not Hispanic)	310	51.16%	144.91	35.00	3	1	0.98	5.12	
	Other	3	0.50%	-	-	-	-	-	-	
	Total	549	100.00%	135.61	32.53	16	6	0.98	5.07	
	Female	215	39.16%	137.38	29.64	4	2	0.97	5.12	
	Male	333	60.66%	134.63	34.18	12	4	0.98	5.02	
	African American	61	11.11%	133.56	33.91	2	0	0.98	5.26	
	Asian/ Pacific Islander/American Indian/Alaskan Native	29	5.28%	128.03	37.22	0	1	0.98	5.20	
	Hispanic	169	30.78%	138.84	29.75	7	1	0.97	4.86	
	White (not Hispanic)	289	52.64%	135.10	33.16	7	4	0.98	5.12	
	Other	1	0.18%	-	-	-	-	-	-	

**Table 6**  
**Descriptive Statistics for Reading by Gender and Ethnicity (continued)**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	6	Total	581	100.00%	121.57	31.55	7	6	0.98	4.85
		Female	194	33.39%	124.32	30.80	2	1	0.98	4.75
		Male	386	66.44%	120.18	31.91	5	5	0.98	4.90
		African American	57	9.81%	128.49	27.34	0	0	0.97	4.63
		Asian/ Pacific Islander/American Indian/Alaskan Native	18	3.10%	116.33	31.59	0	0	0.97	5.63
		Hispanic	198	34.08%	119.78	32.78	3	2	0.98	4.78
		White (not Hispanic)	307	52.84%	121.74	31.46	4	4	0.98	4.88
		Other	1	0.17%	-	-	-	-	-	-
	7	Total	517	100.00%	218.60	49.88	11	7	0.99	6.08
		Female	199	38.49%	215.93	53.37	7	4	0.99	6.18
		Male	316	61.12%	220.44	47.69	4	3	0.98	5.99
		African American	51	9.87%	230.35	40.55	1	0	0.98	5.54
		Asian/ Pacific Islander/American Indian/Alaskan Native	18	3.48%	200.17	58.85	0	1	0.99	7.08
		Hispanic	171	33.08%	225.12	42.55	4	2	0.98	5.90
		White (not Hispanic)	275	53.19%	213.75	54.27	6	4	0.99	6.17
		Other	2	0.39%	-	-	-	-	-	-
	8	Total	590	100.00%	138.10	32.92	21	1	0.98	4.75
		Female	235	39.83%	137.69	35.74	7	1	0.98	4.58
		Male	353	59.83%	138.50	30.99	14	0	0.98	4.84
		African American	52	8.81%	145.42	25.98	2	0	0.97	4.46
		Asian/ Pacific Islander/American Indian/Alaskan Native	24	4.07%	140.21	29.97	1	0	0.97	5.01
		Hispanic	178	30.17%	138.10	35.23	6	1	0.98	4.41
		White (not Hispanic)	334	56.61%	136.94	32.83	12	0	0.98	4.93
		Other	2	0.34%	-	-	-	-	-	-

**Table 6**  
**Descriptive Statistics for Reading by Gender and Ethnicity (continued)**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	9	Total	521	100.00%	164.92	39.98	6	12	0.98	5.33
		Female	207	39.73%	166.73	38.97	4	4	0.98	5.22
		Male	313	60.08%	163.60	40.66	2	8	0.98	5.41
		African American	55	10.56%	174.86	31.99	0	1	0.98	5.05
		Asian/ Pacific Islander/American Indian/Alaskan Native	22	4.22%	167.18	38.47	0	1	0.98	5.38
		Hispanic	161	30.90%	164.24	38.41	0	1	0.98	5.51
		White (not Hispanic)	283	54.32%	163.19	42.20	6	9	0.98	5.27
		Other	-	-	-	-	-	-	-	-
	10	Total	503	100.00%	209.65	64.01	8	14	0.99	6.59
		Female	193	38.37%	209.80	65.30	3	6	0.99	6.48
		Male	309	61.43%	209.61	63.39	5	8	0.99	6.63
		African American	43	8.55%	226.61	62.02	2	2	0.99	5.80
		Asian/ Pacific Islander/American Indian/Alaskan Native	17	3.38%	181.35	81.97	0	3	0.99	6.57
		Hispanic	144	28.63%	203.99	63.36	2	5	0.99	6.98
		White (not Hispanic)	299	59.44%	211.55	62.98	4	4	0.99	6.50
Other	-	-	-	-	-	-	-	-		

**Table 7**  
**Descriptive Statistics for Writing by Gender and Ethnicity**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	3	Total	604	100.00%	43.10	12.82	89	21	0.95	2.86
		Female	225	37.25%	43.23	13.20	37	9	0.95	2.83
		Male	379	62.75%	43.03	12.61	52	12	0.95	2.87
		African American	53	8.78%	45.49	11.25	8	1	0.93	2.91
		Asian/ Pacific Islander/American Indian/Alaskan Native	25	4.14%	43.28	13.49	3	1	0.96	2.83
		Hispanic	201	33.28%	43.47	12.24	30	6	0.95	2.67
		White (not Hispanic)	325	53.81%	42.48	13.35	48	13	0.95	2.95
		Other	-	-	-	-	-	-	-	-
		Total	593	100.00%	77.41	22.63	12	16	0.97	3.95
	Female	223	37.61%	76.20	24.03	7	7	0.97	3.88	
	Male	367	61.89%	78.02	21.79	5	9	0.97	4.00	
	African American	54	9.11%	79.31	21.08	0	1	0.96	4.14	
	Asian/ Pacific Islander/American Indian/Alaskan Native	21	3.54%	61.52	29.32	0	2	0.98	4.03	
	Hispanic	211	35.58%	78.08	22.85	4	6	0.97	3.79	
	White (not Hispanic)	304	51.27%	77.56	21.99	8	7	0.97	4.04	
	Other	-	-	-	-	-	-	-	-	
	Total	521	100.00%	45.24	12.40	119	12	0.95	2.74	
	Female	201	38.58%	46.16	11.60	48	4	0.95	2.66	
	Male	319	61.23%	44.71	12.85	71	8	0.95	2.78	
	African American	58	11.13%	45.97	12.55	17	0	0.96	2.56	
	Asian/ Pacific Islander/American Indian/Alaskan Native	25	4.80%	42.52	13.60	3	0	0.96	2.84	
	Hispanic	163	31.29%	46.55	11.81	45	4	0.95	2.63	
	White (not Hispanic)	274	52.59%	44.62	12.56	54	8	0.95	2.81	
	Other	-	-	-	-	-	-	-	-	



**Table 7**  
**Descriptive Statistics for Writing by Gender and Ethnicity (continued)**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	6	Total	571	100.00%	48.44	15.47	52	22	0.96	3.19
		Female	192	33.63%	49.83	14.89	18	5	0.96	3.09
		Male	378	66.20%	47.71	15.74	34	17	0.96	3.24
		African American	56	9.81%	52.57	13.98	6	1	0.95	2.98
		Asian/ Pacific Islander/American Indian/Alaskan Native	18	3.15%	48.28	12.72	2	0	0.92	3.70
		Hispanic	193	33.80%	47.57	16.48	18	11	0.96	3.08
		White (not Hispanic)	303	53.07%	48.21	15.18	26	10	0.95	3.25
		Other	-	-	-	-	-	-	-	-
	7	Total	510	100.00%	105.35	32.58	2	16	0.97	5.38
		Female	195	38.24%	106.03	34.54	2	5	0.98	5.34
		Male	313	61.37%	105.10	31.38	0	11	0.97	5.39
		African American	50	9.80%	115.50	28.25	1	1	0.96	5.34
		Asian/ Pacific Islander/American Indian/Alaskan Native	18	3.53%	93.44	32.85	0	1	0.97	5.70
		Hispanic	168	32.94%	109.20	28.56	0	3	0.97	5.29
		White (not Hispanic)	272	53.33%	102.09	35.01	1	11	0.98	5.41
		Other	-	-	-	-	-	-	-	-
	8	Total	588	100.00%	52.84	16.14	61	1	0.96	3.14
		Female	233	39.63%	52.86	16.92	25	1	0.97	3.09
		Male	353	60.03%	52.88	15.65	36	0	0.96	3.15
		African American	52	8.84%	56.40	13.34	6	0	0.95	3.03
		Asian/ Pacific Islander/American Indian/Alaskan Native	25	4.25%	54.20	14.55	1	0	0.96	3.08
		Hispanic	176	29.93%	53.28	16.19	20	1	0.96	3.16
		White (not Hispanic)	333	56.63%	52.00	16.61	34	0	0.96	3.14
		Other	-	-	-	-	-	-	-	-

**Table 7**  
**Descriptive Statistics for Writing by Gender and Ethnicity (continued)**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
WR	9	Total	509	100.00%	47.16	14.80	36	22	0.95	3.15	
		Female	204	40.08%	47.48	14.80	13	6	0.95	3.15	
		Male	304	59.73%	46.94	14.85	23	16	0.96	3.14	
		African American	55	10.81%	50.69	14.39	5	2	0.96	2.86	
		Asian/ Pacific Islander/American									
		Indian/Alaskan Native	22	4.32%	48.32	15.20	4	1	0.95	3.40	
		Hispanic	156	30.65%	46.10	14.86	9	4	0.96	3.10	
		White (not Hispanic)	276	54.22%	46.97	14.79	18	15	0.95	3.20	
	Other	-	-	-	-	-	-	-	-	-	
	10	Total	503	100.00%	113.90	42.41	1	1	0.98	5.70	
		Female	193	38.37%	114.79	43.43	0	1	0.98	5.63	
		Male	309	61.43%	113.40	41.87	1	0	0.98	5.75	
		African American	43	8.55%	132.05	41.81	0	0	0.98	5.36	
		Asian/ Pacific Islander/American									
		Indian/Alaskan Native	17	3.38%	94.59	48.25	0	1	0.99	5.34	
Hispanic		144	28.63%	108.75	39.97	0	0	0.98	5.97		
White (not Hispanic)	299	59.44%	114.86	42.53	1	0	0.98	5.62			
Other	-	-	-	-	-	-	-	-	-		

**Table 8**  
**Descriptive Statistics for Mathematics by Gender and Ethnicity**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
MA	3	Total	537	100.00%	84.24	31.56	2	14	0.94	7.74	
		Female	211	39.29%	82.38	31.91	0	7	0.94	7.81	
		Male	326	60.71%	85.43	31.32	2	7	0.94	7.68	
		African American	50	9.31%	89.30	28.31	0	0	0.93	7.58	
		Asian/ Pacific Islander/American									
		Indian/Alaskan Native	22	4.10%	82.09	33.87	0	1	0.95	7.72	
		Hispanic	174	32.40%	83.58	32.09	1	5	0.94	7.67	
		White (not Hispanic)	291	54.19%	83.92	31.67	1	8	0.94	7.81	
		Other	-	-	-	-	-	-	-	-	-
	4	Total	508	100.00%	85.88	35.50	1	17	0.95	8.26	
		Female	195	38.39%	81.34	38.23	0	11	0.95	8.27	
		Male	310	61.02%	88.57	33.44	1	6	0.94	8.26	
		African American	46	9.06%	86.39	34.00	1	1	0.94	8.49	
		Asian/ Pacific Islander/American									
		Indian/Alaskan Native	17	3.35%	57.18	47.53	0	4	0.97	7.77	
		Hispanic	183	36.02%	90.16	34.66	0	2	0.94	8.14	
		White (not Hispanic)	259	50.98%	84.45	34.71	0	10	0.94	8.32	
		Other	-	-	-	-	-	-	-	-	-
	5	Total	474	100.00%	102.30	42.79	1	11	0.95	9.92	
		Female	192	40.51%	103.10	41.01	0	2	0.94	9.99	
		Male	281	59.28%	102.02	43.87	1	9	0.95	9.87	
African American		55	11.60%	99.35	46.15	1	0	0.95	9.94		
Asian/ Pacific Islander/American											
Indian/Alaskan Native		24	5.06%	85.88	46.52	0	1	0.95	10.27		
Hispanic		148	31.22%	104.64	39.81	0	4	0.94	10.05		
White (not Hispanic)		246	51.90%	103.47	43.06	0	6	0.95	9.81		
Other		-	-	-	-	-	-	-	-	-	

**Table 8**  
**Descriptive Statistics for Mathematics by Gender and Ethnicity (continued)**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	6	Total	518	100.00%	79.28	38.15	2	23	0.95	8.73
		Female	175	33.78%	82.91	37.34	0	9	0.95	8.74
		Male	342	66.02%	77.38	38.53	2	14	0.95	8.72
		African American	52	10.04%	93.02	27.90	1	0	0.90	8.79
		Asian/ Pacific Islander/American Indian/Alaskan Native	17	3.28%	73.94	39.82	0	0	0.95	9.06
		Hispanic	175	33.78%	74.82	41.62	0	13	0.96	8.65
		White (not Hispanic)	273	52.70%	79.81	36.98	1	10	0.94	8.71
		Other	-	-	-	-	-	-	-	-
	Total	469	100.00%	75.18	33.78	1	16	0.94	8.59	
	Female	179	38.17%	73.71	32.82	0	7	0.93	8.72	
	Male	288	61.41%	76.22	34.35	1	9	0.94	8.51	
	African American	48	10.24%	86.65	27.41	0	0	0.90	8.46	
	Asian/ Pacific Islander/American Indian/Alaskan Native	13	2.77%	66.54	32.81	0	0	0.93	8.37	
	Hispanic	153	32.62%	80.78	30.09	1	2	0.92	8.68	
White (not Hispanic)	253	53.95%	70.20	36.01	0	14	0.94	8.52		
Other	-	-	-	-	-	-	-	-	-	
Total	548	100.00%	79.29	37.54	1	20	0.94	9.17		
Female	219	39.96%	80.04	35.66	0	10	0.93	9.30		
Male	327	59.67%	79.11	38.67	1	10	0.94	9.08		
African American	50	9.12%	84.70	33.68	0	1	0.93	9.19		
Asian/ Pacific Islander/American Indian/Alaskan Native	23	4.20%	84.96	38.13	1	0	0.95	8.94		
Hispanic	162	29.56%	82.65	37.81	0	9	0.94	9.17		
White (not Hispanic)	311	56.75%	76.59	37.71	0	10	0.94	9.17		
Other	-	-	-	-	-	-	-	-	-	

**Table 8**  
**Descriptive Statistics for Mathematics by Gender and Ethnicity (continued)**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
MA	9	Total	476	100.00%	68.76	35.54	3	23	0.93	9.15	
		Female	188	39.50%	68.09	34.23	1	8	0.93	9.21	
		Male	287	60.29%	69.14	36.47	2	15	0.94	9.09	
		African American	50	10.50%	77.26	32.77	0	0	0.92	9.26	
		Asian/ Pacific Islander/American									
		Indian/Alaskan Native	21	4.41%	71.38	37.13	0	1	0.94	9.02	
		Hispanic	148	31.09%	69.29	34.48	0	5	0.93	9.27	
		White (not Hispanic)	257	53.99%	66.58	36.44	3	17	0.94	9.05	
		Other	-	-	-	-	-	-	-	-	-
	10	Total	447	100.00%	69.47	37.11	1	26	0.93	9.53	
		Female	165	36.91%	69.39	34.97	0	8	0.93	9.57	
		Male	281	62.86%	69.53	38.44	1	18	0.94	9.50	
		African American	38	8.50%	94.32	39.40	0	1	0.95	8.93	
		Asian/ Pacific Islander/American									
		Indian/Alaskan Native	16	3.58%	60.63	44.56	0	4	0.96	9.04	
		Hispanic	123	27.52%	66.73	35.65	1	7	0.93	9.61	
		White (not Hispanic)	270	60.40%	67.75	35.85	0	14	0.93	9.58	
Other	-	-	-	-	-	-	-	-	-		

**Table 9**  
**Descriptive Statistics for Science by Gender and Ethnicity**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
SC	5	Total	533	100.00%	89.21	25.14	10	6	0.97	4.48
		Female	217	40.71%	91.12	22.93	3	2	0.96	4.53
		Male	315	59.10%	87.99	26.50	7	4	0.97	4.44
		African American	60	11.26%	86.65	26.62	3	0	0.97	4.30
		Asian/ Pacific Islander/American Indian/Alaskan Native	27	5.07%	77.11	29.83	0	1	0.98	4.69
		Hispanic	163	30.58%	93.28	22.63	3	1	0.96	4.37
		White (not Hispanic)	282	52.91%	88.67	25.33	4	4	0.97	4.54
		Other	-	-	-	-	-	-	-	-
	8	Total	591	100.00%	174.07	49.07	5	12	0.98	6.29
		Female	238	40.27%	173.51	51.53	2	8	0.99	6.11
		Male	351	59.39%	174.75	47.37	3	4	0.98	6.38
		African American	53	8.97%	184.96	39.05	1	1	0.97	6.36
		Asian/ Pacific Islander/American Indian/Alaskan Native	25	4.23%	177.24	44.34	0	0	0.98	6.40
		Hispanic	172	29.10%	175.01	50.77	2	4	0.99	6.08
		White (not Hispanic)	339	57.36%	171.97	49.84	2	7	0.98	6.35
		Other	-	-	-	-	-	-	-	-
	10	Total	462	100.00%	57.72	28.36	2	23	0.93	7.31
		Female	178	38.53%	56.61	27.87	1	9	0.93	7.40
		Male	283	61.26%	58.38	28.74	1	14	0.94	7.24
		African American	39	8.44%	72.90	27.52	0	1	0.95	6.44
		Asian/ Pacific Islander/American Indian/Alaskan Native	17	3.68%	49.35	34.98	0	3	0.96	6.89
Hispanic		130	28.14%	54.82	28.74	2	7	0.93	7.38	
White (not Hispanic)		276	59.74%	57.45	27.28	0	12	0.93	7.38	
Other		-	-	-	-	-	-	-	-	-

**Table 10**  
**Descriptive Statistics for Reading by Disability**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
RD	3	Autism	57	9.11%	120.39	29.68	0	0	0.96	6.07	
		Deaf-Blind	2	0.32%	-	-	-	-	-	-	
		Emotional Disability	12	1.92%	151.25	8.52	1	0	0.84	3.39	
		Hearing Disability	7	1.12%	-	-	-	-	-	-	
		Limited Intellectual Capacity	159	25.40%	139.86	19.79	7	0	0.94	4.67	
		Multiple Disabilities	170	27.16%	113.05	37.98	1	4	0.98	5.56	
		Physical Disability	77	12.30%	132.22	31.75	4	0	0.98	4.99	
		Specific Learning Disability	90	14.38%	148.54	17.98	8	0	0.96	3.53	
		Speech/Language Disability	46	7.35%	150.41	7.77	1	0	0.76	3.81	
		Traumatic Brain Injury	3	0.48%	-	-	-	-	-	-	-
		Visual Disability	2	0.32%	-	-	-	-	-	-	-
		None	1	0.16%	-	-	-	-	-	-	-
	Missing	-	-	-	-	-	-	-	-	-	
	4	Autism	56	9.24%	138.34	36.73	0	0	0.98	5.41	
		Deaf-Blind	2	0.33%	-	-	-	-	-	-	
		Emotional Disability	9	1.49%	-	-	-	-	-	-	
		Hearing Disability	12	1.98%	157.75	9.62	0	0	0.74	4.92	
		Limited Intellectual Capacity	171	28.22%	156.31	20.96	1	0	0.95	4.74	
		Multiple Disabilities	168	27.72%	120.73	43.92	0	3	0.98	5.74	
		Physical Disability	66	10.89%	142.30	36.14	1	1	0.98	5.67	
		Specific Learning Disability	77	12.71%	166.57	9.18	7	0	0.85	3.56	
		Speech/Language Disability	35	5.78%	165.31	7.55	2	0	0.77	3.65	
		Traumatic Brain Injury	6	0.99%	-	-	-	-	-	-	-
		Visual Disability	2	0.33%	-	-	-	-	-	-	-
None		1	0.17%	-	-	-	-	-	-	-	
Missing	1	0.17%	-	-	-	-	-	-	-		

**Table 10**  
**Descriptive Statistics for Reading by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
RD	5	Autism	57	10.38%	126.32	36.11	0	0	0.98	5.55	
		Deaf-Blind	1	0.18%	-	-	-	-	-	-	
		Emotional Disability	8	1.46%	-	-	-	-	-	-	
		Hearing Disability	7	1.28%	-	-	-	-	-	-	
		Limited Intellectual Capacity	160	29.14%	144.91	23.55	4	1	0.96	4.69	
		Multiple Disabilities	172	31.33%	117.33	38.42	1	5	0.98	5.71	
		Physical Disability	57	10.38%	144.93	24.74	4	0	0.96	4.73	
		Specific Learning Disability	60	10.93%	156.05	8.40	7	0	0.83	3.49	
		Speech/Language Disability	21	3.83%	154.24	8.21	0	0	0.81	3.54	
		Traumatic Brain Injury	1	0.18%	-	-	-	-	-	-	-
		Visual Disability	2	0.36%	-	-	-	-	-	-	-
		None	2	0.36%	-	-	-	-	-	-	-
	Missing	1	0.18%	-	-	-	-	-	-	-	
	6	Autism	50	8.61%	116.46	30.80	0	0	0.97	5.31	
		Deaf-Blind	-	-	-	-	-	-	-	-	
		Emotional Disability	9	1.55%	-	-	-	-	-	-	
		Hearing Disability	10	1.72%	135.30	20.35	0	0	0.95	4.40	
		Limited Intellectual Capacity	176	30.29%	130.59	21.49	3	0	0.95	4.63	
		Multiple Disabilities	197	33.91%	103.21	36.67	0	4	0.98	5.44	
		Physical Disability	57	9.81%	128.39	27.90	0	1	0.97	4.61	
		Specific Learning Disability	56	9.64%	141.68	16.00	1	1	0.97	2.90	
		Speech/Language Disability	16	2.75%	140.50	12.84	2	0	0.91	3.86	
Traumatic Brain Injury		7	1.21%	-	-	-	-	-	-	-	
Visual Disability	1	0.17%	-	-	-	-	-	-	-		
None	1	0.17%	-	-	-	-	-	-	-		
Missing	1	0.17%	-	-	-	-	-	-	-		



**Table 10**  
**Descriptive Statistics for Reading by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
RD	7	Autism	43	8.32%	199.47	51.56	1	0	0.98	7.56	
		Deaf-Blind	-	-	-	-	-	-	-	-	
		Emotional Disability	4	0.77%	-	-	-	-	-	-	
		Hearing Disability	6	1.16%	-	-	-	-	-	-	
		Limited Intellectual Capacity	167	32.30%	234.17	31.98	4	0	0.97	5.55	
		Multiple Disabilities	170	32.88%	189.56	63.48	0	7	0.99	6.72	
		Physical Disability	36	6.96%	237.39	21.73	1	0	0.93	5.80	
		Specific Learning Disability	72	13.93%	248.57	10.34	4	0	0.84	4.09	
		Speech/Language Disability	11	2.13%	236.27	26.87	0	0	0.96	5.60	
		Traumatic Brain Injury	3	0.58%	-	-	-	-	-	-	-
		Visual Disability	2	0.39%	-	-	-	-	-	-	-
		None	1	0.19%	-	-	-	-	-	-	-
	Missing	2	0.39%	-	-	-	-	-	-	-	
	8	Autism	56	9.49%	137.30	24.02	2	0	0.95	5.38	
		Deaf-Blind	1	0.17%	-	-	-	-	-	-	
		Emotional Disability	5	0.85%	-	-	-	-	-	-	
		Hearing Disability	6	1.02%	-	-	-	-	-	-	
		Limited Intellectual Capacity	204	34.58%	147.68	22.38	10	0	0.96	4.26	
		Multiple Disabilities	220	37.29%	122.61	40.39	5	1	0.98	5.37	
		Physical Disability	32	5.42%	152.00	14.78	0	0	0.92	4.23	
		Specific Learning Disability	39	6.61%	152.95	27.13	4	0	0.99	2.94	
		Speech/Language Disability	9	1.53%	-	-	-	-	-	-	
Traumatic Brain Injury		10	1.70%	147.60	38.32	0	0	1.00	2.59		
Visual Disability	2	0.34%	-	-	-	-	-	-	-		
None	5	0.85%	-	-	-	-	-	-	-		
Missing	1	0.17%	-	-	-	-	-	-	-		

**Table 10**  
**Descriptive Statistics for Reading by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	9	Autism	35	6.72%	146.03	41.50	0	1	0.98	6.24
		Deaf-Blind	2	0.38%	-	-	-	-	-	-
		Emotional Disability	5	0.96%	-	-	-	-	-	-
		Hearing Disability	16	3.07%	186.94	8.86	0	0	0.79	4.05
		Limited Intellectual Capacity	194	37.24%	177.41	25.50	2	0	0.96	4.91
		Multiple Disabilities	179	34.36%	146.20	47.28	2	8	0.98	6.03
		Physical Disability	42	8.06%	172.55	37.33	1	1	0.98	4.73
		Specific Learning Disability	32	6.14%	189.38	12.50	0	0	0.92	3.59
		Speech/Language Disability	8	1.54%	-	-	-	-	-	-
		Traumatic Brain Injury	6	1.15%	-	-	-	-	-	-
		Visual Disability	1	0.19%	-	-	-	-	-	-
		None	1	0.19%	-	-	-	-	-	-
	Missing	-	-	-	-	-	-	-	-	
	10	Autism	30	5.96%	195.27	69.77	1	0	0.99	6.73
		Deaf-Blind	-	-	-	-	-	-	-	-
		Emotional Disability	8	1.59%	-	-	-	-	-	-
		Hearing Disability	10	1.99%	241.60	27.46	0	0	0.96	5.53
		Limited Intellectual Capacity	163	32.41%	226.89	47.37	2	0	0.98	6.49
		Multiple Disabilities	215	42.74%	184.20	69.80	1	13	0.99	7.20
		Physical Disability	38	7.56%	235.13	57.04	2	0	0.99	5.26
		Specific Learning Disability	25	4.97%	256.24	13.35	1	0	0.89	4.33
		Speech/Language Disability	10	1.99%	254.70	14.66	0	0	0.88	5.10
Traumatic Brain Injury		2	0.40%	-	-	-	-	-	-	
Visual Disability	1	0.20%	-	-	-	-	-	-		
None	1	0.20%	-	-	-	-	-	-		
Missing	-	-	-	-	-	-	-	-		

**Table 11**  
**Descriptive Statistics for Writing by Disability**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
WR	3	Autism	54	8.94%	38.91	13.21	3	0	0.93	3.41	
		Deaf-Blind	2	0.33%	-	-	-	-	-	-	
		Emotional Disability	12	1.99%	49.67	5.68	3	0	0.78	2.69	
		Hearing Disability	7	1.16%	-	-	-	-	-	-	
		Limited Intellectual Capacity	153	25.33%	47.48	8.06	29	0	0.88	2.80	
		Multiple Disabilities	165	27.32%	35.22	15.17	10	18	0.96	3.08	
		Physical Disability	75	12.42%	42.92	12.93	10	1	0.95	2.81	
		Specific Learning Disability	89	14.74%	49.73	7.00	24	0	0.89	2.28	
		Speech/Language Disability	41	6.79%	49.63	4.90	9	0	0.77	2.38	
		Traumatic Brain Injury	3	0.50%	-	-	-	-	-	-	-
		Visual Disability	2	0.33%	-	-	-	-	-	-	-
		None	1	0.17%	-	-	-	-	-	-	-
	Missing	-	-	-	-	-	-	-	-	-	
	4	Autism	56	9.44%	71.98	23.85	0	1	0.97	4.39	
		Deaf-Blind	1	0.17%	-	-	-	-	-	-	
		Emotional Disability	9	1.52%	-	-	-	-	-	-	
		Hearing Disability	12	2.02%	87.83	8.95	0	0	0.84	3.62	
		Limited Intellectual Capacity	164	27.66%	84.84	15.39	2	1	0.94	3.70	
		Multiple Disabilities	166	27.99%	62.41	26.17	0	13	0.97	4.30	
		Physical Disability	64	10.79%	74.61	22.97	1	1	0.96	4.38	
		Specific Learning Disability	76	12.82%	91.82	8.88	9	0	0.87	3.20	
		Speech/Language Disability	35	5.90%	89.69	7.21	0	0	0.78	3.39	
Traumatic Brain Injury		6	1.01%	-	-	-	-	-	-	-	
Visual Disability	2	0.34%	-	-	-	-	-	-	-		
None	1	0.17%	-	-	-	-	-	-	-		
Missing	1	0.17%	-	-	-	-	-	-	-		

**Table 11**  
**Descriptive Statistics for Writing by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
WR	5	Autism	54	10.37%	43.31	12.83	8	1	0.95	3.00	
		Deaf-Blind	1	0.19%	-	-	-	-	-	-	
		Emotional Disability	7	1.34%	-	-	-	-	-	-	
		Hearing Disability	7	1.34%	-	-	-	-	-	-	
		Limited Intellectual Capacity	151	28.98%	49.13	8.52	38	1	0.92	2.49	
		Multiple Disabilities	165	31.67%	38.01	14.59	14	9	0.95	3.12	
		Physical Disability	53	10.17%	47.26	11.68	17	1	0.95	2.69	
		Specific Learning Disability	56	10.75%	53.14	3.02	28	0	0.73	1.58	
		Speech/Language Disability	21	4.03%	52.14	3.93	10	0	0.84	1.57	
		Traumatic Brain Injury	1	0.19%	-	-	-	-	-	-	-
		Visual Disability	2	0.38%	-	-	-	-	-	-	-
		None	2	0.38%	-	-	-	-	-	-	-
	Missing	1	0.19%	-	-	-	-	-	-	-	
	6	Autism	50	8.76%	46.30	14.57	1	1	0.95	3.30	
		Deaf-Blind	-	-	-	-	-	-	-	-	
		Emotional Disability	8	1.40%	-	-	-	-	-	-	
		Hearing Disability	10	1.75%	58.20	5.57	0	0	0.77	2.65	
		Limited Intellectual Capacity	173	30.30%	52.23	11.65	17	1	0.93	3.16	
		Multiple Disabilities	195	34.15%	39.70	16.96	6	17	0.96	3.43	
		Physical Disability	56	9.81%	50.64	14.75	7	2	0.95	3.18	
		Specific Learning Disability	55	9.63%	59.80	7.77	17	1	0.93	2.07	
		Speech/Language Disability	15	2.63%	56.80	11.73	1	0	0.96	2.48	
Traumatic Brain Injury		6	1.05%	-	-	-	-	-	-	-	
Visual Disability	1	0.18%	-	-	-	-	-	-	-		
None	1	0.18%	-	-	-	-	-	-	-		
Missing	1	0.18%	-	-	-	-	-	-	-		

**Table 11**  
**Descriptive Statistics for Writing by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	7	Autism	43	8.43%	90.09	29.05	0	2	0.96	5.94
		Deaf-Blind	-	-	-	-	-	-	-	-
		Emotional Disability	4	0.78%	-	-	-	-	-	-
		Hearing Disability	6	1.18%	-	-	-	-	-	-
		Limited Intellectual Capacity	163	31.96%	115.61	24.29	0	1	0.96	5.11
		Multiple Disabilities	168	32.94%	85.06	35.89	0	13	0.98	5.56
		Physical Disability	37	7.26%	116.03	24.17	0	0	0.94	5.71
		Specific Learning Disability	71	13.92%	130.73	12.26	2	0	0.86	4.62
		Speech/Language Disability	10	1.96%	119.00	23.20	0	0	0.95	5.26
		Traumatic Brain Injury	3	0.59%	-	-	-	-	-	-
		Visual Disability	2	0.39%	-	-	-	-	-	-
		None	1	0.20%	-	-	-	-	-	-
	Missing	2	0.39%	-	-	-	-	-	-	
	8	Autism	56	9.52%	51.50	14.36	4	0	0.95	3.24
		Deaf-Blind	1	0.17%	-	-	-	-	-	-
		Emotional Disability	5	0.85%	-	-	-	-	-	-
		Hearing Disability	6	1.02%	-	-	-	-	-	-
		Limited Intellectual Capacity	204	34.69%	56.50	13.02	25	0	0.95	3.03
		Multiple Disabilities	218	37.08%	45.51	18.19	11	1	0.97	3.31
		Physical Disability	32	5.44%	59.56	10.34	5	0	0.90	3.30
		Specific Learning Disability	39	6.63%	62.72	11.84	8	0	0.97	2.20
		Speech/Language Disability	9	1.53%	-	-	-	-	-	-
Traumatic Brain Injury		10	1.70%	61.90	17.09	3	0	0.99	1.71	
Visual Disability	2	0.34%	-	-	-	-	-	-		
None	5	0.85%	-	-	-	-	-	-		
Missing	1	0.17%	-	-	-	-	-	-		

**Table 11**  
**Descriptive Statistics for Writing by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	9	Autism	34	6.68%	41.74	14.77	1	1	0.94	3.51
		Deaf-Blind	2	0.39%	-	-	-	-	-	-
		Emotional Disability	4	0.79%	-	-	-	-	-	-
		Hearing Disability	16	3.14%	50.56	6.82	1	0	0.86	2.58
		Limited Intellectual Capacity	191	37.53%	51.68	11.19	16	2	0.93	2.94
		Multiple Disabilities	174	34.19%	39.59	16.09	2	16	0.96	3.27
		Physical Disability	40	7.86%	50.28	13.70	3	1	0.95	3.19
		Specific Learning Disability	32	6.29%	58.59	6.93	8	0	0.83	2.85
		Speech/Language Disability	8	1.57%	-	-	-	-	-	-
		Traumatic Brain Injury	6	1.18%	-	-	-	-	-	-
		Visual Disability	1	0.20%	-	-	-	-	-	-
		None	1	0.20%	-	-	-	-	-	-
	Missing	-	-	-	-	-	-	-	-	
	10	Autism	30	5.96%	106.40	49.43	0	0	0.99	5.18
		Deaf-Blind	-	-	-	-	-	-	-	-
		Emotional Disability	8	1.59%	-	-	-	-	-	5.32
		Hearing Disability	10	1.99%	129.80	20.84	0	0	0.93	5.55
		Limited Intellectual Capacity	163	32.41%	123.50	33.87	0	0	0.97	5.86
		Multiple Disabilities	215	42.74%	97.19	43.59	1	1	0.98	5.77
		Physical Disability	38	7.56%	134.42	39.83	0	0	0.98	5.41
		Specific Learning Disability	25	4.97%	145.60	22.37	0	0	0.95	4.84
		Speech/Language Disability	10	1.99%	143.60	25.92	0	0	0.95	5.52
Traumatic Brain Injury		2	0.40%	-	-	-	-	-	-	
Visual Disability	1	0.20%	-	-	-	-	-	-		
None	1	0.20%	-	-	-	-	-	-		
Missing	-	-	-	-	-	-	-	-		

**Table 12**  
**Descriptive Statistics for Mathematics by Disability**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	3	Autism	46	8.57%	67.91	33.53	0	1	0.94	8.04
		Deaf-Blind	2	0.37%	-	-	-	-	-	-
		Emotional Disability	12	2.24%	109.08	9.96	1	0	0.61	6.24
		Hearing Disability	4	0.75%	-	-	-	-	-	-
		Limited Intellectual Capacity	150	27.93%	93.03	22.03	0	0	0.88	7.54
		Multiple Disabilities	143	26.63%	63.90	34.45	0	10	0.94	8.17
		Physical Disability	65	12.10%	86.08	30.43	0	2	0.94	7.62
		Specific Learning Disability	65	12.10%	106.08	13.16	1	0	0.75	6.56
		Speech/Language Disability	44	8.19%	101.27	16.84	0	0	0.81	7.24
		Traumatic Brain Injury	3	0.56%	-	-	-	-	-	-
		Visual Disability	2	0.37%	-	-	-	-	-	-
		None	1	0.19%	-	-	-	-	-	-
	Missing	-	-	-	-	-	-	-	-	
	4	Autism	43	8.47%	76.67	35.18	0	1	0.94	8.43
		Deaf-Blind	1	0.20%	-	-	-	-	-	-
		Emotional Disability	7	1.38%	-	-	-	-	-	-
		Hearing Disability	10	1.97%	99.20	25.38	0	0	0.90	8.16
		Limited Intellectual Capacity	155	30.51%	94.99	26.26	0	0	0.90	8.30
		Multiple Disabilities	143	28.15%	61.62	37.39	0	13	0.95	8.38
		Physical Disability	57	11.22%	84.54	35.86	0	2	0.95	8.27
		Specific Learning Disability	55	10.83%	115.15	13.93	1	0	0.75	7.03
		Speech/Language Disability	27	5.32%	109.33	14.37	0	0	0.70	7.87
Traumatic Brain Injury		6	1.18%	-	-	-	-	-	-	
Visual Disability	2	0.39%	-	-	-	-	-	-		
None	1	0.20%	-	-	-	-	-	-		
Missing	1	0.20%	-	-	-	-	-	-		

**Table 12**  
**Descriptive Statistics for Mathematics by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
MA	5	Autism	43	9.07%	102.49	45.03	0	0	0.95	9.81	
		Deaf-Blind	1	0.21%	-	-	-	-	-	-	
		Emotional Disability	7	1.48%	-	-	-	-	-	-	
		Hearing Disability	4	0.84%	-	-	-	-	-	-	
		Limited Intellectual Capacity	151	31.86%	110.61	34.85	1	2	0.92	9.97	
		Multiple Disabilities	150	31.65%	75.55	44.09	0	8	0.95	9.92	
		Physical Disability	49	10.34%	112.47	35.89	0	1	0.92	10.08	
		Specific Learning Disability	45	9.49%	137.24	15.78	0	0	0.66	9.14	
		Speech/Language Disability	19	4.01%	138.37	12.50	0	0	0.51	8.79	
		Traumatic Brain Injury	1	0.21%	-	-	-	-	-	-	-
		Visual Disability	1	0.21%	-	-	-	-	-	-	-
		None	2	0.42%	-	-	-	-	-	-	-
	Missing	1	0.21%	-	-	-	-	-	-	-	
	6	Autism	43	8.30%	67.00	37.14	1	3	0.94	8.88	
		Deaf-Blind	-	-	-	-	-	-	-	-	
		Emotional Disability	7	1.35%	-	-	-	-	-	-	
		Hearing Disability	8	1.54%	-	-	-	-	-	-	
		Limited Intellectual Capacity	163	31.47%	87.50	31.77	0	1	0.92	8.81	
		Multiple Disabilities	173	33.40%	56.16	36.91	0	19	0.94	8.72	
		Physical Disability	54	10.43%	88.04	33.35	0	0	0.93	8.88	
		Specific Learning Disability	47	9.07%	117.11	13.22	1	0	0.72	6.95	
		Speech/Language Disability	15	2.90%	102.20	25.19	0	0	0.89	8.26	
Traumatic Brain Injury		5	0.97%	-	-	-	-	-	-	-	
Visual Disability	1	0.19%	-	-	-	-	-	-	-		
None	1	0.19%	-	-	-	-	-	-	-		
Missing	1	0.19%	-	-	-	-	-	-	-		



**Table 12**  
**Descriptive Statistics for Mathematics by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	7	Autism	41	8.74%	69.12	33.06	0	1	0.94	8.34
		Deaf-Blind	-	-	-	-	-	-	-	-
		Emotional Disability	4	0.85%	-	-	-	-	-	-
		Hearing Disability	5	1.07%	-	-	-	-	-	-
		Limited Intellectual Capacity	162	34.54%	84.72	27.43	1	1	0.90	8.56
		Multiple Disabilities	152	32.41%	53.37	34.57	0	14	0.94	8.55
		Physical Disability	34	7.25%	81.03	26.69	0	0	0.90	8.63
		Specific Learning Disability	56	11.94%	104.45	12.14	0	0	0.58	7.85
		Speech/Language Disability	8	1.71%	-	-	-	-	-	-
		Traumatic Brain Injury	3	0.64%	-	-	-	-	-	-
		Visual Disability	1	0.21%	-	-	-	-	-	-
		None	1	0.21%	-	-	-	-	-	-
	Missing	2	0.43%	-	-	-	-	-	-	
	8	Autism	51	9.31%	73.63	39.06	0	1	0.95	8.77
		Deaf-Blind	1	0.18%	-	-	-	-	-	-
		Emotional Disability	4	0.73%	-	-	-	-	-	-
		Hearing Disability	4	0.73%	-	-	-	-	-	-
		Limited Intellectual Capacity	198	36.13%	85.96	33.58	0	2	0.92	9.27
		Multiple Disabilities	197	35.95%	61.52	36.23	0	16	0.94	9.11
		Physical Disability	31	5.66%	91.61	30.08	1	0	0.91	9.27
		Specific Learning Disability	33	6.02%	113.91	25.67	0	1	0.90	8.07
		Speech/Language Disability	12	2.19%	116.08	14.20	0	0	0.68	8.09
Traumatic Brain Injury		9	1.64%	-	-	-	-	-	-	
Visual Disability	2	0.37%	-	-	-	-	-	-		
None	5	0.91%	-	-	-	-	-	-		
Missing	1	0.18%	-	-	-	-	-	-		

**Table 12**  
**Descriptive Statistics for Mathematics by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	9	Autism	30	6.30%	48.23	31.16	0	3	0.92	8.70
		Deaf-Blind	2	0.42%	-	-	-	-	-	-
		Emotional Disability	5	1.05%	-	-	-	-	-	-
		Hearing Disability	14	2.94%	90.00	19.98	0	0	0.78	9.36
		Limited Intellectual Capacity	184	38.66%	77.85	29.38	0	0	0.90	9.31
		Multiple Disabilities	164	34.45%	49.95	33.85	0	18	0.93	8.85
		Physical Disability	38	7.98%	81.47	34.70	0	0	0.94	8.83
		Specific Learning Disability	25	5.25%	106.04	19.91	2	0	0.86	7.56
		Speech/Language Disability	6	1.26%	-	-	-	-	-	-
		Traumatic Brain Injury	6	1.26%	-	-	-	-	-	-
		Visual Disability	1	0.21%	-	-	-	-	-	-
		None	1	0.21%	-	-	-	-	-	-
	Missing	-	-	-	-	-	-	-	-	
	10	Autism	27	6.04%	72.33	41.21	0	1	0.95	9.10
		Deaf-Blind	-	-	-	-	-	-	-	-
		Emotional Disability	7	1.57%	-	-	-	-	-	-
		Hearing Disability	7	1.57%	-	-	-	-	-	-
		Limited Intellectual Capacity	149	33.33%	75.13	30.97	0	2	0.90	9.67
		Multiple Disabilities	186	41.61%	52.33	35.37	0	22	0.93	9.29
		Physical Disability	37	8.28%	91.78	31.74	0	1	0.91	9.58
		Specific Learning Disability	23	5.15%	102.35	25.90	1	0	0.89	8.63
		Speech/Language Disability	9	2.01%	-	-	-	-	-	-
Traumatic Brain Injury		2	0.45%	-	-	-	-	-	-	
Visual Disability	-	-	-	-	-	-	-	-		
None	-	-	-	-	-	-	-	-		
Missing	-	-	-	-	-	-	-	-		

**Table 13**  
**Descriptive Statistics for Science by Disability**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement	
					Mean	SD					
SC	5	Autism	58	10.88%	78.48	28.17	0	2	0.97	4.88	
		Deaf-Blind	1	0.19%	-	-	-	-	-	-	
		Emotional Disability	7	1.31%	-	-	-	-	-	-	
		Hearing Disability	6	1.13%	-	-	-	-	-	-	
		Limited Intellectual Capacity	157	29.46%	96.80	18.23	3	1	0.95	4.16	
		Multiple Disabilities	171	32.08%	77.47	27.85	0	3	0.97	4.94	
		Physical Disability	55	10.32%	92.98	23.88	2	0	0.97	4.32	
		Specific Learning Disability	52	9.76%	106.77	7.74	4	0	0.84	3.12	
		Speech/Language Disability	20	3.75%	106.35	5.98	1	0	0.73	3.08	
		Traumatic Brain Injury	1	0.19%	-	-	-	-	-	-	-
		Visual Disability	2	0.38%	-	-	-	-	-	-	-
		None	2	0.38%	-	-	-	-	-	-	-
	Missing	1	0.19%	-	-	-	-	-	-	-	
	8	Autism	57	9.65%	165.90	44.65	1	1	0.98	6.96	
		Deaf-Blind	1	0.17%	-	-	-	-	-	-	
		Emotional Disability	5	0.85%	-	-	-	-	-	-	
		Hearing Disability	5	0.85%	-	-	-	-	-	-	
		Limited Intellectual Capacity	207	35.03%	187.23	38.32	2	1	0.98	5.97	
		Multiple Disabilities	220	37.23%	151.10	55.05	1	9	0.98	6.79	
		Physical Disability	32	5.42%	195.91	22.78	0	0	0.93	6.01	
		Specific Learning Disability	35	5.92%	197.49	47.21	1	1	0.99	4.41	
		Speech/Language Disability	11	1.86%	216.09	6.27	0	0	0.67	3.59	
		Traumatic Brain Injury	10	1.69%	211.30	7.66	0	0	0.73	3.95	
		Visual Disability	2	0.34%	-	-	-	-	-	-	-
None		5	0.85%	-	-	-	-	-	-	-	
Missing	1	0.17%	-	-	-	-	-	-	-		

**Table 12**  
**Descriptive Statistics for Science by Disability (continued)**

Content	Grade	Primary Disability	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
SC	10	Autism	26	5.63%	56.15	29.09	0	0	0.94	7.14
		Deaf-Blind	-	-	-	-	-	-	-	-
		Emotional Disability	8	1.73%	-	-	-	-	-	-
		Hearing Disability	7	1.52%	-	-	-	-	-	-
		Limited Intellectual Capacity	154	33.33%	64.31	23.65	1	2	0.90	7.43
		Multiple Disabilities	196	42.42%	44.29	28.13	0	19	0.93	7.28
		Physical Disability	35	7.58%	75.20	21.62	0	1	0.90	6.75
		Specific Learning Disability	23	4.98%	83.48	14.20	1	0	0.83	5.92
		Speech/Language Disability	10	2.17%	78.80	11.91	0	0	0.69	6.62
		Traumatic Brain Injury	2	0.43%	-	-	-	-	-	-
		Visual Disability	-	-	-	-	-	-	-	-
		None	1	0.22%	-	-	-	-	-	-
		Missing	-	-	-	-	-	-	-	-

**Table 14**  
**Descriptive Statistics for Reading by Adaptation**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	3	Switch	6	0.96%	-	-	-	-	-	-
		Computer	4	0.64%	-	-	-	-	-	-
		ACD	8	1.28%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	23	3.67%	79.83	34.83	0	1	0.97	5.58
		Objects	91	14.54%	113.75	36.89	0	1	0.98	5.50
		Picture Symbols	109	17.41%	123.58	28.71	0	0	0.96	5.62
		Braille	2	0.32%	-	-	-	-	-	-
		Sign Language	24	3.83%	122.21	24.84	0	0	0.94	5.88
		MA Manips	4	0.64%	-	-	-	-	-	-
		Alt. Keyboard	2	0.32%	-	-	-	-	-	-
	Other	22	3.51%	129.32	28.47	0	0	0.97	5.23	
	4	Switch	9	1.49%	-	-	-	-	-	-
		Computer	11	1.82%	127.09	45.07	0	0	0.99	5.07
		ACD	8	1.32%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	30	4.95%	74.97	40.88	1	2	0.98	5.41
		Objects	89	14.69%	111.72	44.99	1	0	0.98	5.86
		Picture Symbols	108	17.82%	123.20	41.93	1	0	0.98	5.94
		Braille	5	0.83%	-	-	-	-	-	-
		Sign Language	34	5.61%	130.35	36.88	0	0	0.98	5.55
		MA Manips	11	1.82%	109.82	42.56	0	0	0.98	6.31
Alt. Keyboard		4	0.66%	-	-	-	-	-	-	
Other	33	5.45%	115.09	47.71	1	1	0.99	5.76		

**Table 14**  
**Descriptive Statistics for Reading by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	5	Switch	3	0.55%	-	-	-	-	-	-
		Computer	10	1.82%	129.30	21.89	0	0	0.94	5.55
		ACD	5	0.91%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	24	4.37%	79.54	41.32	0	2	0.98	5.48
		Objects	83	15.12%	113.84	41.16	1	2	0.98	5.94
		Picture Symbols	98	17.85%	120.21	37.84	2	1	0.98	5.77
		Braille	3	0.55%	-	-	-	-	-	-
		Sign Language	15	2.73%	123.00	26.22	0	0	0.94	6.30
		MA Manips	2	0.36%	-	-	-	-	-	-
		Alt. Keyboard	2	0.36%	-	-	-	-	-	-
	Other	28	5.10%	122.14	33.32	0	1	0.97	6.01	
	6	Switch	6	1.03%	-	-	-	-	-	-
		Computer	12	2.07%	121.17	19.56	0	0	0.91	5.99
		ACD	7	1.21%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	30	5.16%	66.63	31.67	0	0	0.97	5.16
		Objects	72	12.39%	103.15	38.80	0	1	0.98	5.09
		Picture Symbols	105	18.07%	110.03	33.88	0	1	0.98	5.35
		Braille	1	0.17%	-	-	-	-	-	-
		Sign Language	27	4.65%	106.59	35.34	0	0	0.97	5.60
		MA Manips	5	0.86%	-	-	-	-	-	-
Alt. Keyboard		2	0.34%	-	-	-	-	-	-	
Other	38	6.54%	97.92	37.25	0	2	0.98	5.63		

**Table 14**  
**Descriptive Statistics for Reading by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	7	Switch	3	0.58%	-	-	-	-	-	-
		Computer	8	1.55%	-	-	-	-	-	-
		ACD	4	0.77%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	16	3.10%	120.13	50.12	0	0	0.98	7.73
		Objects	57	11.03%	183.09	70.00	1	2	0.99	6.39
		Picture Symbols	75	14.51%	186.40	66.44	1	3	0.99	6.72
		Braille	2	0.39%	-	-	-	-	-	-
		Sign Language	25	4.84%	153.08	62.82	0	3	0.99	7.27
		MA Manips	7	1.35%	-	-	-	-	-	-
		Alt. Keyboard	3	0.58%	-	-	-	-	-	-
	Other	32	6.19%	186.25	51.07	0	0	0.98	7.64	
	8	Switch	1	0.17%	-	-	-	-	-	-
		Computer	8	1.36%	-	-	-	-	-	-
		ACD	11	1.86%	120.55	29.36	0	0	0.94	7.07
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	24	4.07%	75.92	37.22	0	0	0.97	6.04
		Objects	63	10.68%	123.76	37.94	0	0	0.98	5.44
		Picture Symbols	100	16.95%	127.57	37.00	2	0	0.98	5.27
		Braille	5	0.85%	-	-	-	-	-	-
		Sign Language	19	3.22%	123.26	33.27	0	0	0.96	6.45
		MA Manips	1	0.17%	-	-	-	-	-	-
Alt. Keyboard		3	0.51%	-	-	-	-	-	-	
Other	32	5.42%	122.19	35.68	0	1	0.97	5.78		

**Table 14**  
**Descriptive Statistics for Reading by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	9	Switch	2	0.38%	-	-	-	-	-	-
		Computer	6	1.15%	-	-	-	-	-	-
		ACD	3	0.58%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	24	4.61%	97.33	53.92	0	3	0.99	5.76
		Objects	63	12.09%	144.02	48.71	0	4	0.99	5.76
		Picture Symbols	78	14.97%	154.18	42.46	2	1	0.98	5.85
		Braille	2	0.38%	-	-	-	-	-	-
		Sign Language	22	4.22%	156.14	40.06	0	0	0.98	6.05
		MA Manips	12	2.30%	127.67	53.61	0	0	0.99	5.82
		Alt. Keyboard	5	0.96%	-	-	-	-	-	-
	Other	24	4.61%	138.71	49.76	1	0	0.99	5.96	
	10	Switch	8	1.59%	-	-	-	-	-	-
		Computer	3	0.60%	-	-	-	-	-	-
		ACD	3	0.60%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	22	4.37%	88.86	42.93	0	4	0.98	5.36
		Objects	67	13.32%	174.51	70.90	0	2	0.99	7.40
		Picture Symbols	74	14.71%	184.74	67.39	0	2	0.99	7.60
		Braille	1	0.20%	-	-	-	-	-	-
		Sign Language	22	4.37%	204.32	62.38	0	0	0.99	7.26
		MA Manips	6	1.19%	-	-	-	-	-	-
Alt. Keyboard		4	0.80%	-	-	-	-	-	-	
Other	33	6.56%	168.67	70.25	0	2	0.99	7.12		



**Table 15**  
**Descriptive Statistics for Writing by Adaptation**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	3	Switch	6	0.99%	-	-	-	-	-	-
		Computer	4	0.66%	-	-	-	-	-	-
		ACD	8	1.33%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	23	3.81%	18.35	8.41	0	6	0.89	2.75
		Objects	86	14.24%	34.57	14.86	7	7	0.96	3.01
		Picture Symbols	103	17.05%	39.55	12.47	7	3	0.94	3.07
		Braille	2	0.33%	-	-	-	-	-	-
		Sign Language	24	3.97%	39.25	12.94	1	0	0.95	3.02
		MA Manips	4	0.66%	-	-	-	-	-	-
		Alt. Keyboard	2	0.33%	-	-	-	-	-	-
	Other	21	3.48%	38.19	14.07	2	1	0.96	2.88	
	4	Switch	9	1.52%	-	-	-	-	-	-
		Computer	11	1.86%	69.00	24.30	0	0	0.98	3.72
		ACD	8	1.35%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	30	5.06%	36.73	21.52	0	7	0.97	3.90
		Objects	87	14.67%	56.84	26.31	0	6	0.97	4.43
		Picture Symbols	107	18.04%	64.93	25.77	0	3	0.97	4.43
		Braille	5	0.84%	-	-	-	-	-	-
		Sign Language	34	5.73%	68.06	23.75	0	0	0.97	4.22
		MA Manips	11	1.86%	58.00	25.87	0	0	0.97	4.53
Alt. Keyboard		4	0.68%	-	-	-	-	-	-	
Other	33	5.57%	62.64	26.95	0	4	0.98	4.24		

**Table 15**  
**Descriptive Statistics for Writing by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	5	Switch	2	0.38%	-	-	-	-	-	-
		Computer	9	1.73%	-	-	-	-	-	-
		ACD	5	0.96%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	23	4.42%	25.65	14.29	1	3	0.95	3.20
		Objects	82	15.74%	36.98	14.69	11	4	0.95	3.26
		Picture Symbols	96	18.43%	39.06	14.28	14	1	0.95	3.13
		Braille	3	0.58%	-	-	-	-	-	-
		Sign Language	13	2.50%	43.23	9.93	2	0	0.89	3.37
		MA Manips	2	0.38%	-	-	-	-	-	-
	Alt. Keyboard	2	0.38%	-	-	-	-	-	-	
	Other	27	5.18%	39.74	13.75	4	1	0.94	3.27	
	6	Switch	6	1.05%	-	-	-	-	-	-
		Computer	12	2.10%	46.58	14.76	0	0	0.95	3.41
		ACD	7	1.23%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	29	5.08%	24.38	13.21	0	5	0.94	3.15
		Objects	71	12.43%	40.28	17.52	4	5	0.97	3.16
		Picture Symbols	104	18.21%	44.70	16.07	9	3	0.96	3.32
		Braille	1	0.18%	-	-	-	-	-	-
Sign Language		26	4.55%	43.77	16.88	0	2	0.96	3.41	
MA Manips		5	0.88%	-	-	-	-	-	-	
Alt. Keyboard	2	0.35%	-	-	-	-	-	-		
Other	38	6.66%	36.37	17.09	2	4	0.96	3.53		

**Table 15**  
**Descriptive Statistics for Writing by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	7	Switch	3	0.59%	-	-	-	-	-	-
		Computer	8	1.57%	-	-	-	-	-	-
		ACD	4	0.78%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	15	2.94%	46.93	19.03	0	3	0.93	5.17
		Objects	57	11.18%	84.72	38.84	0	5	0.98	5.23
		Picture Symbols	75	14.71%	85.95	38.05	0	6	0.98	5.41
		Braille	2	0.39%	-	-	-	-	-	-
		Sign Language	25	4.90%	61.92	25.39	0	4	0.95	5.56
		MA Manips	7	1.37%	-	-	-	-	-	-
		Alt. Keyboard	3	0.59%	-	-	-	-	-	-
	Other	30	5.88%	82.67	31.51	0	1	0.97	5.82	
	8	Switch	1	0.17%	-	-	-	-	-	-
		Computer	8	1.36%	-	-	-	-	-	-
		ACD	11	1.87%	43.64	14.62	0	0	0.95	3.24
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	24	4.08%	23.88	10.56	0	1	0.89	3.55
		Objects	63	10.71%	45.83	18.12	4	1	0.97	3.15
		Picture Symbols	100	17.01%	48.72	17.00	7	1	0.96	3.18
		Braille	5	0.85%	-	-	-	-	-	-
		Sign Language	19	3.23%	44.37	14.96	0	0	0.95	3.47
		MA Manips	1	0.17%	-	-	-	-	-	-
Alt. Keyboard		3	0.51%	-	-	-	-	-	-	
Other	32	5.44%	43.88	15.82	0	0	0.94	3.98		

**Table 15**  
**Descriptive Statistics for Writing by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	9	Switch	2	0.39%	-	-	-	-	-	-
		Computer	6	1.18%	-	-	-	-	-	-
		ACD	3	0.59%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	24	4.72%	26.25	15.47	1	6	0.96	3.10
		Objects	62	12.18%	41.26	17.88	4	5	0.97	3.17
		Picture Symbols	77	15.13%	44.16	16.26	4	2	0.96	3.16
		Braille	2	0.39%	-	-	-	-	-	-
		Sign Language	22	4.32%	40.09	12.57	0	0	0.93	3.24
		MA Manips	12	2.36%	34.50	17.40	0	2	0.97	3.01
		Alt. Keyboard	5	0.98%	-	-	-	-	-	-
	Other	24	4.72%	36.79	17.46	1	1	0.97	3.13	
	10	Switch	8	1.59%	-	-	-	-	-	-
		Computer	3	0.60%	-	-	-	-	-	-
		ACD	3	0.60%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	22	4.37%	45.77	18.38	0	0	0.97	3.19
		Objects	67	13.32%	90.36	42.32	0	0	0.98	5.83
		Picture Symbols	74	14.71%	96.81	43.84	0	0	0.98	5.89
		Braille	1	0.20%	-	-	-	-	-	-
		Sign Language	22	4.37%	114.00	35.12	0	0	0.98	5.51
		MA Manips	6	1.19%	-	-	-	-	-	-
Alt. Keyboard		4	0.80%	-	-	-	-	-	-	
Other	33	6.56%	83.55	39.54	0	0	0.98	5.69		

**Table 16**  
**Descriptive Statistics for Mathematics by Adaptation**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	3	Switch	3	0.56%	-	-	-	-	-	-
		Computer	1	0.19%	-	-	-	-	-	-
		ACD	3	0.56%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	11	2.05%	31.36	31.74	0	2	0.95	7.05
		Objects	50	9.31%	63.80	36.78	0	3	0.95	8.10
		Picture Symbols	44	8.19%	66.55	33.49	0	2	0.93	8.55
		Braille	2	0.37%	-	-	-	-	-	-
		Sign Language	14	2.61%	64.71	32.80	0	0	0.93	8.56
		MA Manips	15	2.79%	56.73	33.49	0	1	0.94	8.44
	Alt. Keyboard	2	0.37%	-	-	-	-	-	-	
	Other	18	3.35%	59.61	35.74	0	0	0.95	8.24	
	4	Switch	2	0.39%	-	-	-	-	-	-
		Computer	1	0.20%	-	-	-	-	-	-
		ACD	3	0.59%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	20	3.94%	19.05	34.07	0	12	0.97	5.67
		Objects	57	11.22%	56.16	42.67	0	10	0.97	7.90
		Picture Symbols	39	7.68%	60.23	43.52	0	4	0.97	8.00
		Braille	3	0.59%	-	-	-	-	-	-
Sign Language		25	4.92%	67.08	38.03	0	3	0.95	8.71	
MA Manips		26	5.12%	74.89	39.13	0	1	0.96	8.19	
Alt. Keyboard	5	0.98%	-	-	-	-	-	-		
Other	19	3.74%	43.53	36.51	0	4	0.96	7.58		

**Table 16**  
**Descriptive Statistics for Mathematics by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	5	Switch	3	0.63%	-	-	-	-	-	-
		Computer	1	0.21%	-	-	-	-	-	-
		ACD	3	0.63%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	15	3.17%	37.73	49.86	0	3	0.98	7.64
		Objects	43	9.07%	66.07	51.16	0	5	0.97	9.35
		Picture Symbols	31	6.54%	67.81	48.77	0	3	0.96	9.37
		Braille	2	0.42%	-	-	-	-	-	-
		Sign Language	13	2.74%	72.69	46.80	0	0	0.96	9.80
	MA Manips	20	4.22%	98.05	47.74	0	0	0.96	9.51	
	Alt. Keyboard	-	-	-	-	-	-	-	-	
	Other	17	3.59%	71.94	42.72	0	1	0.94	10.23	
	6	Switch	3	0.58%	-	-	-	-	-	-
		Computer	3	0.58%	-	-	-	-	-	-
		ACD	5	0.97%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	26	5.02%	24.15	33.70	0	10	0.96	6.76
		Objects	45	8.69%	57.18	43.13	0	7	0.96	8.40
		Picture Symbols	40	7.72%	57.35	40.98	0	4	0.95	8.82
Braille		1	0.19%	-	-	-	-	-	-	
Sign Language		21	4.05%	52.33	41.99	0	2	0.95	8.98	
MA Manips		49	9.46%	79.71	35.17	0	0	0.93	8.99	
Alt. Keyboard	-	-	-	-	-	-	-	-		
Other	23	4.44%	53.39	43.96	0	3	0.96	8.42		

**Table 16**  
**Descriptive Statistics for Mathematics by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	7	Switch	2	0.43%	-	-	-	-	-	-
		Computer	3	0.64%	-	-	-	-	-	-
		ACD	3	0.64%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	18	3.84%	19.50	20.20	0	4	0.90	6.43
		Objects	34	7.25%	47.91	40.47	0	5	0.96	8.15
		Picture Symbols	40	8.53%	52.50	41.79	0	5	0.96	8.05
		Braille	-	-	-	-	-	-	-	-
		Sign Language	16	3.41%	40.06	32.30	0	1	0.93	8.35
		MA Manips	29	6.18%	63.72	40.61	0	1	0.96	8.36
		Alt. Keyboard	1	0.21%	-	-	-	-	-	-
	Other	12	2.56%	42.42	29.13	0	0	0.92	8.48	
	8	Switch	1	0.18%	-	-	-	-	-	-
		Computer	2	0.37%	-	-	-	-	-	-
		ACD	11	2.01%	48.73	29.38	0	0	0.92	8.26
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	17	3.10%	16.65	18.90	0	6	0.88	6.59
		Objects	48	8.76%	65.60	38.61	0	1	0.94	9.09
		Picture Symbols	57	10.40%	64.35	39.30	0	3	0.94	9.29
		Braille	2	0.37%	-	-	-	-	-	-
		Sign Language	12	2.19%	57.75	28.39	0	0	0.89	9.60
		MA Manips	35	6.39%	71.57	34.94	0	1	0.93	9.29
Alt. Keyboard		1	0.18%	-	-	-	-	-	-	
Other	20	3.65%	63.95	34.95	0	0	0.93	9.09		

**Table 16**  
**Descriptive Statistics for Mathematics by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	9	Switch	1	0.21%	-	-	-	-	-	-
		Computer	2	0.42%	-	-	-	-	-	-
		ACD	4	0.84%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	17	3.57%	19.53	27.05	0	6	0.95	5.78
		Objects	31	6.51%	53.84	36.58	0	3	0.94	9.09
		Picture Symbols	45	9.45%	62.53	36.04	0	2	0.94	9.01
		Braille	-	-	-	-	-	-	-	-
		Sign Language	17	3.57%	61.18	33.11	0	0	0.91	9.69
		MA Manips	22	4.62%	50.59	34.30	0	1	0.94	8.70
	Alt. Keyboard	3	0.63%	-	-	-	-	-	-	
	Other	24	5.04%	45.33	28.72	0	1	0.91	8.40	
	10	Switch	2	0.45%	-	-	-	-	-	-
		Computer	1	0.22%	-	-	-	-	-	-
		ACD	2	0.45%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	12	2.69%	15.33	23.88	0	7	0.93	6.38
		Objects	36	8.05%	50.58	34.36	0	5	0.93	9.13
		Picture Symbols	46	10.29%	57.74	36.76	0	4	0.94	9.37
		Braille	1	0.22%	-	-	-	-	-	-
Sign Language		17	3.80%	55.94	31.07	0	0	0.90	9.81	
MA Manips		21	4.70%	68.00	29.89	0	1	0.89	9.91	
Alt. Keyboard	2	0.45%	-	-	-	-	-	-		
Other	14	3.13%	43.50	29.73	0	2	0.91	8.98		



**Table 17**  
**Descriptive Statistics for Science by Adaptation**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
SC	5	Switch	3	0.56%	-	-	-	-	-	-
		Computer	1	0.19%	-	-	-	-	-	-
		ACD	3	0.56%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	21	3.94%	53.00	30.78	0	2	0.98	4.44
		Objects	72	13.51%	75.64	27.33	0	2	0.97	5.01
		Picture Symbols	54	10.13%	78.09	27.86	0	1	0.97	4.86
		Braille	3	0.56%	-	-	-	-	-	-
		Sign Language	14	2.63%	77.07	28.19	0	0	0.97	4.99
		MA Manips	1	0.19%	-	-	-	-	-	-
		Alt. Keyboard	-	-	-	-	-	-	-	-
	Other	16	3.00%	83.75	26.45	0	1	0.96	5.03	
	8	Switch	1	0.17%	-	-	-	-	-	-
		Computer	2	0.34%	-	-	-	-	-	-
		ACD	10	1.69%	155.40	37.92	0	0	0.96	7.49
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	18	3.05%	88.56	48.50	0	1	0.98	6.47
		Objects	51	8.63%	159.41	54.88	0	1	0.99	6.42
		Picture Symbols	71	12.01%	164.58	53.35	0	1	0.99	6.39
		Braille	2	0.34%	-	-	-	-	-	-
		Sign Language	17	2.88%	148.47	50.62	0	0	0.98	6.77
		MA Manips	4	0.68%	-	-	-	-	-	-
Alt. Keyboard		1	0.17%	-	-	-	-	-	-	
Other	24	4.06%	144.33	50.17	0	1	0.98	7.25		

**Table 17**  
**Descriptive Statistics for Science by Adaptation (continued)**

Content	Grade	Adaptation	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
SC	10	Switch	4	0.87%	-	-	-	-	-	-
		Computer	-	-	-	-	-	-	-	-
		ACD	3	0.65%	-	-	-	-	-	-
		E-Reader	-	-	-	-	-	-	-	-
		Eye Gaze	14	3.03%	10.43	16.57	0	8	0.93	4.45
		Objects	26	5.63%	37.00	29.15	0	6	0.94	6.95
		Picture Symbols	55	11.91%	49.75	30.26	0	5	0.94	7.30
		Braille	1	0.22%	-	-	-	-	-	-
		Sign Language	16	3.46%	43.25	24.26	0	0	0.90	7.70
		MA Manips	2	0.43%	-	-	-	-	-	-
		Alt. Keyboard	2	0.43%	-	-	-	-	-	-
Other	10	2.17%	21.80	23.41	0	4	0.92	6.42		

**Table 18**  
**Descriptive Statistics for Reading by Approximate Administration Time Required**

Content	Grade	Approximate Time Required to Administer Assesment	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	3	1 Hour or Less	327	52.24%	137.43	27.29	19	2	0.97	4.71
		2 Hours	197	31.47%	128.77	30.50	2	0	0.97	5.20
		3 Hours	31	4.95%	111.65	38.18	0	0	0.98	5.65
		4 Hours or More	15	2.40%	100.60	39.41	0	1	0.98	5.67
		Missing	56	8.95%	126.57	38.86	1	2	0.98	4.78
	4	1 Hour or Less	307	50.66%	147.98	35.91	7	2	0.98	4.81
		2 Hours	212	34.98%	140.01	35.57	3	1	0.98	5.47
		3 Hours	39	6.44%	139.82	38.39	0	1	0.98	5.23
		4 Hours or More	5	0.83%	-	-	-	-	-	-
		Missing	43	7.10%	153.91	27.38	1	0	0.97	4.73
	5	1 Hour or Less	310	56.47%	138.94	31.57	13	3	0.98	4.86
		2 Hours	164	29.87%	131.27	32.58	2	1	0.97	5.31
		3 Hours	15	2.73%	130.20	29.60	0	0	0.96	5.99
		4 Hours or More	13	2.37%	115.46	34.49	0	0	0.97	6.45
		Missing	47	8.56%	136.09	36.16	1	2	0.98	4.73
	6	1 Hour or Less	312	53.70%	123.83	31.65	4	4	0.98	4.67
		2 Hours	189	32.53%	120.91	29.98	2	1	0.97	5.00
		3 Hours	27	4.65%	114.00	27.97	0	0	0.96	5.43
		4 Hours or More	15	2.58%	83.67	36.80	0	0	0.98	5.79
		Missing	38	6.54%	126.66	29.36	1	1	0.97	4.68

**Table 18**  
**Descriptive Statistics for Reading by Approximate Administration Time Required (continued)**

Content	Grade	Approximate Time Required to Administer Assesment	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	7	1 Hour or Less	157	30.37%	220.85	55.53	7	3	0.99	5.50
		2 Hours	246	47.58%	221.36	46.34	4	4	0.98	6.10
		3 Hours	60	11.61%	208.53	44.15	0	0	0.97	7.01
		4 Hours or More	18	3.48%	175.83	59.37	0	0	0.99	7.18
		Missing	36	6.96%	228.14	40.36	0	0	0.98	5.80
	8	1 Hour or Less	303	51.36%	141.87	32.45	14	1	0.98	4.43
		2 Hours	200	33.90%	136.93	29.97	6	0	0.97	5.00
		3 Hours	33	5.59%	130.06	31.58	0	0	0.97	5.61
		4 Hours or More	7	1.19%	-	-	-	-	-	-
		Missing	47	7.97%	130.00	41.07	1	0	0.99	4.74
	9	1 Hour or Less	218	41.84%	170.83	39.87	2	6	0.99	4.74
		2 Hours	218	41.84%	160.23	39.46	3	4	0.98	5.78
		3 Hours	31	5.95%	163.00	34.75	1	1	0.97	5.89
		4 Hours or More	17	3.26%	149.00	50.60	0	0	0.99	5.90
		Missing	37	7.10%	166.60	38.73	0	1	0.98	4.88
	10	1 Hour or Less	115	22.86%	209.11	74.11	2	10	0.99	5.65
		2 Hours	260	51.69%	212.07	61.01	4	2	0.99	6.74
		3 Hours	81	16.10%	204.04	60.08	2	2	0.99	7.01
		4 Hours or More	29	5.77%	209.83	56.30	0	0	0.98	7.76
		Missing	18	3.58%	203.06	70.42	0	0	0.99	5.78

**Table 19**  
**Descriptive Statistics for Writing by Approximate Administration Time Required**

Content	Grade	Approximate Time Required to Administer Assesment	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	3	1 Hour or Less	318	52.65%	45.61	11.67	59	9	0.94	2.74
		2 Hours	191	31.62%	41.04	12.41	18	3	0.94	2.99
		3 Hours	29	4.80%	36.34	15.67	3	2	0.96	3.11
		4 Hours or More	14	2.32%	31.07	15.50	1	1	0.97	2.86
		Missing	52	8.61%	42.40	14.36	8	6	0.96	2.80
	4	1 Hour or Less	299	50.42%	79.37	22.38	7	11	0.97	3.90
		2 Hours	208	35.08%	74.22	23.23	1	3	0.97	4.06
		3 Hours	39	6.58%	72.46	22.77	0	1	0.97	4.22
		4 Hours or More	5	0.84%	-	-	-	-	-	-
		Missing	42	7.08%	85.00	18.36	4	1	0.96	3.46
	5	1 Hour or Less	296	56.81%	46.67	11.67	78	8	0.95	2.68
		2 Hours	159	30.52%	43.03	13.03	26	3	0.95	2.85
		3 Hours	15	2.88%	45.07	12.24	3	0	0.95	2.65
		4 Hours or More	11	2.11%	38.45	13.12	0	0	0.93	3.41
		Missing	40	7.68%	45.33	13.72	12	1	0.97	2.50
	6	1 Hour or Less	305	53.42%	49.52	15.64	42	16	0.96	3.18
		2 Hours	187	32.75%	47.97	14.89	5	4	0.95	3.18
		3 Hours	27	4.73%	45.41	14.62	0	0	0.95	3.39
		4 Hours or More	15	2.63%	33.60	17.76	0	1	0.97	2.98
		Missing	37	6.48%	50.22	13.66	5	1	0.95	3.16

**Table 19**  
**Descriptive Statistics for Writing by Approximate Administration Time Required (continued)**

Content	Grade	Approximate Time Required to Administer Assesment	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
WR	7	1 Hour or Less	154	30.20%	109.08	34.16	0	6	0.98	5.15
		2 Hours	244	47.84%	106.55	31.10	2	7	0.97	5.32
		3 Hours	58	11.37%	95.60	31.93	0	0	0.97	5.76
		4 Hours or More	18	3.53%	78.44	31.83	0	2	0.97	5.86
		Missing	36	7.06%	110.42	29.00	0	1	0.96	5.68
	8	1 Hour or Less	301	51.19%	54.71	16.07	43	1	0.97	2.96
		2 Hours	200	34.01%	52.04	15.07	14	0	0.95	3.34
		3 Hours	33	5.61%	47.48	17.63	0	0	0.97	3.24
		4 Hours or More	7	1.19%	-	-	-	-	-	-
		Missing	47	7.99%	49.83	18.03	4	0	0.97	3.10
	9	1 Hour or Less	214	42.04%	49.15	14.90	15	9	0.96	3.05
		2 Hours	213	41.85%	45.40	14.86	15	10	0.95	3.15
		3 Hours	30	5.89%	44.37	12.63	1	1	0.92	3.49
		4 Hours or More	17	3.34%	41.88	16.00	0	1	0.95	3.73
		Missing	35	6.88%	50.69	13.11	5	1	0.95	2.97
	10	1 Hour or Less	115	22.86%	115.92	46.53	1	0	0.99	5.20
		2 Hours	260	51.69%	114.33	41.50	0	1	0.98	5.78
		3 Hours	81	16.10%	108.47	39.32	0	0	0.98	5.99
		4 Hours or More	29	5.77%	116.62	42.44	0	0	0.98	6.11
		Missing	18	3.58%	114.72	43.71	0	0	0.98	5.54

**Table 20**  
**Descriptive Statistics for Mathematics by Approximate Administration Time Required**

Content	Grade	Approximate Time Required to Administer Assesment	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	3	1 Hour or Less	382	71.14%	87.83	29.20	2	6	0.93	7.64
		2 Hours	68	12.66%	73.16	35.78	0	3	0.95	7.94
		3 Hours	16	2.98%	67.25	29.32	0	1	0.92	8.06
		4 Hours or More	6	1.12%	-	-	-	-	-	-
		Missing	65	12.10%	82.82	33.96	0	3	0.95	7.78
	4	1 Hour or Less	368	72.44%	88.19	35.10	1	13	0.94	8.26
		2 Hours	88	17.32%	73.43	36.04	0	2	0.95	8.19
		3 Hours	15	2.95%	65.07	42.36	0	2	0.96	8.24
		4 Hours or More	1	0.20%	-	-	-	-	-	-
		Missing	36	7.09%	101.03	22.66	0	0	0.87	8.03
	5	1 Hour or Less	324	68.35%	107.48	40.52	1	6	0.94	9.92
		2 Hours	99	20.89%	91.13	45.33	0	2	0.95	9.81
		3 Hours	8	1.69%	-	-	-	-	-	-
		4 Hours or More	9	1.90%	-	-	-	-	-	-
		Missing	34	7.17%	96.15	48.00	0	3	0.96	10.10
	6	1 Hour or Less	372	71.82%	80.13	38.80	1	16	0.95	8.71
		2 Hours	92	17.76%	75.34	35.31	0	4	0.94	8.89
		3 Hours	10	1.93%	66.50	37.03	0	0	0.94	9.28
		4 Hours or More	8	1.54%	-	-	-	-	-	-
		Missing	36	6.95%	93.19	31.24	1	0	0.92	8.58

**Table 20**  
**Descriptive Statistics for Mathematics by Approximate Administration Time Required (continued)**

Content	Grade	Approximate Time Required to Administer Assesment	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
MA	7	1 Hour or Less	323	68.87%	80.06	32.24	1	12	0.93	8.55
		2 Hours	89	18.98%	62.42	35.83	0	2	0.94	8.48
		3 Hours	13	2.77%	62.85	21.14	0	0	0.80	9.50
		4 Hours or More	6	1.28%	-	-	-	-	-	-
		Missing	38	8.10%	74.84	33.21	0	1	0.93	8.65
	8	1 Hour or Less	366	66.79%	83.06	36.78	1	11	0.94	9.26
		2 Hours	114	20.80%	71.10	37.35	0	3	0.94	8.90
		3 Hours	16	2.92%	77.69	32.85	0	0	0.91	9.58
		4 Hours or More	3	0.55%	-	-	-	-	-	-
		Missing	49	8.94%	73.35	41.22	0	6	0.95	8.99
	9	1 Hour or Less	306	64.29%	74.39	34.64	3	12	0.93	9.25
		2 Hours	100	21.01%	52.96	34.91	0	7	0.93	8.94
		3 Hours	16	3.36%	77.75	22.59	0	0	0.84	9.06
		4 Hours or More	6	1.26%	-	-	-	-	-	-
		Missing	47	9.87%	64.36	36.09	0	4	0.94	8.71
	10	1 Hour or Less	301	67.34%	71.07	36.31	0	17	0.93	9.54
		2 Hours	92	20.58%	61.27	35.42	0	6	0.93	9.46
		3 Hours	11	2.46%	70.91	30.64	0	1	0.89	10.17
		4 Hours or More	9	2.01%	-	-	-	-	-	-
		Missing	34	7.61%	72.56	46.23	1	2	0.96	8.98



**Table 21**  
**Descriptive Statistics for Science by Approximate Administration Time Required**

Content	Grade	Approximate Time Required to Administer Assesment	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
SC	5	1 Hour or Less	342	64.17%	90.93	25.22	10	2	0.97	4.33
		2 Hours	118	22.14%	86.75	23.18	0	2	0.96	4.83
		3 Hours	14	2.63%	79.71	26.87	0	0	0.97	4.86
		4 Hours or More	10	1.88%	72.50	25.57	0	0	0.95	5.93
		Missing	49	9.19%	89.33	27.19	0	2	0.98	4.12
	8	1 Hour or Less	275	46.53%	180.60	48.88	5	7	0.99	5.93
		2 Hours	199	33.67%	169.16	46.32	0	2	0.98	6.69
		3 Hours	47	7.95%	167.79	45.00	0	0	0.98	6.78
		4 Hours or More	13	2.20%	155.85	59.01	0	0	0.99	6.64
		Missing	57	9.65%	169.05	57.09	0	3	0.99	5.80
	10	1 Hour or Less	355	76.84%	57.82	27.51	1	16	0.93	7.41
		2 Hours	55	11.91%	49.85	32.25	0	5	0.95	7.04
		3 Hours	13	2.81%	63.38	30.02	0	1	0.95	6.77
		4 Hours or More	4	0.87%	-	-	-	-	-	-
		Missing	35	7.58%	66.17	26.86	1	1	0.93	6.86

**Table 22**  
**Scoring Rubric for Multiple Choice Item Types**

Total Score	Content Score	Level of Independence
3	Correct	Level 4: INDEPENDENT-Performs task without assistance
2	Correct	Level 3: Partial- Partial physical, verbal, or gestural prompt
1	Correct	Level 2: Limited- Full physical prompt
0	Incorrect or No response	Further coded: I – Independent and incorrect P – Partial and incorrect L – Limited and incorrect

**Table 23**  
**Scoring Rubric for Constructed Response Item Types**

<b>Total Score</b>	<b>Content Score</b>	<b>Level of Independence</b>
6	Correct	Level 4: INDEPENDENT- Performs task without assistance
5	Partially Correct/Some Error	Level 4: INDEPENDENT- Performs task without assistance
4	Correct	Level 3: PARTIAL- Partial physical, verbal, or gestural prompt
3	Partially Correct/Some Error	Level 3: PARTIAL- Partial physical, verbal, or gestural prompt
2	Correct	Level 2: LIMITED- Full physical prompt
1	Partially Correct/Some Error	Level 2: LIMITED- Full physical prompt
		Further coded:
0	Incorrect or No response	I – Independent and incorrect
		P – Partial and incorrect
		L –Limited and incorrect

**Table 24**  
**Summary of Invalids**

Content	Grade	Total % Invalid	Source of Invalid		Total % Valid
			15%	Bubble	
RD	3	5.58	2.11	3.47	94.42
	4	3.35	0.96	2.39	96.65
	5	7.89	1.34	6.54	92.11
	6	5.68	0.81	4.87	94.32
	7	8.17	3.91	4.26	91.83
	8	8.67	2.48	6.19	91.33
	9	6.96	0.18	6.79	93.04
	10	8.04	0.37	7.68	91.96
WR	3	8.90	5.43	3.47	91.10
	4	5.42	3.03	2.39	94.58
	5	12.58	6.04	6.54	87.42
	6	7.31	2.44	4.87	92.69
	7	9.41	5.15	4.26	90.59
	8	8.98	2.79	6.19	91.02
	9	9.11	2.32	6.79	90.89
	10	8.04	0.37	7.68	91.96
MA	3	19.00	13.88	5.13	81.00
	4	18.98	14.04	4.94	81.02
	5	20.47	13.93	6.54	79.53
	6	15.91	10.55	5.36	84.09
	7	16.70	11.72	4.97	83.30
	8	15.17	9.29	5.88	84.83
	9	15.00	8.39	6.61	85.00
	10	18.28	10.60	7.68	81.72
SC	5	10.57	4.87	5.70	89.43
	8	8.51	2.48	6.04	91.49
	10	15.54	7.68	7.86	84.46

**Table 25  
Breakdown of Invalids Due to Teachers Marking Bubbles on Answer Document**

		Invalidation Bubbles Available on Answer Document																							
Content	Grade	Student Tested All Activities				Parental Refusal				Test Not Completed				Withdraw Before Completion				Misadministraion		Taking CSAP Assessment		District Ed. Services		Missing	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%				
RD/WR	3	636	95.93%	8	1.21%	4	0.60%	3	0.45%	-	-	6	0.91%	2	0.30%	4	0.60%								
	4	602	96.01%	4	0.64%	3	0.48%	1	0.16%	-	-	6	0.96%	1	0.16%	10	1.60%								
	5	553	92.79%	6	1.01%	5	0.84%	4	0.67%	-	-	21	3.52%	3	0.50%	4	0.67%								
	6	583	94.64%	8	1.30%	7	1.14%	1	0.16%	-	-	12	1.95%	2	0.33%	3	0.49%								
	7	532	94.49%	7	1.24%	2	0.36%	3	0.53%	-	-	11	1.95%	1	0.18%	7	1.24%								
	8	602	93.19%	8	1.24%	4	0.62%	4	0.62%	-	-	20	3.10%	4	0.62%	4	0.62%								
	9	515	91.96%	13	2.32%	2	0.36%	2	0.36%	2	0.36%	16	2.86%	3	0.54%	7	1.25%								
	10	503	91.96%	11	2.01%	9	1.65%	4	0.73%	4	0.73%	12	2.19%	2	0.37%	2	0.37%								
MA	3	625	94.27%	8	1.21%	4	0.60%	3	0.45%	-	-	17	2.56%	2	0.30%	4	0.60%								
	4	587	93.62%	4	0.64%	4	0.64%	1	0.16%	-	-	21	3.35%	1	0.16%	9	1.44%								
	5	553	92.79%	6	1.01%	5	0.84%	4	0.67%	-	-	21	3.52%	3	0.50%	4	0.67%								
	6	578	93.83%	8	1.30%	8	1.30%	1	0.16%	-	-	14	2.27%	2	0.33%	5	0.81%								
	7	527	93.61%	7	1.24%	2	0.36%	3	0.53%	-	-	15	2.66%	1	0.18%	8	1.42%								
	8	603	93.34%	8	1.24%	4	0.62%	4	0.62%	-	-	18	2.79%	4	0.62%	5	0.77%								
	9	513	91.61%	12	2.14%	3	0.54%	2	0.36%	2	0.36%	15	2.68%	3	0.54%	10	1.79%								
	10	502	91.77%	11	2.01%	9	1.65%	4	0.73%	4	0.73%	12	2.19%	2	0.37%	3	0.55%								
SC	5	558	93.62%	6	1.01%	5	0.84%	4	0.67%	-	-	16	2.69%	3	0.50%	4	0.67%								
	8	602	93.19%	8	1.24%	4	0.62%	4	0.62%	-	-	19	2.94%	4	0.62%	5	0.77%								
	10	501	91.59%	11	2.01%	9	1.65%	4	0.73%	4	0.73%	13	2.38%	2	0.37%	3	0.55%								

**Table 26**  
**Frequency Distributions of CR (6 Point) Items – Mathematics and Science**

Content Area	Grade	Item Number	% of Students Obtaining Score Level						
			0	1	2	3	4	5	6
MA	3	2	11.73%	1.12%	2.05%	2.98%	3.91%	6.15%	72.07%
		4	28.31%	1.68%	2.05%	7.82%	8.19%	9.13%	42.83%
		5	12.66%	0.93%	0.56%	0.93%	2.79%	7.64%	74.49%
		9	18.62%	1.30%	1.49%	4.47%	6.52%	10.43%	57.17%
		12	32.22%	6.33%	4.10%	7.64%	9.50%	21.42%	18.81%
		13	18.62%	1.68%	1.49%	3.17%	8.57%	6.15%	60.34%
		17	24.95%	1.68%	3.17%	3.35%	6.15%	4.10%	56.61%
		23	7.08%	1.12%	2.23%	0.75%	5.40%	2.42%	81.01%
		24	31.10%	6.15%	1.12%	10.24%	1.86%	28.86%	20.67%
	26	27.19%	9.68%	5.03%	10.43%	4.66%	33.71%	9.31%	
	4	2	12.99%	0.98%	2.36%	3.35%	3.54%	10.43%	66.34%
		3	11.61%	1.57%	1.18%	1.57%	4.33%	4.92%	74.80%
		4	21.06%	1.77%	3.35%	6.89%	7.68%	12.21%	47.05%
		9	27.76%	2.36%	1.38%	6.10%	5.12%	12.40%	44.88%
		12	35.63%	2.56%	6.50%	5.51%	7.48%	14.37%	27.95%
		16	29.33%	0.59%	5.91%	1.97%	11.42%	1.58%	49.21%
		18	8.07%	0.59%	1.57%	0.98%	6.10%	1.77%	80.91%
		19	17.72%	1.18%	4.33%	3.74%	13.78%	2.95%	56.30%
		20	28.54%	5.12%	7.87%	8.86%	9.84%	8.27%	31.50%
		26	32.28%	2.95%	3.35%	9.45%	6.50%	20.47%	25.00%
	5	27	25.79%	4.92%	3.54%	6.10%	7.09%	16.54%	36.02%
		29	53.35%	0.59%	3.15%	2.76%	6.69%	10.43%	23.03%
		3	26.37%	2.11%	1.69%	7.81%	7.38%	18.57%	36.08%
		4	16.88%	2.74%	1.69%	4.64%	4.22%	13.50%	56.33%
		5	28.48%	3.59%	5.06%	5.27%	12.03%	9.92%	35.65%
		6	43.67%	2.74%	2.95%	6.75%	6.96%	13.92%	23.00%
		9	10.76%	1.90%	1.48%	2.11%	2.32%	8.86%	72.57%
		12	22.15%	1.69%	1.69%	2.74%	7.38%	9.71%	54.64%
		13	29.11%	2.53%	0.84%	4.43%	3.59%	12.03%	47.47%
		17	50.00%	2.32%	2.53%	7.17%	3.38%	20.68%	13.92%
		18	58.23%	1.69%	1.69%	2.95%	3.80%	4.85%	26.79%
22		6.96%	2.32%	0.84%	1.90%	5.06%	4.01%	78.90%	
23	14.14%	2.53%	0.84%	4.85%	6.75%	6.33%	64.56%		
25	25.95%	3.38%	5.06%	5.91%	12.24%	7.38%	40.08%		
26	33.12%	2.74%	2.74%	8.02%	4.85%	21.52%	27.00%		
27	36.92%	2.32%	3.38%	8.02%	9.07%	14.77%	25.53%		
28	62.45%	0.63%	3.59%	1.69%	6.75%	5.70%	19.20%		
29	36.71%	3.38%	4.85%	5.27%	7.38%	7.81%	34.60%		
31	15.40%	0.21%	1.90%	1.90%	4.85%	4.01%	71.73%		

**Table 26**  
**Frequency Distributions of CR (6 Point) Items- Mathematics and Science**  
**(continued)**

Content Area	Grade	Item Number	% of Students Obtaining Score Level						
			0	1	2	3	4	5	6
MA	6	1	29.34%	1.93%	1.74%	6.76%	5.41%	16.99%	37.84%
		2	17.95%	1.74%	1.54%	6.18%	4.44%	11.97%	56.18%
		3	14.09%	2.51%	1.35%	3.86%	2.12%	10.04%	66.02%
		4	29.73%	1.74%	4.25%	3.28%	9.85%	9.85%	41.31%
		6	28.38%	1.93%	2.32%	3.47%	4.63%	8.69%	50.58%
		12	30.89%	3.47%	2.90%	7.53%	3.86%	25.48%	25.87%
		15	31.27%	1.16%	4.05%	2.32%	10.23%	5.79%	45.17%
		19	14.67%	3.09%	2.70%	4.63%	6.18%	7.14%	61.58%
		20	41.89%	2.51%	4.44%	5.60%	8.49%	6.56%	30.50%
		29	33.59%	1.16%	3.47%	5.79%	6.18%	13.13%	36.68%
	30	59.27%	1.16%	3.47%	2.90%	4.25%	12.93%	16.02%	
	31	30.89%	1.35%	2.51%	3.86%	5.41%	7.34%	48.65%	
	7	1	27.72%	2.13%	2.35%	6.61%	3.20%	34.54%	23.45%
		2	15.57%	0.64%	1.92%	4.05%	2.77%	14.29%	60.77%
		3	13.43%	0.85%	1.28%	1.49%	2.13%	9.38%	71.43%
		4	23.67%	0.85%	4.05%	3.84%	13.65%	8.10%	45.84%
		6	23.45%	2.99%	2.77%	3.41%	5.97%	8.53%	52.88%
		16	32.41%	1.28%	5.54%	4.69%	7.46%	5.76%	42.86%
		17	12.15%	1.92%	2.35%	3.62%	10.24%	5.33%	64.39%
		20	35.61%	1.49%	7.04%	4.26%	11.73%	9.60%	30.28%
		26	30.28%	2.13%	3.84%	6.40%	4.48%	28.15%	24.73%
		27	26.23%	2.56%	4.26%	6.82%	5.76%	19.62%	34.76%
	29	50.32%	0.64%	4.05%	3.20%	5.33%	5.54%	30.92%	
	8	1	27.19%	2.92%	0.91%	9.31%	3.83%	32.85%	22.99%
		2	20.26%	1.09%	1.09%	3.83%	4.38%	17.88%	51.46%
		3	30.29%	1.09%	4.56%	3.47%	10.95%	9.31%	40.33%
		4	44.89%	0.37%	4.38%	1.28%	9.49%	4.20%	35.40%
		6	20.07%	1.46%	2.37%	3.47%	4.02%	25.55%	43.07%
		7	30.29%	1.28%	3.83%	4.74%	12.77%	8.58%	38.50%
		19	29.93%	3.28%	3.10%	2.92%	9.49%	6.02%	45.26%
		22	16.06%	2.37%	2.55%	3.65%	11.68%	6.57%	57.12%
30		33.58%	2.92%	2.74%	8.58%	5.84%	21.72%	24.64%	
31		27.56%	2.74%	4.56%	8.76%	8.21%	23.54%	24.64%	
32	47.99%	1.64%	2.55%	2.19%	5.84%	9.49%	30.29%		

**Table 26**  
**Frequency Distributions of CR (6 Point) Items- Mathematics and Science**  
**(continued)**

Content Area	Grade	Item Number	% of Students Obtaining Score Level						
			0	1	2	3	4	5	6
MA	9	1	29.41%	1.89%	2.73%	4.62%	4.83%	13.87%	42.65%
		2	18.70%	2.10%	1.68%	4.83%	3.36%	14.71%	54.62%
		3	29.83%	1.89%	2.94%	2.73%	12.61%	6.51%	43.49%
		5	18.28%	2.94%	2.52%	5.88%	4.20%	21.43%	44.75%
		6	42.02%	3.78%	7.98%	5.88%	14.08%	5.46%	20.80%
		13	27.31%	3.78%	3.15%	9.87%	8.61%	12.82%	34.45%
		16	29.41%	4.83%	5.25%	3.99%	7.77%	3.78%	44.96%
		26	35.71%	1.05%	4.83%	5.67%	4.41%	15.13%	33.19%
		29	35.08%	1.47%	4.62%	5.25%	4.62%	16.39%	32.56%
	30	42.86%	3.78%	5.04%	2.94%	4.83%	9.87%	30.67%	
	10	1	32.44%	2.24%	0.67%	5.37%	4.03%	13.42%	41.83%
		2	21.03%	2.01%	1.12%	4.92%	2.24%	22.60%	46.09%
		3	32.89%	2.01%	3.80%	3.13%	8.95%	8.73%	40.49%
		4	38.26%	0.67%	5.37%	2.24%	9.17%	7.83%	36.47%
		6	22.15%	2.01%	2.01%	5.59%	2.91%	18.57%	46.76%
		15	23.94%	2.24%	3.58%	5.82%	6.49%	7.38%	50.56%
		19	44.97%	4.03%	3.36%	6.49%	3.36%	12.98%	24.83%
		24	13.20%	1.57%	1.57%	1.57%	5.37%	4.92%	71.81%
		28	39.37%	1.79%	3.58%	4.25%	5.59%	18.57%	26.85%
		29	41.39%	2.91%	2.01%	7.61%	1.57%	28.64%	15.88%
30		55.93%	2.01%	2.01%	5.15%	2.68%	17.00%	15.21%	
36	53.47%	2.68%	6.04%	4.03%	8.50%	7.38%	17.90%		
SC	10	10	43.07%	1.08%	1.95%	0.87%	4.98%	3.03%	45.02%
		21	25.11%	1.08%	1.73%	3.68%	4.76%	19.26%	44.37%
		27	43.07%	-	1.52%	1.08%	4.55%	1.95%	47.84%
		28	51.08%	0.43%	1.08%	1.08%	2.60%	3.46%	40.26%



**Table 27**  
**Item Level Statistics With Level of Independence-Reading**

Grade	Item	With Level of Independence		
		Max Score Points	Item Difficulty	Item-Test Correlation
3	1	5	0.91	0.83
	2	5	0.94	0.70
	3	5	0.80	0.68
	4	5	0.92	0.76
	5	5	0.94	0.69
	6	5	0.94	0.72
	7	5	0.93	0.75
	8	5	0.88	0.76
	9	5	0.89	0.80
	10	5	0.89	0.83
	11	5	0.90	0.82
	12	5	0.88	0.81
	13	5	0.86	0.79
	14	5	0.79	0.78
	15	5	0.75	0.77
	16	5	0.82	0.77
	17	5	0.83	0.84
	18	5	0.82	0.83
	19	5	0.82	0.81
	20	5	0.74	0.73
	21	5	0.62	0.59
	22	5	0.75	0.77
	23	5	0.82	0.80
	24	5	0.73	0.72
	25	5	0.74	0.73
	26	5	0.82	0.79
	27	5	0.86	0.84
	28	5	0.72	0.70
	29	5	0.78	0.77
	30	5	0.70	0.64
	31	5	0.75	0.73
	32	5	0.79	0.72

**Table 27**  
**Item Level Statistics With and Without Level of Independence- Reading**  
**(continued)**

Grade	Item	With Level of Independence		
		Max Score Points	Item Difficulty	Item-Test Correlation
4	1	5	0.90	0.83
	2	5	0.96	0.65
	3	5	0.92	0.75
	4	5	0.88	0.71
	5	5	0.95	0.67
	6	5	0.95	0.69
	7	5	0.90	0.79
	8	5	0.90	0.80
	9	5	0.89	0.87
	10	5	0.88	0.87
	11	5	0.86	0.86
	12	5	0.80	0.81
	13	5	0.81	0.78
	14	5	0.80	0.82
	15	5	0.87	0.85
	16	5	0.85	0.88
	17	5	0.81	0.83
	18	5	0.73	0.73
	19	5	0.84	0.80
	20	5	0.80	0.80
	21	5	0.93	0.72
	22	5	0.82	0.80
	23	5	0.80	0.79
	24	5	0.84	0.80
	25	5	0.84	0.82
	26	5	0.77	0.75
	27	5	0.82	0.83
	28	5	0.75	0.74
	29	5	0.77	0.78
	30	5	0.80	0.80
	31	5	0.78	0.76
	32	5	0.71	0.73
	33	5	0.69	0.69
	34	5	0.59	0.54
	35	5	0.79	0.76

**Table 27**  
**Item Level Statistics With and Without Level of Independence- Reading**  
**(continued)**

Grade	Item	With Level of Independence		
		Max Score Points	Item Difficulty	Item-Test Correlation
5	1	5	0.92	0.78
	2	5	0.83	0.72
	3	5	0.92	0.72
	4	5	0.93	0.64
	5	5	0.92	0.66
	6	5	0.90	0.69
	7	5	0.91	0.82
	8	5	0.92	0.81
	9	5	0.91	0.82
	10	5	0.92	0.82
	11	5	0.90	0.85
	12	5	0.88	0.83
	13	5	0.76	0.80
	14	5	0.77	0.81
	15	5	0.86	0.80
	16	5	0.89	0.85
	17	5	0.86	0.82
	18	5	0.85	0.83
	19	5	0.69	0.70
	20	5	0.71	0.71
	21	5	0.87	0.84
	22	5	0.87	0.82
	23	5	0.73	0.75
	24	5	0.80	0.79
	25	5	0.72	0.71
	26	5	0.78	0.76
	27	5	0.74	0.66
	28	5	0.79	0.78
	29	5	0.80	0.81
	30	5	0.74	0.71
	31	5	0.66	0.58
	32	5	0.64	0.59
	33	5	0.75	0.70

**Table 27**  
**Item Level Statistics With and Without Level of Independence- Reading**  
**(continued)**

Grade	Item	With Level of Independence		
		Max Score Points	Item Difficulty	Item-Test Correlation
6	1	5	0.91	0.80
	2	5	0.84	0.73
	3	5	0.92	0.77
	4	5	0.92	0.70
	5	5	0.91	0.72
	6	5	0.89	0.71
	7	5	0.89	0.82
	8	5	0.88	0.83
	9	5	0.89	0.86
	10	5	0.89	0.85
	11	5	0.88	0.84
	12	5	0.86	0.84
	13	5	0.68	0.75
	14	5	0.71	0.75
	15	5	0.70	0.67
	16	5	0.86	0.86
	17	5	0.84	0.83
	18	5	0.84	0.84
	19	5	0.72	0.75
	20	5	0.61	0.61
	21	5	0.77	0.81
	22	5	0.84	0.84
	23	5	0.80	0.83
	24	5	0.72	0.78
	25	5	0.80	0.79
	26	5	0.73	0.72
	27	5	0.82	0.81
	28	5	0.73	0.68
	29	5	0.73	0.74
	30	5	0.73	0.74

**Table 27**  
**Item Level Statistics With and Without Level of Independence- Reading**  
**(continued)**

Grade	Item	With Level of Independence		
		Max Score Points	Item Difficulty	Item-Test Correlation
	1	5	0.92	0.77
	2	5	0.95	0.66
	3	5	0.94	0.68
	4	5	0.90	0.71
	5	5	0.95	0.67
	6	5	0.94	0.64
	7	5	0.82	0.77
	8	5	0.82	0.79
	9	5	0.93	0.74
	10	5	0.92	0.76
	11	5	0.92	0.81
	12	5	0.91	0.81
	13	5	0.88	0.85
	14	5	0.77	0.74
	15	5	0.80	0.80
	16	5	0.82	0.80
	17	5	0.80	0.77
	18	5	0.84	0.80
	19	5	0.83	0.82
	20	5	0.77	0.76
	21	5	0.73	0.71
	22	5	0.88	0.79
	23	5	0.82	0.77
	24	5	0.91	0.80
	25	5	0.94	0.81
7	26	5	0.89	0.81
	27	5	0.93	0.71
	28	5	0.88	0.83
	29	5	0.81	0.74
	30	5	0.86	0.80
	31	5	0.88	0.83
	32	5	0.88	0.81
	33	5	0.81	0.84
	34	5	0.84	0.86
	35	5	0.80	0.74
	36	5	0.86	0.80
	37	5	0.72	0.71
	38	5	0.75	0.73
	39	5	0.85	0.78
	40	5	0.83	0.77
	41	5	0.84	0.80
	42	5	0.75	0.71
	43	5	0.80	0.76
	44	5	0.75	0.73
	45	5	0.93	0.69
	46	5	0.87	0.75
	47	5	0.83	0.77
	48	5	0.70	0.67
	49	5	0.75	0.74
	50	5	0.71	0.73
	51	5	0.70	0.68
	52	5	0.76	0.75

**Table 27**  
**Item Level Statistics With and Without Level of Independence- Reading**  
**(continued)**

Grade	Item	With Level of Independence		
		Max Score Points	Item Difficulty	Item-Test Correlation
8	1	5	0.92	0.84
	2	5	0.85	0.76
	3	5	0.91	0.77
	4	5	0.92	0.75
	5	5	0.92	0.75
	6	5	0.91	0.74
	7	5	0.93	0.83
	8	5	0.91	0.86
	9	5	0.91	0.86
	10	5	0.91	0.85
	11	5	0.90	0.85
	12	5	0.89	0.85
	13	5	0.79	0.80
	14	5	0.83	0.84
	15	5	0.89	0.82
	16	5	0.89	0.83
	17	5	0.87	0.84
	18	5	0.87	0.84
	19	5	0.76	0.71
	20	5	0.76	0.75
	21	5	0.87	0.83
	22	5	0.84	0.82
	23	5	0.81	0.82
	24	5	0.81	0.83
	25	5	0.76	0.64
	26	5	0.79	0.78
	27	5	0.87	0.83
	28	5	0.70	0.68
	29	5	0.81	0.79
	30	5	0.76	0.74
	31	5	0.71	0.67
	32	5	0.70	0.67
	33	5	0.65	0.55

**Table 27**  
**Item Level Statistics With and Without Level of Independence- Reading**  
**(continued)**

Grade	Item	With Level of Independence		
		Max Score Points	Item Difficulty	Item-Test Correlation
9	1	5	0.92	0.75
	2	5	0.86	0.78
	3	5	0.92	0.76
	4	5	0.93	0.73
	5	5	0.93	0.77
	6	5	0.91	0.78
	7	5	0.91	0.81
	8	5	0.90	0.81
	9	5	0.92	0.83
	10	5	0.91	0.83
	11	5	0.90	0.84
	12	5	0.89	0.80
	13	5	0.79	0.82
	14	5	0.79	0.82
	15	5	0.85	0.81
	16	5	0.87	0.83
	17	5	0.87	0.83
	18	5	0.87	0.83
	19	5	0.80	0.82
	20	5	0.79	0.80
	21	5	0.87	0.85
	22	5	0.88	0.84
	23	5	0.79	0.80
	24	5	0.83	0.82
	25	5	0.85	0.83
	26	5	0.62	0.56
	27	5	0.76	0.72
	28	5	0.83	0.80
	29	5	0.76	0.73
	30	5	0.82	0.80
	31	5	0.78	0.77
	32	5	0.73	0.71
	33	5	0.76	0.73
	34	5	0.74	0.71
	35	5	0.70	0.69
	36	5	0.73	0.70
	37	5	0.80	0.78
	38	5	0.77	0.75
	39	5	0.63	0.62
	40	5	0.81	0.74

**Table 27**  
**Item Level Statistics With and Without Level of Independence- Reading**  
**(continued)**

Grade	Item	With Level of Independence		
		Max Score Points	Item Difficulty	Item-Test Correlation
	1	5	0.90	0.77
	2	5	0.91	0.75
	3	5	0.82	0.83
	4	5	0.84	0.78
	5	5	0.92	0.71
	6	5	0.90	0.75
	7	5	0.76	0.81
	8	5	0.73	0.83
	9	5	0.84	0.82
	10	5	0.87	0.81
	11	5	0.86	0.86
	12	5	0.84	0.87
	13	5	0.71	0.75
	14	5	0.75	0.79
	15	5	0.77	0.84
	16	5	0.79	0.83
	17	5	0.80	0.86
	18	5	0.79	0.85
	19	5	0.77	0.84
	20	5	0.76	0.83
	21	5	0.71	0.80
	22	5	0.69	0.72
	23	5	0.69	0.77
	24	5	0.85	0.82
	25	5	0.77	0.82
	26	5	0.83	0.81
10	27	5	0.88	0.78
	28	5	0.71	0.78
	29	5	0.79	0.84
	30	5	0.71	0.78
	31	5	0.85	0.85
	32	5	0.77	0.85
	33	5	0.75	0.86
	34	5	0.76	0.82
	35	5	0.76	0.79
	36	5	0.82	0.88
	37	5	0.69	0.73
	38	5	0.73	0.81
	39	5	0.69	0.79
	40	5	0.69	0.76
	41	5	0.75	0.84
	42	5	0.64	0.73
	43	5	0.68	0.76
	44	5	0.80	0.82
	45	5	0.61	0.65
	46	5	0.87	0.75
	47	5	0.84	0.83
	48	5	0.79	0.84
	49	5	0.85	0.87
	50	5	0.78	0.82
	51	5	0.76	0.81
	52	5	0.70	0.79
	53	5	0.69	0.78
	54	5	0.71	0.81



**Table 28**  
**Item Level Statistics With and Without Level of Independence-Writing**

With Level of Independence				
Grade	Item	Max Score Points	Item Difficulty	Item-Test Correlation
3	33	5	0.89	0.75
	34	5	0.87	0.80
	35	5	0.85	0.88
	36	5	0.87	0.88
	37	5	0.88	0.85
	38	5	0.80	0.85
	39	5	0.77	0.87
	40	5	0.75	0.85
	41	5	0.74	0.83
	42	5	0.61	0.75
	43	5	0.58	0.70

With Level of Independence				
Grade	Item	Max Score Points	Item Difficulty	Item-Test Correlation
4	36	5	0.90	0.74
	37	5	0.70	0.73
	38	5	0.73	0.71
	39	5	0.66	0.70
	40	5	0.89	0.74
	41	5	0.85	0.85
	42	5	0.88	0.81
	43	5	0.89	0.79
	44	5	0.90	0.77
	45	5	0.81	0.87
	46	5	0.82	0.87
	47	5	0.80	0.85
	48	5	0.79	0.86
	49	5	0.79	0.81
	50	5	0.75	0.84
	51	5	0.79	0.85
	52	5	0.76	0.87
53	5	0.58	0.74	
54	5	0.66	0.80	
55	5	0.54	0.73	

**Table 28**  
**Item Level Statistics With and Without Level of Independence- Writing (continued)**

With Level of Independence				
Grade	Item	Max Score Points	Item Difficulty	Item-Test Correlation
5	34	5	0.91	0.73
	35	5	0.91	0.74
	36	5	0.88	0.86
	37	5	0.89	0.85
	38	5	0.91	0.83
	39	5	0.84	0.84
	40	5	0.81	0.86
	41	5	0.79	0.87
	42	5	0.78	0.85
	43	5	0.68	0.81
	44	5	0.65	0.79

With Level of Independence				
Grade	Item	Max Score Points	Item Difficulty	Item-Test Correlation
6	31	5	0.89	0.73
	32	5	0.90	0.71
	33	5	0.87	0.85
	34	5	0.87	0.85
	35	5	0.89	0.82
	36	5	0.80	0.83
	37	5	0.74	0.87
	38	5	0.73	0.87
	39	5	0.67	0.84
	40	5	0.61	0.83
	41	5	0.55	0.81
	42	5	0.55	0.80
	43	5	0.62	0.78

**Table 28**  
**Item Level Statistics With and Without Level of Independence-Writing (continued)**

		With Level of Independence		
Grade	Item	Max Score Points	Item Difficulty	Item-Test Correlation
7	53	5	0.92	0.63
	54	5	0.69	0.67
	55	5	0.63	0.56
	56	5	0.77	0.71
	57	5	0.65	0.65
	58	5	0.68	0.67
	59	5	0.66	0.64
	60	5	0.76	0.70
	61	5	0.92	0.63
	62	5	0.89	0.74
	63	5	0.90	0.72
	64	5	0.91	0.68
	65	5	0.84	0.73
	66	5	0.87	0.76
	67	5	0.73	0.83
	68	5	0.72	0.84
	69	5	0.73	0.82
	70	5	0.71	0.85
	71	5	0.54	0.76
	72	5	0.53	0.78
73	5	0.64	0.80	
74	5	0.62	0.80	
75	5	0.57	0.80	
76	5	0.55	0.81	
77	5	0.54	0.80	
78	5	0.58	0.82	
79	5	0.64	0.80	
80	5	0.65	0.83	
81	5	0.63	0.81	
82	5	0.63	0.78	

		With Level of Independence		
Grade	Item	Max Score Points	Item Difficulty	Item-Test Correlation
8	34	5	0.91	0.73
	35	5	0.91	0.72
	36	5	0.89	0.82
	37	5	0.89	0.81
	38	5	0.90	0.80
	39	5	0.83	0.80
	40	5	0.77	0.88
	41	5	0.76	0.88
	42	5	0.71	0.87
	43	5	0.65	0.86
	44	5	0.59	0.85
	45	5	0.58	0.84
	46	5	0.57	0.83
	47	5	0.61	0.79

**Table 28**  
**Item Level Statistics With and Without Level of Independence- Writing (continued)**

With Level of Independence				
Grade	Item	Max Score Points	Item Difficulty	Item-Test Correlation
9	41	5	0.91	0.71
	42	5	0.88	0.76
	43	5	0.79	0.85
	44	5	0.70	0.84
	45	5	0.63	0.84
	46	5	0.63	0.84
	47	5	0.54	0.82
	48	5	0.52	0.80
	49	5	0.52	0.81
	50	5	0.85	0.83
	51	5	0.86	0.83
	52	5	0.88	0.81
	53	5	0.72	0.75

With Level of Independence				
Grade	Item	Max Score Points	Item Difficulty	Item-Test Correlation
10	55	5	0.88	0.68
	56	5	0.62	0.67
	57	5	0.65	0.78
	58	5	0.71	0.78
	59	5	0.66	0.72
	60	5	0.62	0.74
	61	5	0.65	0.74
	62	5	0.67	0.77
	63	5	0.72	0.82
	64	5	0.58	0.62
	65	5	0.67	0.77
	66	5	0.68	0.76
	67	5	0.87	0.71
	68	5	0.84	0.78
	69	5	0.85	0.77
	70	5	0.86	0.75
	71	5	0.76	0.80
	72	5	0.79	0.80
	73	5	0.65	0.84
	74	5	0.68	0.86
	75	5	0.66	0.83
	76	5	0.62	0.85
	77	5	0.52	0.81
	78	5	0.50	0.82
	79	5	0.60	0.82
	80	5	0.56	0.81
	81	5	0.53	0.83
82	5	0.51	0.83	
83	5	0.49	0.82	
84	5	0.54	0.85	
85	5	0.59	0.84	
86	5	0.59	0.84	
87	5	0.58	0.84	
88	5	0.55	0.78	
89	5	0.54	0.79	

**Table 29**  
**Item Level Statistics With and Without Level of Independence-Mathematics**

Grade	With Level of Independence				Without Level of Independence			
	Item	Max Score Points	Item Difficulty	Item-Test Correlation	Item	Max Score Points	Item Difficulty	Item-Test Correlation
3	1	3	0.89	0.65	1	1	0.88	0.61
	2	6	0.82	0.76	2	3	0.50	0.73
	3	3	0.74	0.70	3	1	0.69	0.67
	4	6	0.61	0.69	4	3	0.32	0.64
	5	6	0.84	0.75	5	3	0.52	0.73
	6	3	0.73	0.68	6	1	0.68	0.66
	7	3	0.81	0.61	7	1	0.80	0.60
	8	3	0.54	0.58	8	1	0.49	0.59
	9	6	0.73	0.60	9	3	0.42	0.58
	10	3	0.64	0.63	10	1	0.56	0.62
	11	3	0.57	0.57	11	1	0.51	0.58
	12	6	0.49	0.52	12	3	0.20	0.47
	13	6	0.74	0.78	13	3	0.42	0.75
	14	3	0.53	0.44	14	1	0.48	0.46
	15	3	0.73	0.66	15	1	0.68	0.64
	16	3	0.48	0.60	16	1	0.39	0.57
	17	6	0.67	0.80	17	3	0.39	0.78
	18	3	0.90	0.64	18	1	0.88	0.62
	19	3	0.80	0.51	19	1	0.78	0.51
	20	3	0.72	0.57	20	1	0.67	0.56
	21	3	0.80	0.71	21	1	0.76	0.70
	22	3	0.39	0.36	22	1	0.29	0.34
	23	6	0.88	0.63	23	3	0.55	0.57
	24	6	0.52	0.60	24	3	0.23	0.54
	25	3	0.51	0.37	25	1	0.44	0.38
	26	6	0.49	0.36	26	3	0.17	0.31
	27	3	0.58	0.58	27	1	0.53	0.57
	28	3	0.73	0.71	28	1	0.69	0.71
	29	3	0.64	0.73	29	1	0.61	0.70
	30	3	0.43	0.53	30	1	0.35	0.48
	31	3	0.63	0.71	31	1	0.55	0.68
	32	3	0.71	0.66	32	1	0.64	0.61

**Table 29**  
**Item Level Statistics With and Without Level of Independence- Mathematics**  
**(continued)**

Grade	With Level of Independence				Without Level of Independence			
	Item	Max Score Points	Item Difficulty	Item-Test Correlation	Item	Max Score Points	Item Difficulty	Item-Test Correlation
4	1	3	0.90	0.64	1	1	0.88	0.57
	2	6	0.80	0.76	2	3	0.48	0.71
	3	6	0.83	0.77	3	3	0.52	0.73
	4	6	0.67	0.67	4	3	0.35	0.62
	5	3	0.62	0.63	5	1	0.56	0.63
	6	3	0.70	0.64	6	1	0.65	0.64
	7	3	0.76	0.64	7	1	0.73	0.61
	8	3	0.56	0.59	8	1	0.53	0.57
	9	6	0.63	0.63	9	3	0.34	0.59
	10	3	0.65	0.68	10	1	0.59	0.68
	11	3	0.55	0.53	11	1	0.49	0.56
	12	6	0.50	0.56	12	3	0.23	0.51
	13	3	0.63	0.56	13	1	0.58	0.54
	14	3	0.63	0.51	14	1	0.57	0.48
	15	3	0.78	0.74	15	1	0.74	0.73
	16	6	0.61	0.63	16	3	0.33	0.62
	17	3	0.78	0.60	17	1	0.74	0.58
	18	6	0.88	0.69	18	3	0.55	0.64
	19	6	0.71	0.70	19	3	0.39	0.65
	20	6	0.53	0.70	20	3	0.24	0.63
	21	3	0.64	0.66	21	1	0.59	0.64
	22	3	0.74	0.74	22	1	0.68	0.71
	23	3	0.16	0.25	23	1	0.11	0.21
	24	3	0.71	0.58	24	1	0.68	0.58
	25	3	0.69	0.70	25	1	0.63	0.69
	26	6	0.53	0.66	26	3	0.23	0.58
	27	6	0.60	0.57	27	3	0.30	0.56
	28	3	0.50	0.58	28	1	0.45	0.55
	29	6	0.39	0.62	29	3	0.19	0.57
	30	3	0.71	0.74	30	1	0.68	0.72
	31	3	0.53	0.61	31	1	0.47	0.59
	32	3	0.62	0.68	32	1	0.55	0.65
	33	3	0.41	0.58	33	1	0.35	0.57

**Table 29**  
**Item Level Statistics With and Without Level of Independence- Mathematics**  
**(continued)**

Grade	With Level of Independence				Without Level of Independence			
	Item	Max Score Points	Item Difficulty	Item-Test Correlation	Item	Max Score Points	Item Difficulty	Item-Test Correlation
5	1	3	0.87	0.63	1	1	0.85	0.56
	2	3	0.75	0.72	2	1	0.70	0.72
	3	6	0.61	0.64	3	3	0.30	0.62
	4	6	0.74	0.66	4	3	0.42	0.68
	5	6	0.57	0.60	5	3	0.27	0.55
	6	6	0.44	0.53	6	3	0.20	0.52
	7	3	0.75	0.50	7	1	0.73	0.50
	8	3	0.60	0.72	8	1	0.55	0.69
	9	6	0.83	0.73	9	3	0.51	0.72
	10	3	0.59	0.56	10	1	0.54	0.58
	11	3	0.37	0.35	11	1	0.31	0.33
	12	6	0.70	0.74	12	3	0.40	0.68
	13	6	0.63	0.56	13	3	0.36	0.53
	14	3	0.52	0.52	14	1	0.45	0.50
	15	3	0.63	0.62	15	1	0.59	0.62
	16	3	0.34	0.41	16	1	0.28	0.40
	17	6	0.38	0.48	17	3	0.16	0.45
	18	6	0.36	0.50	18	3	0.19	0.49
	19	3	0.68	0.68	19	1	0.64	0.69
	20	3	0.54	0.57	20	1	0.49	0.56
	21	3	0.64	0.54	21	1	0.62	0.52
	22	6	0.87	0.69	22	3	0.54	0.61
	23	6	0.77	0.77	23	3	0.45	0.72
	24	3	0.38	0.55	24	1	0.28	0.50
	25	6	0.60	0.75	25	3	0.29	0.68
	26	6	0.54	0.66	26	3	0.25	0.60
	27	6	0.49	0.52	27	3	0.22	0.52
	28	6	0.31	0.49	28	3	0.15	0.47
	29	6	0.51	0.55	29	3	0.26	0.54
	30	3	0.61	0.38	30	1	0.57	0.36
	31	6	0.80	0.64	31	3	0.49	0.60
	32	3	0.76	0.67	32	1	0.73	0.68
	33	3	0.63	0.55	33	1	0.59	0.57
	34	3	0.68	0.72	34	1	0.65	0.73
	35	3	0.50	0.53	35	1	0.44	0.52
	36	3	0.68	0.48	36	1	0.63	0.47
	37	3	0.82	0.74	37	1	0.81	0.71
	38	3	0.63	0.70	38	1	0.57	0.69
	39	3	0.36	0.42	39	1	0.31	0.43
	40	3	0.47	0.65	40	1	0.42	0.63

**Table 29**  
**Item Level Statistics With and Without Level of Independence- Mathematics**  
**(continued)**

Grade	With Level of Independence				Without Level of Independence			
	Item	Max Score Points	Item Difficulty	Item-Test Correlation	Item	Max Score Points	Item Difficulty	Item-Test Correlation
6	1	6	0.60	0.70	1	3	0.31	0.66
	2	6	0.73	0.70	2	3	0.41	0.68
	3	6	0.79	0.79	3	3	0.47	0.78
	4	6	0.59	0.72	4	3	0.31	0.70
	5	3	0.57	0.61	5	1	0.52	0.62
	6	6	0.64	0.77	6	3	0.37	0.75
	7	3	0.48	0.58	7	1	0.42	0.57
	8	3	0.76	0.55	8	1	0.73	0.57
	9	3	0.62	0.68	9	1	0.58	0.68
	10	3	0.50	0.55	10	1	0.45	0.55
	11	3	0.41	0.55	11	1	0.34	0.53
	12	6	0.55	0.69	12	3	0.26	0.64
	13	3	0.45	0.47	13	1	0.40	0.45
	14	3	0.65	0.59	14	1	0.58	0.58
	15	6	0.60	0.70	15	3	0.32	0.69
	16	3	0.52	0.63	16	1	0.47	0.61
	17	3	0.42	0.63	17	1	0.32	0.59
	18	3	0.48	0.49	18	1	0.42	0.48
	19	6	0.75	0.73	19	3	0.43	0.68
	20	6	0.46	0.74	20	3	0.23	0.67
	21	3	0.79	0.60	21	1	0.76	0.57
	22	3	0.26	0.25	22	1	0.22	0.23
	23	3	0.56	0.45	23	1	0.52	0.42
	24	3	0.76	0.59	24	1	0.74	0.54
	25	3	0.76	0.65	25	1	0.74	0.62
	26	3	0.31	0.28	26	1	0.28	0.28
	27	3	0.62	0.59	27	1	0.58	0.58
	28	3	0.49	0.49	28	1	0.45	0.48
	29	6	0.56	0.71	29	3	0.29	0.66
	30	6	0.32	0.59	30	3	0.15	0.53
	31	6	0.61	0.72	31	3	0.35	0.67
	32	3	0.77	0.75	32	1	0.74	0.71
	33	3	0.53	0.70	33	1	0.48	0.68
	34	3	0.32	0.58	34	1	0.26	0.58



**Table 29**  
**Item Level Statistics With and Without Level of Independence- Mathematics**  
**(continued)**

Grade	With Level of Independence				Without Level of Independence			
	Item	Max Score Points	Item Difficulty	Item-Test Correlation	Item	Max Score Points	Item Difficulty	Item-Test Correlation
7	1	6	0.59	0.57	1	3	0.27	0.58
	2	6	0.77	0.71	2	3	0.45	0.71
	3	6	0.82	0.73	3	3	0.51	0.74
	4	6	0.65	0.64	4	3	0.33	0.60
	5	3	0.49	0.53	5	1	0.41	0.52
	6	6	0.67	0.70	6	3	0.38	0.65
	7	3	0.52	0.53	7	1	0.48	0.52
	8	3	0.38	0.46	8	1	0.32	0.46
	9	3	0.57	0.57	9	1	0.52	0.57
	10	3	0.47	0.55	10	1	0.43	0.56
	11	3	0.30	0.37	11	1	0.24	0.34
	12	3	0.42	0.52	12	1	0.38	0.52
	13	3	0.59	0.70	13	1	0.56	0.70
	14	3	0.30	0.37	14	1	0.24	0.39
	15	3	0.58	0.52	15	1	0.52	0.52
	16	6	0.57	0.74	16	3	0.30	0.72
	17	6	0.79	0.67	17	3	0.45	0.64
	18	3	0.78	0.69	18	1	0.71	0.65
	19	3	0.41	0.54	19	1	0.34	0.54
	20	6	0.51	0.64	20	3	0.23	0.57
	21	3	0.55	0.50	21	1	0.50	0.50
	22	3	0.79	0.65	22	1	0.75	0.61
	23	3	0.71	0.64	23	1	0.68	0.61
	24	3	0.33	0.27	24	1	0.27	0.26
	25	3	0.64	0.59	25	1	0.60	0.59
	26	6	0.56	0.57	26	3	0.26	0.54
	27	6	0.60	0.69	27	3	0.30	0.66
	28	3	0.57	0.53	28	1	0.52	0.52
	29	6	0.42	0.68	29	3	0.22	0.65
	30	3	0.21	0.46	30	1	0.14	0.42
	31	3	0.55	0.65	31	1	0.50	0.66
	32	3	0.47	0.59	32	1	0.41	0.60
	33	3	0.53	0.55	33	1	0.49	0.56

**Table 29**  
**Item Level Statistics With and Without Level of Independence- Mathematics**  
**(continued)**

Grade	With Level of Independence				Without Level of Independence			
	Item	Max Score Points	Item Difficulty	Item-Test Correlation	Item	Max Score Points	Item Difficulty	Item-Test Correlation
8	1	6	0.58	0.71	1	3	0.26	0.67
	2	6	0.72	0.63	2	3	0.40	0.68
	3	6	0.59	0.67	3	3	0.30	0.65
	4	6	0.47	0.67	4	3	0.25	0.62
	5	3	0.38	0.31	5	1	0.32	0.35
	6	6	0.70	0.69	6	3	0.37	0.74
	7	6	0.58	0.63	7	3	0.29	0.59
	8	3	0.60	0.44	8	1	0.55	0.43
	9	3	0.34	0.40	9	1	0.28	0.36
	10	3	0.49	0.54	10	1	0.42	0.57
	11	3	0.33	0.29	11	1	0.28	0.32
	12	3	0.46	0.40	12	1	0.38	0.40
	13	3	0.32	0.45	13	1	0.29	0.44
	14	3	0.32	0.47	14	1	0.29	0.48
	15	0	-	-	15	0	-	-
	16	3	0.49	0.69	16	1	0.45	0.68
	17	3	0.52	0.69	17	1	0.44	0.70
	18	3	0.57	0.54	18	1	0.44	0.46
	19	6	0.60	0.79	19	3	0.32	0.77
	20	3	0.52	0.60	20	1	0.47	0.60
	21	3	0.63	0.74	21	1	0.56	0.73
	22	6	0.73	0.69	22	3	0.40	0.64
	23	3	0.81	0.56	23	1	0.78	0.53
	24	3	0.79	0.41	24	1	0.76	0.37
	25	3	0.53	0.64	25	1	0.48	0.64
	26	3	0.50	0.65	26	1	0.42	0.65
	27	3	0.75	0.60	27	1	0.73	0.60
	28	3	0.58	0.52	28	1	0.52	0.52
	29	3	0.55	0.63	29	1	0.49	0.66
	30	6	0.52	0.60	30	3	0.24	0.57
	31	6	0.56	0.61	31	3	0.24	0.58
	32	6	0.44	0.72	32	3	0.23	0.67
	33	3	0.25	0.56	33	1	0.16	0.50
	34	3	0.23	0.16	34	1	0.18	0.16
	35	3	0.45	0.43	35	1	0.41	0.43
	36	3	0.60	0.66	36	1	0.55	0.64
	37	3	0.57	0.68	37	1	0.50	0.67
	38	3	0.37	0.37	38	1	0.33	0.36
	39	3	0.47	0.52	39	1	0.41	0.52

**Table 29**  
**Item Level Statistics With and Without Level of Independence- Mathematics**  
**(continued)**

Grade	With Level of Independence				Without Level of Independence			
	Item	Max Score Points	Item Difficulty	Item-Test Correlation	Item	Max Score Points	Item Difficulty	Item-Test Correlation
9	1	6	0.61	0.70	1	3	0.33	0.69
	2	6	0.72	0.68	2	3	0.41	0.68
	3	6	0.60	0.69	3	3	0.31	0.65
	4	3	0.42	0.30	4	1	0.37	0.34
	5	6	0.70	0.72	5	3	0.37	0.74
	6	6	0.41	0.65	6	3	0.16	0.53
	7	3	0.60	0.56	7	1	0.56	0.57
	8	3	0.54	0.55	8	1	0.49	0.59
	9	3	0.47	0.49	9	1	0.43	0.50
	10	3	0.40	0.36	10	1	0.35	0.37
	11	3	0.31	0.39	11	1	0.27	0.40
	12	3	0.29	0.35	12	1	0.27	0.37
	13	6	0.57	0.79	13	3	0.27	0.71
	14	0	-	-	14	0	-	-
	15	3	0.35	0.68	15	1	0.31	0.67
	16	6	0.58	0.81	16	3	0.31	0.77
	17	3	0.48	0.42	17	1	0.38	0.41
	18	3	0.35	0.60	18	1	0.27	0.57
	19	3	0.17	0.26	19	1	0.12	0.26
	20	3	0.38	0.59	20	1	0.30	0.55
	21	3	0.71	0.51	21	1	0.65	0.50
	22	3	0.30	0.28	22	1	0.26	0.28
	23	3	0.32	0.35	23	1	0.27	0.36
	24	3	0.61	0.60	24	1	0.55	0.60
	25	3	0.62	0.51	25	1	0.57	0.51
	26	6	0.53	0.63	26	3	0.27	0.61
	27	3	0.63	0.60	27	1	0.58	0.59
	28	3	0.57	0.65	28	1	0.50	0.63
	29	6	0.54	0.66	29	3	0.27	0.61
	30	6	0.46	0.72	30	3	0.24	0.71
	31	3	0.22	0.57	31	1	0.14	0.50
	32	3	0.25	0.29	32	1	0.21	0.29
	33	3	0.23	0.40	33	1	0.19	0.38
	34	3	0.31	0.42	34	1	0.25	0.39
	35	3	0.46	0.61	35	1	0.42	0.61
	36	3	0.23	0.21	36	1	0.18	0.21
	37	3	0.38	0.42	37	1	0.34	0.42
	38	3	0.52	0.61	38	1	0.48	0.62
	39	3	0.37	0.52	39	1	0.33	0.51

**Table 29**  
**Item Level Statistics With and Without Level of Independence- Mathematics**  
**(continued)**

Grade	With Level of Independence				Without Level of Independence			
	Item	Max Score Points	Item Difficulty	Item-Test Correlation	Item	Max Score Points	Item Difficulty	Item-Test Correlation
10	1	6	0.59	0.72	1	3	0.32	0.71
	2	6	0.70	0.70	2	3	0.38	0.72
	3	6	0.57	0.71	3	3	0.30	0.68
	4	6	0.52	0.67	4	3	0.27	0.66
	5	3	0.24	0.40	5	1	0.17	0.36
	6	6	0.68	0.71	6	3	0.37	0.72
	7	3	0.65	0.63	7	1	0.63	0.63
	8	3	0.39	0.44	8	1	0.33	0.48
	9	3	0.34	0.46	9	1	0.30	0.44
	10	3	0.27	0.33	10	1	0.23	0.34
	11	3	0.17	0.12	11	1	0.13	0.14
	12	3	0.22	0.32	12	1	0.19	0.30
	13	3	0.30	0.35	13	1	0.26	0.31
	14	3	0.24	0.35	14	1	0.18	0.34
	15	6	0.66	0.74	15	3	0.36	0.67
	16	3	0.64	0.66	16	1	0.58	0.64
	17	3	0.66	0.65	17	1	0.63	0.64
	18	3	0.21	0.45	18	1	0.16	0.42
	19	6	0.43	0.68	19	3	0.21	0.63
	20	3	0.34	0.48	20	1	0.27	0.41
	21	3	0.25	0.51	21	1	0.21	0.51
	22	3	0.35	0.28	22	1	0.31	0.26
	23	3	0.55	0.53	23	1	0.52	0.52
	24	6	0.81	0.70	24	3	0.50	0.68
	25	3	0.25	0.42	25	1	0.21	0.38
	26	3	0.55	0.69	26	1	0.50	0.69
	27	3	0.57	0.61	27	1	0.53	0.60
	28	6	0.50	0.65	28	3	0.24	0.61
	29	6	0.46	0.61	29	3	0.20	0.59
	30	6	0.35	0.67	30	3	0.16	0.61
	31	3	0.08	0.39	31	1	0.06	0.33
	32	3	0.26	0.29	32	1	0.21	0.28
	33	3	0.15	0.23	33	1	0.12	0.20
	34	3	0.16	0.24	34	1	0.12	0.24
	35	3	0.34	0.51	35	1	0.31	0.53
	36	6	0.34	0.60	36	3	0.14	0.55
	37	3	0.44	0.58	37	1	0.40	0.59
	38	3	0.55	0.64	38	1	0.52	0.64
	39	3	0.52	0.59	39	1	0.50	0.61
	40	3	0.27	0.42	40	1	0.24	0.41

**Table 30**  
**Item Level Statistics With and Without Level of Independence-Science**

		With Level of Independence		
Grade	Item	Max Score Points	Item Difficulty	Item-Test Correlation
5	1	5	0.93	0.64
	2	5	0.90	0.71
	3	5	0.87	0.79
	4	5	0.85	0.83
	5	5	0.77	0.74
	6	5	0.73	0.71
	7	5	0.68	0.67
	8	5	0.57	0.52
	9	5	0.71	0.81
	10	5	0.69	0.82
	11	5	0.76	0.82
	12	5	0.88	0.75
	13	5	0.84	0.74
	14	5	0.80	0.82
	15	5	0.79	0.83
	16	5	0.70	0.74
	17	5	0.70	0.81
	18	5	0.75	0.81
	19	5	0.73	0.84
	20	5	0.85	0.85
	21	5	0.79	0.83
	22	5	0.72	0.78
	23	5	0.82	0.84

**Table 30**  
**Item Level Statistics With and Without Level of Independence- Science**  
**(continued)**

Grade	Item	With Level of Independence		
		Max Score Points	Item Difficulty	Item-Test Correlation
	1	5	0.91	0.65
	2	5	0.91	0.77
	3	5	0.91	0.78
	4	5	0.91	0.78
	5	5	0.88	0.77
	6	5	0.87	0.78
	7	5	0.80	0.76
	8	5	0.77	0.73
	9	5	0.74	0.83
	10	5	0.73	0.82
	11	5	0.74	0.80
	12	5	0.76	0.83
	13	5	0.62	0.69
	14	5	0.77	0.74
	15	5	0.65	0.66
	16	5	0.65	0.76
	17	5	0.67	0.78
	18	5	0.60	0.74
	19	5	0.68	0.78
	20	5	0.70	0.76
	21	5	0.69	0.76
	22	5	0.87	0.76
	23	5	0.79	0.72
8	24	5	0.70	0.66
	25	5	0.83	0.82
	26	5	0.86	0.83
	27	5	0.86	0.80
	28	5	0.70	0.66
	29	5	0.61	0.72
	30	5	0.71	0.72
	31	5	0.79	0.80
	32	5	0.84	0.81
	33	5	0.83	0.83
	34	5	0.85	0.83
	35	5	0.65	0.63
	36	5	0.85	0.81
	37	5	0.88	0.82
	38	5	0.78	0.78
	39	5	0.85	0.82
	40	5	0.87	0.81
	41	5	0.81	0.84
	42	5	0.72	0.76
	43	5	0.79	0.81
	44	5	0.70	0.72
	45	5	0.70	0.75

**Table 30**  
**Item Level Statistics With and Without Level of Independence- Science**  
**(continued)**

Grade	With Level of Independence				Without Level of Independence			
	Item	Max Score Points	Item Difficulty	Item-Test Correlation	Item	Max Score Points	Item Difficulty	Item-Test Correlation
10	1	3	0.38	0.27	1	1	0.35	0.24
	2	3	0.69	0.64	2	1	0.66	0.65
	3	3	0.64	0.64	3	1	0.61	0.63
	4	3	0.76	0.63	4	1	0.73	0.65
	5	3	0.78	0.67	5	1	0.76	0.68
	6	3	0.79	0.70	6	1	0.77	0.69
	7	3	0.84	0.60	7	1	0.82	0.62
	8	3	0.73	0.55	8	1	0.69	0.58
	9	3	0.25	0.42	9	1	0.22	0.41
	10	6	0.52	0.72	10	3	0.31	0.70
	11	3	0.58	0.63	11	1	0.55	0.63
	12	3	0.37	0.48	12	1	0.34	0.48
	13	3	0.39	0.46	13	1	0.35	0.45
	14	3	0.31	0.40	14	1	0.28	0.39
	15	3	0.76	0.56	15	1	0.72	0.57
	16	3	0.32	0.27	16	1	0.28	0.24
	17	3	0.62	0.60	17	1	0.59	0.62
	18	3	0.69	0.72	18	1	0.66	0.71
	19	3	0.64	0.70	19	1	0.61	0.70
	20	3	0.38	0.52	20	1	0.35	0.50
	21	6	0.66	0.72	21	3	0.36	0.72
	22	3	0.56	0.58	22	1	0.52	0.59
	23	3	0.36	0.59	23	1	0.32	0.57
	24	3	0.54	0.52	24	1	0.51	0.52
	25	3	0.54	0.68	25	1	0.50	0.68
	26	3	0.52	0.66	26	1	0.48	0.65
	27	6	0.54	0.76	27	3	0.33	0.74
	28	6	0.46	0.78	28	3	0.28	0.75
	29	3	0.73	0.69	29	1	0.70	0.68
	30	3	0.71	0.75	30	1	0.68	0.73

**Table 31**  
**Summary of P-values and Point Biserial by Grade and Content**

Content	Grade	P-value			Point Biserial		
		High	Mean	Low	High	Mean	Low
RD	3	0.94	0.82	0.62	0.84	0.76	0.59
	4	0.96	0.83	0.59	0.88	0.77	0.54
	5	0.93	0.82	0.64	0.85	0.76	0.58
	6	0.92	0.81	0.61	0.86	0.78	0.61
	7	0.95	0.84	0.70	0.86	0.76	0.64
	8	0.93	0.84	0.65	0.86	0.78	0.55
	9	0.93	0.82	0.62	0.85	0.77	0.56
	10	0.92	0.78	0.61	0.88	0.80	0.65
WR	3	0.89	0.78	0.58	0.88	0.82	0.70
	4	0.90	0.77	0.54	0.87	0.80	0.70
	5	0.91	0.82	0.65	0.87	0.82	0.73
	6	0.90	0.75	0.55	0.87	0.81	0.71
	7	0.92	0.70	0.53	0.85	0.75	0.56
	8	0.91	0.75	0.57	0.88	0.82	0.72
	9	0.91	0.73	0.52	0.85	0.81	0.71
	10	0.88	0.65	0.49	0.86	0.79	0.62
MA	3	0.90	0.67	0.39	0.80	0.62	0.36
	4	0.90	0.63	0.16	0.77	0.63	0.25
	5	0.87	0.60	0.31	0.77	0.59	0.35
	6	0.79	0.57	0.26	0.79	0.61	0.25
	7	0.82	0.55	0.21	0.74	0.58	0.27
	8	0.81	0.52	0.23	0.79	0.56	0.16
	9	0.72	0.45	0.17	0.81	0.53	0.21
	10	0.81	0.41	0.08	0.74	0.52	0.12
SC	5	0.93	0.78	0.57	0.85	0.77	0.52
	8	0.91	0.77	0.60	0.84	0.77	0.63
	10	0.84	0.57	0.25	0.78	0.60	0.27



**Table 32**  
**Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Reading**

Content	Grade	Standard	Standard Description	P-value				Point Biserial				
				High	Mean	Low	SD	High	Mean	Low	SD	
RD	3	2	Demonstrate understanding of symbolic representation	0.94	0.94	0.93	0.01	0.75	0.71	0.69	0.03	
		4	Use a variety of strategies to make meaning of text	0.91	0.86	0.82	0.04	0.84	0.81	0.77	0.02	
		5	Make connections to reading passages	0.79	0.79	0.79	-	0.72	0.72	0.72	-	
		1	Attend to reading activity literacy materials	0.92	0.78	0.62	0.08	0.80	0.74	0.59	0.06	
		6	Identify elements of literature (character, plot, setting)	0.86	0.77	0.70	0.06	0.84	0.74	0.64	0.07	
	4	2	Demonstrate understanding of symbolic representation	0.96	0.95	0.93	0.01	0.72	0.68	0.65	0.03	
		4	Use a variety of strategies to make meaning of text	0.90	0.87	0.84	0.03	0.88	0.85	0.80	0.03	
		1	Attend to reading activity literacy materials	0.92	0.84	0.73	0.06	0.83	0.78	0.71	0.04	
		3	Demonstrate understanding of beginning principles of phonics	0.86	0.83	0.80	0.04	0.86	0.83	0.81	0.04	
		6	Identify elements of literature (character, plot, setting)	0.82	0.77	0.69	0.05	0.83	0.77	0.69	0.05	
	5	5	Make connections to reading passages	0.79	0.73	0.59	0.09	0.78	0.71	0.54	0.11	
		2	Demonstrate understanding of symbolic representation	0.93	0.92	0.90	0.02	0.69	0.66	0.64	0.02	
		4	Use a variety of strategies to make meaning of text	0.92	0.89	0.85	0.03	0.85	0.83	0.78	0.02	
		1	Attend to reading activity literacy materials	0.92	0.81	0.69	0.08	0.84	0.77	0.70	0.05	
		5	Make connections to reading passages	0.75	0.75	0.75	-	0.70	0.70	0.70	-	
	6	6	Identify elements of literature (character, plot, setting)	0.80	0.73	0.64	0.06	0.81	0.70	0.58	0.08	
		2	Demonstrate understanding of symbolic representation	0.92	0.91	0.89	0.01	0.72	0.71	0.70	0.01	
		4	Use a variety of strategies to make meaning of text	0.91	0.85	0.70	0.06	0.86	0.82	0.67	0.06	
		1	Attend to reading activity literacy materials	0.92	0.78	0.61	0.09	0.84	0.77	0.61	0.06	
		6	Identify elements of literature (character, plot, setting)	0.82	0.76	0.73	0.05	0.81	0.75	0.68	0.05	
			5	Make connections to reading passages	0.73	0.73	0.73	-	0.74	0.74	0.74	-

**Table 32**  
**Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Reading (continued)**

Content	Grade	Standard	Standard Description	P-value				Point Biserial			
				High	Mean	Low	SD	High	Mean	Low	SD
RD	7	2	Demonstrate understanding of symbolic representation	0.95	0.94	0.93	0.01	0.71	0.67	0.64	0.03
		4	Use a variety of strategies to make meaning of text	0.94	0.87	0.72	0.07	0.82	0.79	0.71	0.03
		5	Make connections to reading passages	0.89	0.85	0.81	0.03	0.86	0.81	0.77	0.04
		1	Attend to reading activity literacy materials	0.94	0.84	0.70	0.08	0.80	0.74	0.67	0.05
		6	Identify elements of literature (character, plot, setting) Demonstrate understanding of beginning principles of phonics	0.88	0.82	0.70	0.06	0.83	0.77	0.68	0.05
		3	Demonstrate understanding of beginning principles of phonics	0.88	0.82	0.77	0.06	0.85	0.79	0.74	0.06
		8	Understand informational text	0.82	0.79	0.76	0.05	0.77	0.76	0.75	0.01
	7	Demonstrate knowledge that various texts have different purposes	0.75	0.74	0.71	0.03	0.74	0.73	0.73	0.01	
	8	2	Demonstrate understanding of symbolic representation	0.92	0.91	0.91	0.01	0.75	0.75	0.74	0.01
		4	Use a variety of strategies to make meaning of text	0.92	0.90	0.87	0.02	0.86	0.84	0.82	0.01
		1	Attend to reading activity literacy materials	0.93	0.84	0.76	0.06	0.86	0.80	0.71	0.04
		6	Identify elements of literature (character, plot, setting)	0.87	0.76	0.70	0.06	0.83	0.73	0.64	0.07
		5	Make connections to reading passages	0.65	0.65	0.65	-	0.55	0.55	0.55	-
	9	2	Demonstrate understanding of symbolic representation	0.93	0.92	0.91	0.01	0.78	0.76	0.73	0.03
		4	Use a variety of strategies to make meaning of text	0.92	0.88	0.76	0.05	0.84	0.81	0.73	0.04
		1	Attend to reading activity literacy materials	0.92	0.84	0.79	0.05	0.85	0.81	0.76	0.02
		5	Make connections to reading passages	0.77	0.77	0.77	-	0.75	0.75	0.75	-
		6	Identify elements of literature (character, plot, setting)	0.85	0.77	0.70	0.05	0.83	0.75	0.69	0.05
		9	Understand and apply literary techniques/elements to appreciate and react to lit	0.81	0.69	0.62	0.11	0.74	0.64	0.56	0.10
	10	2	Demonstrate understanding of symbolic representation	0.92	0.90	0.88	0.02	0.78	0.75	0.71	0.03
		4	Use a variety of strategies to make meaning of text	0.90	0.80	0.73	0.05	0.87	0.83	0.77	0.03
5		Make connections to reading passages	0.83	0.78	0.75	0.04	0.88	0.84	0.81	0.03	
1		Attend to reading activity literacy materials	0.87	0.78	0.69	0.07	0.84	0.79	0.72	0.04	
6		Identify elements of literature (character, plot, setting)	0.85	0.76	0.69	0.06	0.87	0.81	0.76	0.03	
3		Demonstrate understanding of beginning principles of phonics	0.80	0.75	0.71	0.05	0.86	0.80	0.75	0.05	
9		Understand and apply literary techniques/elements to appreciate and react to lit	0.80	0.75	0.70	0.08	0.82	0.80	0.79	0.02	
8		Understand informational text	0.76	0.74	0.71	0.04	0.81	0.81	0.81	0.00	
7		Demonstrate understanding of symbolic representation	0.68	0.65	0.61	0.03	0.76	0.71	0.65	0.06	

**Table 33**  
**Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Writing**

Content	Grade	Standard	Standard Description	P-value				Point Biserial			
				High	Mean	Low	SD	High	Mean	Low	SD
WR	3	11	Use systematic conventions to make written product understandable by others	0.88	0.83	0.77	0.05	0.88	0.86	0.85	0.02
		10	Demonstrate an understanding that writing communicates a message	0.89	0.78	0.58	0.12	0.88	0.80	0.70	0.07
		12	Apply elements of writing through appropriate word usage	0.61	0.61	0.61	-	0.75	0.75	0.75	-
	4	11	Use systematic conventions to make written product understandable by others	0.89	0.80	0.70	0.10	0.81	0.76	0.71	0.05
		10	Demonstrate an understanding that writing communicates a message	0.90	0.79	0.54	0.10	0.87	0.82	0.73	0.05
		13	Edit a written product using legible handwriting/word processor for publication	0.66	0.66	0.66	-	0.70	0.70	0.70	-
		12	Apply elements of writing through appropriate word usage	0.58	0.58	0.58	-	0.74	0.74	0.74	-
	5	11	Use systematic conventions to make written product understandable by others	0.91	0.86	0.81	0.05	0.86	0.85	0.83	0.02
		10	Demonstrate an understanding that writing communicates a message	0.91	0.82	0.65	0.10	0.87	0.81	0.73	0.06
		12	Apply elements of writing through appropriate word usage	0.68	0.68	0.68	-	0.81	0.81	0.81	-
	6	11	Use systematic conventions to make written product understandable by others	0.89	0.82	0.74	0.07	0.87	0.84	0.82	0.02
		10	Demonstrate an understanding that writing communicates a message	0.90	0.72	0.55	0.15	0.87	0.80	0.71	0.06
12		Apply elements of writing through appropriate word usage	0.61	0.61	0.61	-	0.83	0.83	0.83	-	

**Table 33**  
**Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Writing (continued)**

Content	Grade	Standard	Standard Description	P-value				Point Biserial			
				High	Mean	Low	SD	High	Mean	Low	SD
WR	7	11	Use systematic conventions to make written product understandable by others	0.91	0.75	0.63	0.12	0.80	0.70	0.56	0.07
		10	Demonstrate an understanding that writing communicates a message	0.92	0.71	0.53	0.15	0.85	0.77	0.63	0.07
		13	Edit a written product using legible handwriting/word processor for publication	0.77	0.67	0.62	0.07	0.83	0.79	0.71	0.05
		12	Apply elements of writing through appropriate word usage	0.68	0.62	0.57	0.05	0.82	0.72	0.64	0.09
	8	11	Use systematic conventions to make written product understandable by others	0.90	0.85	0.77	0.06	0.88	0.82	0.80	0.04
		10	Demonstrate an understanding that writing communicates a message	0.91	0.73	0.57	0.15	0.88	0.81	0.72	0.06
		12	Apply elements of writing through appropriate word usage	0.65	0.65	0.65	-	0.86	0.86	0.86	-
	9	11	Use systematic conventions to make written product understandable by others	0.88	0.81	0.72	0.07	0.85	0.81	0.75	0.04
		10	Demonstrate an understanding that writing communicates a message	0.91	0.69	0.52	0.17	0.84	0.80	0.71	0.04
		12	Apply elements of writing through appropriate word usage	0.63	0.63	0.63	-	0.84	0.84	0.84	-
	10	11	Use systematic conventions to make written product understandable by others	0.86	0.68	0.54	0.11	0.82	0.77	0.67	0.04
		10	Demonstrate an understanding that writing communicates a message	0.88	0.66	0.49	0.14	0.86	0.81	0.68	0.05
		13	Edit a written product using legible handwriting/word processor for publication	0.71	0.62	0.56	0.06	0.84	0.80	0.72	0.05
		12	Apply elements of writing through appropriate word usage	0.72	0.61	0.53	0.07	0.85	0.77	0.62	0.08

**Table 34**  
**Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Mathematics**

Content	Grade	Standard	Standard Description	P-value				Point Biserial			
				High	Mean	Low	SD	High	Mean	Low	SD
MA	3	4	Identifies, sorts, and matches geometric shapes	0.90	0.75	0.39	0.19	0.71	0.57	0.36	0.12
		1	Counts, represents quantities, reads and writes	0.89	0.75	0.54	0.12	0.76	0.68	0.58	0.06
		3	Displays and analyzes data	0.74	0.63	0.48	0.12	0.80	0.66	0.44	0.15
		2	Identifies, describes, and creates patterns to solve problems	0.73	0.61	0.49	0.10	0.63	0.58	0.52	0.05
		6	Uses calculation strategies to compute problems	0.71	0.60	0.43	0.12	0.73	0.66	0.53	0.09
		5	Applies a variety of measurement skills	0.73	0.57	0.49	0.10	0.71	0.52	0.36	0.15
		4	1	Counts, represents quantities, reads and writes	0.90	0.73	0.56	0.11	0.77	0.67	0.59
	4		Identifies, sorts, and matches geometric shapes	0.88	0.72	0.61	0.11	0.74	0.62	0.51	0.08
	2		Identifies, describes, and creates patterns to solve problems	0.65	0.58	0.50	0.07	0.68	0.60	0.53	0.07
	5		Applies a variety of measurement skills	0.71	0.57	0.39	0.12	0.70	0.62	0.57	0.05
	6		Uses calculation strategies to compute problems	0.71	0.57	0.41	0.13	0.74	0.65	0.58	0.07
	3		Displays and analyzes data	0.74	0.56	0.16	0.24	0.74	0.61	0.25	0.20
	5	4	Identifies, sorts, and matches geometric shapes	0.87	0.70	0.51	0.14	0.69	0.58	0.38	0.12
		1	Counts, represents quantities, reads and writes	0.87	0.65	0.37	0.15	0.74	0.62	0.35	0.12
		3	Displays and analyzes data	0.77	0.59	0.38	0.15	0.77	0.67	0.55	0.10
		6	Uses calculation strategies to compute problems	0.82	0.57	0.36	0.20	0.74	0.63	0.42	0.14
		5	Applies a variety of measurement skills	0.68	0.55	0.31	0.13	0.72	0.56	0.48	0.09
		2	Identifies, describes, and creates patterns to solve problems	0.63	0.48	0.34	0.14	0.62	0.52	0.41	0.07
	6	1	Counts, represents quantities, reads and writes	0.79	0.64	0.48	0.11	0.79	0.68	0.55	0.09
		4	Identifies, sorts, and matches geometric shapes	0.79	0.62	0.26	0.22	0.65	0.51	0.25	0.16
3		Displays and analyzes data	0.75	0.57	0.42	0.12	0.74	0.67	0.59	0.06	
6		Uses calculation strategies to compute problems	0.77	0.53	0.32	0.19	0.75	0.63	0.49	0.12	
2		Identifies, describes, and creates patterns to solve problems	0.62	0.51	0.41	0.08	0.69	0.59	0.47	0.09	
5		Applies a variety of measurement skills	0.62	0.49	0.31	0.14	0.72	0.56	0.28	0.17	

**Table 34**  
**Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Mathematics (continued)**

Content	Grade	Standard	Standard Description	P-value				Point Biserial			
				High	Mean	Low	SD	High	Mean	Low	SD
MA	7	1	Counts, represents quantities, reads and writes	0.82	0.64	0.49	0.12	0.73	0.63	0.53	0.09
		3	Displays and analyzes data	0.79	0.61	0.41	0.17	0.74	0.65	0.54	0.08
		4	Identifies, sorts, and matches geometric shapes	0.79	0.59	0.33	0.20	0.65	0.51	0.27	0.17
		5	Applies a variety of measurement skills	0.64	0.50	0.21	0.16	0.69	0.59	0.46	0.09
		6	Uses calculation strategies to compute problems	0.55	0.48	0.38	0.08	0.65	0.56	0.46	0.08
		2	Identifies, describes, and creates patterns to solve problems	0.59	0.46	0.30	0.13	0.70	0.51	0.37	0.12
	8	4	Identifies, sorts, and matches geometric shapes	0.81	0.68	0.50	0.15	0.65	0.57	0.41	0.10
		3	Displays and analyzes data	0.73	0.60	0.52	0.08	0.79	0.68	0.54	0.09
		1	Counts, represents quantities, reads and writes	0.72	0.58	0.38	0.11	0.71	0.59	0.31	0.14
		6	Uses calculation strategies to compute problems	0.60	0.47	0.34	0.12	0.68	0.53	0.37	0.14
		5	Applies a variety of measurement skills	0.58	0.45	0.23	0.14	0.72	0.53	0.16	0.17
		2	Identifies, describes, and creates patterns to solve problems	0.49	0.40	0.32	0.09	0.69	0.47	0.29	0.13
	9	1	Counts, represents quantities, reads and writes	0.72	0.58	0.41	0.12	0.72	0.61	0.30	0.15
		4	Identifies, sorts, and matches geometric shapes	0.71	0.51	0.30	0.19	0.60	0.45	0.28	0.13
		5	Applies a variety of measurement skills	0.63	0.43	0.22	0.17	0.72	0.57	0.29	0.14
		3	Displays and analyzes data	0.58	0.42	0.17	0.16	0.81	0.58	0.26	0.21
		2	Identifies, describes, and creates patterns to solve problems	0.54	0.39	0.29	0.10	0.68	0.47	0.35	0.13
		6	Uses calculation strategies to compute problems	0.52	0.38	0.23	0.11	0.61	0.47	0.21	0.15
	10	1	Counts, represents quantities, reads and writes	0.70	0.54	0.24	0.16	0.72	0.64	0.40	0.11
		3	Displays and analyzes data	0.66	0.49	0.21	0.19	0.74	0.61	0.45	0.12
4		Identifies, sorts, and matches geometric shapes	0.81	0.44	0.25	0.24	0.70	0.49	0.28	0.16	
6		Uses calculation strategies to compute problems	0.55	0.38	0.16	0.15	0.64	0.50	0.24	0.15	
5		Applies a variety of measurement skills	0.57	0.36	0.08	0.18	0.69	0.52	0.23	0.18	
2		Identifies, describes, and creates patterns to solve problems	0.39	0.28	0.17	0.07	0.46	0.34	0.12	0.11	

**Table 35**  
**Standards Level Statistics, Ordered by Mean Difficulty (P-value) - Science**

Content	Grade	Standard	Standard Description	P-value				Point Biserial			
				High	Mean	Low	SD	High	Mean	Low	SD
SC	5	1	Makes observations, collects and organizes data	0.93	0.85	0.79	0.06	0.83	0.76	0.64	0.08
		6	Common connections	0.85	0.79	0.72	0.07	0.85	0.82	0.78	0.03
		2	Analyzes data and communicates results of scientific investigations	0.87	0.76	0.69	0.07	0.84	0.81	0.74	0.03
		4	Interacts with living things	0.90	0.73	0.57	0.11	0.81	0.69	0.52	0.10
	8	5	Interacts with the weather and Earth systems	0.91	0.83	0.65	0.08	0.83	0.77	0.63	0.07
		1	Makes observations, collects and organizes data	0.87	0.78	0.69	0.06	0.83	0.78	0.72	0.04
		3	Demonstrates an understanding of the fundamental properties of matter and energy	0.87	0.74	0.62	0.08	0.84	0.76	0.66	0.06
		2	Analyzes data and communicates results of scientific investigations	0.76	0.66	0.60	0.05	0.83	0.75	0.66	0.05
		5	Interacts with the weather and Earth systems	0.84	0.66	0.37	0.18	0.70	0.58	0.27	0.14
	10	2	Analyzes data and communicates results of scientific investigations	0.73	0.64	0.52	0.11	0.72	0.71	0.69	0.02
		1	Makes observations, collects and organizes data	0.76	0.63	0.54	0.09	0.75	0.62	0.52	0.08
		4	Interacts with living things	0.69	0.52	0.36	0.11	0.78	0.66	0.52	0.09
		3	Demonstrates an understanding of the fundamental properties of matter and energy	0.73	0.40	0.25	0.19	0.55	0.42	0.27	0.10

**Table 36**  
**Raw Score Frequency Distributions-Reading**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		32	5	0.80	5	0.80
		33	2	0.32	7	1.12
		34	2	0.32	9	1.44
		35	4	0.64	13	2.08
		38	4	0.64	17	2.72
		39	1	0.16	18	2.88
		40	2	0.32	20	3.19
		41	1	0.16	21	3.35
		42	1	0.16	22	3.51
		44	3	0.48	25	3.99
		45	2	0.32	27	4.31
		46	2	0.32	29	4.63
		47	2	0.32	31	4.95
		51	1	0.16	32	5.11
		55	1	0.16	33	5.27
		56	2	0.32	35	5.59
		59	1	0.16	36	5.75
		60	1	0.16	37	5.91
		61	3	0.48	40	6.39
		62	1	0.16	41	6.55
		63	1	0.16	42	6.71
		65	2	0.32	44	7.03
RD	3	67	2	0.32	46	7.35
		68	1	0.16	47	7.51
		71	2	0.32	49	7.83
		72	1	0.16	50	7.99
		74	1	0.16	51	8.15
		76	1	0.16	52	8.31
		77	2	0.32	54	8.63
		78	1	0.16	55	8.79
		79	3	0.48	58	9.27
		81	1	0.16	59	9.42
		83	2	0.32	61	9.74
		84	1	0.16	62	9.90
		86	1	0.16	63	10.06
		87	1	0.16	64	10.22
		89	3	0.48	67	10.70
		90	2	0.32	69	11.02
		91	1	0.16	70	11.18
		93	1	0.16	71	11.34
		94	1	0.16	72	11.50
		95	1	0.16	73	11.66
		96	4	0.64	77	12.30
		97	2	0.32	79	12.62
		98	3	0.48	82	13.10

continued



**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		99	4	0.64	86	13.74
		100	1	0.16	87	13.90
		101	2	0.32	89	14.22
		102	5	0.80	94	15.02
		103	3	0.48	97	15.50
		104	5	0.80	102	16.29
		105	2	0.32	104	16.61
		106	2	0.32	106	16.93
		108	2	0.32	108	17.25
		109	4	0.64	112	17.89
		110	6	0.96	118	18.85
		111	7	1.12	125	19.97
		112	2	0.32	127	20.29
		113	4	0.64	131	20.93
		114	4	0.64	135	21.57
		115	6	0.96	141	22.52
		116	1	0.16	142	22.68
		117	2	0.32	144	23.00
		118	4	0.64	148	23.64
		119	4	0.64	152	24.28
		120	4	0.64	156	24.92
		122	4	0.64	160	25.56
RD	3	123	1	0.16	161	25.72
		124	3	0.48	164	26.20
		125	3	0.48	167	26.68
		126	2	0.32	169	27.00
		127	9	1.44	178	28.43
		128	7	1.12	185	29.55
		129	6	0.96	191	30.51
		130	6	0.96	197	31.47
		131	5	0.80	202	32.27
		132	6	0.96	208	33.23
		133	7	1.12	215	34.35
		134	16	2.56	231	36.90
		135	7	1.12	238	38.02
		136	11	1.76	249	39.78
		137	3	0.48	252	40.26
		138	9	1.44	261	41.69
		139	5	0.80	266	42.49
		140	11	1.76	277	44.25
		141	6	0.96	283	45.21
		142	14	2.24	297	47.44
		143	10	1.60	307	49.04
		144	13	2.08	320	51.12
		145	10	1.60	330	52.72

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		146	18	2.88	348	55.59
		147	10	1.60	358	57.19
		148	22	3.51	380	60.70
		149	19	3.04	399	63.74
		150	24	3.83	423	67.57
		151	17	2.72	440	70.29
		152	25	3.99	465	74.28
RD	3	153	18	2.88	483	77.16
		154	18	2.88	501	80.03
		155	16	2.56	517	82.59
		156	25	3.99	542	86.58
		157	19	3.04	561	89.62
		158	23	3.67	584	93.29
		159	20	3.19	604	96.49
		160	22	3.51	626	100.00

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		35	4	0.66	4	0.66
		36	2	0.33	6	0.99
		37	2	0.33	8	1.32
		38	2	0.33	10	1.65
		39	3	0.50	13	2.15
		40	1	0.17	14	2.31
		42	3	0.50	17	2.81
		44	1	0.17	18	2.97
		45	1	0.17	19	3.14
		48	4	0.66	23	3.80
		49	4	0.66	27	4.46
		52	1	0.17	28	4.62
		53	3	0.50	31	5.12
		54	1	0.17	32	5.28
		55	1	0.17	33	5.45
		56	1	0.17	34	5.61
		57	1	0.17	35	5.78
		58	2	0.33	37	6.11
		59	2	0.33	39	6.44
		60	1	0.17	40	6.60
		62	1	0.17	41	6.77
		63	1	0.17	42	6.93
RD	4	64	2	0.33	44	7.26
		65	1	0.17	45	7.43
		66	1	0.17	46	7.59
		68	1	0.17	47	7.76
		70	1	0.17	48	7.92
		71	1	0.17	49	8.09
		72	1	0.17	50	8.25
		74	3	0.50	53	8.75
		75	1	0.17	54	8.91
		79	2	0.33	56	9.24
		80	2	0.33	58	9.57
		81	1	0.17	59	9.74
		82	1	0.17	60	9.90
		87	1	0.17	61	10.07
		91	1	0.17	62	10.23
		92	4	0.66	66	10.89
		94	1	0.17	67	11.06
		96	1	0.17	68	11.22
		98	4	0.66	72	11.88
		99	1	0.17	73	12.05
		100	3	0.50	76	12.54
		102	2	0.33	78	12.87
		103	2	0.33	80	13.20

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		104	3	0.50	83	13.70
		105	1	0.17	84	13.86
		106	2	0.33	86	14.19
		108	2	0.33	88	14.52
		109	1	0.17	89	14.69
		110	1	0.17	90	14.85
		111	1	0.17	91	15.02
		114	3	0.50	94	15.51
		115	2	0.33	96	15.84
		116	1	0.17	97	16.01
		118	4	0.66	101	16.67
		119	2	0.33	103	17.00
		120	1	0.17	104	17.16
		121	2	0.33	106	17.49
		122	2	0.33	108	17.82
		123	1	0.17	109	17.99
		124	3	0.50	112	18.48
		125	1	0.17	113	18.65
		126	3	0.50	116	19.14
		127	1	0.17	117	19.31
		128	2	0.33	119	19.64
		129	5	0.83	124	20.46
RD	4	130	6	0.99	130	21.45
		131	5	0.83	135	22.28
		132	1	0.17	136	22.44
		134	2	0.33	138	22.77
		135	2	0.33	140	23.10
		136	6	0.99	146	24.09
		137	4	0.66	150	24.75
		138	6	0.99	156	25.74
		139	3	0.50	159	26.24
		140	2	0.33	161	26.57
		141	2	0.33	163	26.90
		142	4	0.66	167	27.56
		143	6	0.99	173	28.55
		144	4	0.66	177	29.21
		145	6	0.99	183	30.20
		146	9	1.49	192	31.68
		147	2	0.33	194	32.01
		148	11	1.82	205	33.83
		149	8	1.32	213	35.15
		150	11	1.82	224	36.96
		151	7	1.16	231	38.12
		152	9	1.49	240	39.60
		153	9	1.49	249	41.09

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		154	7	1.16	256	42.24
		155	6	0.99	262	43.23
		156	10	1.65	272	44.88
		157	9	1.49	281	46.37
		158	9	1.49	290	47.85
		159	12	1.98	302	49.83
		160	8	1.32	310	51.16
		161	11	1.82	321	52.97
		162	9	1.49	330	54.46
		163	21	3.47	351	57.92
RD	4	164	25	4.13	376	62.05
		165	16	2.64	392	64.69
		166	21	3.47	413	68.15
		167	15	2.48	428	70.63
		168	24	3.96	452	74.59
		169	24	3.96	476	78.55
		170	26	4.29	502	82.84
		171	31	5.12	533	87.95
		172	20	3.30	553	91.25
		173	24	3.96	577	95.21
		174	18	2.97	595	98.18
		175	11	1.82	606	100.00

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		33	6	1.09	6	1.09
		34	1	0.18	7	1.28
		35	1	0.18	8	1.46
		37	2	0.36	10	1.82
		38	1	0.18	11	2.00
		39	2	0.36	13	2.37
		40	3	0.55	16	2.91
		42	1	0.18	17	3.10
		44	1	0.18	18	3.28
		45	1	0.18	19	3.46
		46	1	0.18	20	3.64
		47	1	0.18	21	3.83
		48	1	0.18	22	4.01
		50	1	0.18	23	4.19
		51	1	0.18	24	4.37
		53	2	0.36	26	4.74
		54	6	1.09	32	5.83
		55	1	0.18	33	6.01
		56	1	0.18	34	6.19
		57	1	0.18	35	6.38
		58	1	0.18	36	6.56
		62	3	0.55	39	7.10
RD	5	64	2	0.36	41	7.47
		68	2	0.36	43	7.83
		69	1	0.18	44	8.01
		70	1	0.18	45	8.20
		71	2	0.36	47	8.56
		72	1	0.18	48	8.74
		73	1	0.18	49	8.93
		74	1	0.18	50	9.11
		75	1	0.18	51	9.29
		76	1	0.18	52	9.47
		77	1	0.18	53	9.65
		80	2	0.36	55	10.02
		82	1	0.18	56	10.20
		83	1	0.18	57	10.38
		86	2	0.36	59	10.75
		89	1	0.18	60	10.93
		91	2	0.36	62	11.29
		92	1	0.18	63	11.48
		94	1	0.18	64	11.66
		95	1	0.18	65	11.84
		96	1	0.18	66	12.02
		97	2	0.36	68	12.39
		100	3	0.55	71	12.93

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		101	1	0.18	72	13.11
		103	1	0.18	73	13.30
		104	1	0.18	74	13.48
		105	1	0.18	75	13.66
		106	2	0.36	77	14.03
		107	1	0.18	78	14.21
		108	5	0.91	83	15.12
		109	2	0.36	85	15.48
		110	1	0.18	86	15.66
		111	3	0.55	89	16.21
		112	2	0.36	91	16.58
		113	3	0.55	94	17.12
		114	1	0.18	95	17.30
		115	2	0.36	97	17.67
		116	1	0.18	98	17.85
		117	2	0.36	100	18.21
		118	8	1.46	108	19.67
		119	1	0.18	109	19.85
		120	5	0.91	114	20.77
		121	3	0.55	117	21.31
		122	3	0.55	120	21.86
		123	3	0.55	123	22.40
RD	5	124	3	0.55	126	22.95
		125	2	0.36	128	23.32
		126	2	0.36	130	23.68
		127	2	0.36	132	24.04
		128	4	0.73	136	24.77
		129	8	1.46	144	26.23
		130	4	0.73	148	26.96
		131	8	1.46	156	28.42
		132	5	0.91	161	29.33
		133	3	0.55	164	29.87
		134	8	1.46	172	31.33
		135	6	1.09	178	32.42
		136	5	0.91	183	33.33
		137	6	1.09	189	34.43
		138	7	1.28	196	35.70
		139	9	1.64	205	37.34
		140	4	0.73	209	38.07
		141	12	2.19	221	40.26
		142	6	1.09	227	41.35
		143	8	1.46	235	42.81
		144	10	1.82	245	44.63
		145	8	1.46	253	46.08
		146	9	1.64	262	47.72

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		147	11	2.00	273	49.73
		148	4	0.73	277	50.46
		149	15	2.73	292	53.19
		150	11	2.00	303	55.19
		151	10	1.82	313	57.01
		152	12	2.19	325	59.20
		153	11	2.00	336	61.20
		154	18	3.28	354	64.48
		155	20	3.64	374	68.12
RD	5	156	22	4.01	396	72.13
		157	21	3.83	417	75.96
		158	14	2.55	431	78.51
		159	21	3.83	452	82.33
		160	21	3.83	473	86.16
		161	15	2.73	488	88.89
		162	14	2.55	502	91.44
		163	16	2.91	518	94.35
		164	15	2.73	533	97.09
		165	16	2.91	549	100.00



**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		30	6	1.03	6	1.03
		31	3	0.52	9	1.55
		32	1	0.17	10	1.72
		33	2	0.34	12	2.07
		34	1	0.17	13	2.24
		35	4	0.69	17	2.93
		36	1	0.17	18	3.10
		37	2	0.34	20	3.44
		38	2	0.34	22	3.79
		39	2	0.34	24	4.13
		40	1	0.17	25	4.30
		41	2	0.34	27	4.65
		42	5	0.86	32	5.51
		43	3	0.52	35	6.02
		45	1	0.17	36	6.20
		46	2	0.34	38	6.54
		48	2	0.34	40	6.88
		49	2	0.34	42	7.23
		51	1	0.17	43	7.40
		53	2	0.34	45	7.75
		55	1	0.17	46	7.92
		56	2	0.34	48	8.26
RD	6	57	1	0.17	49	8.43
		59	1	0.17	50	8.61
		60	2	0.34	52	8.95
		61	2	0.34	54	9.29
		62	1	0.17	55	9.47
		63	1	0.17	56	9.64
		65	1	0.17	57	9.81
		67	1	0.17	58	9.98
		69	2	0.34	60	10.33
		71	1	0.17	61	10.50
		72	2	0.34	63	10.84
		74	1	0.17	64	11.02
		75	2	0.34	66	11.36
		76	1	0.17	67	11.53
		77	2	0.34	69	11.88
		79	1	0.17	70	12.05
		80	2	0.34	72	12.39
		81	1	0.17	73	12.56
		82	2	0.34	75	12.91
		83	2	0.34	77	13.25
		84	2	0.34	79	13.60
		85	1	0.17	80	13.77
		87	1	0.17	81	13.94

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		89	1	0.17	82	14.11
		90	1	0.17	83	14.29
		91	3	0.52	86	14.80
		92	3	0.52	89	15.32
		93	1	0.17	90	15.49
		94	1	0.17	91	15.66
		95	2	0.34	93	16.01
		96	4	0.69	97	16.70
		97	4	0.69	101	17.38
		98	2	0.34	103	17.73
		99	3	0.52	106	18.24
		100	3	0.52	109	18.76
		101	1	0.17	110	18.93
		102	4	0.69	114	19.62
		103	2	0.34	116	19.97
		104	2	0.34	118	20.31
		105	2	0.34	120	20.65
		106	4	0.69	124	21.34
		108	5	0.86	129	22.20
		109	7	1.20	136	23.41
		110	4	0.69	140	24.10
		111	3	0.52	143	24.61
RD	6	112	3	0.52	146	25.13
		113	5	0.86	151	25.99
		114	5	0.86	156	26.85
		115	7	1.20	163	28.06
		116	2	0.34	165	28.40
		117	3	0.52	168	28.92
		118	5	0.86	173	29.78
		119	8	1.38	181	31.15
		120	4	0.69	185	31.84
		121	9	1.55	194	33.39
		122	4	0.69	198	34.08
		123	4	0.69	202	34.77
		124	6	1.03	208	35.80
		125	6	1.03	214	36.83
		126	10	1.72	224	38.55
		127	7	1.20	231	39.76
		128	7	1.20	238	40.96
		129	6	1.03	244	42.00
		130	9	1.55	253	43.55
		131	8	1.38	261	44.92
		132	4	0.69	265	45.61
		133	14	2.41	279	48.02
		134	13	2.24	292	50.26

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		135	9	1.55	301	51.81
		136	15	2.58	316	54.39
		137	15	2.58	331	56.97
		138	15	2.58	346	59.55
		139	19	3.27	365	62.82
		140	11	1.89	376	64.72
		141	24	4.13	400	68.85
RD	6	142	14	2.41	414	71.26
		143	13	2.24	427	73.49
		144	22	3.79	449	77.28
		145	28	4.82	477	82.10
		146	19	3.27	496	85.37
		147	28	4.82	524	90.19
		148	30	5.16	554	95.35
		149	20	3.44	574	98.80
		150	7	1.20	581	100.00

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		52	7	1.35	7	1.35
		56	2	0.39	9	1.74
		57	1	0.19	10	1.93
		63	1	0.19	11	2.13
		64	1	0.19	12	2.32
		65	2	0.39	14	2.71
		67	1	0.19	15	2.90
		70	1	0.19	16	3.09
		74	1	0.19	17	3.29
		77	1	0.19	18	3.48
		78	2	0.39	20	3.87
		79	2	0.39	22	4.26
		86	3	0.58	25	4.84
		87	2	0.39	27	5.22
		88	1	0.19	28	5.42
		89	1	0.19	29	5.61
		95	1	0.19	30	5.80
		102	1	0.19	31	6.00
		103	1	0.19	32	6.19
		105	2	0.39	34	6.58
		107	3	0.58	37	7.16
		109	1	0.19	38	7.35
RD	7	113	1	0.19	39	7.54
		114	1	0.19	40	7.74
		119	1	0.19	41	7.93
		120	1	0.19	42	8.12
		125	1	0.19	43	8.32
		131	1	0.19	44	8.51
		132	2	0.39	46	8.90
		138	1	0.19	47	9.09
		139	1	0.19	48	9.28
		142	1	0.19	49	9.48
		143	2	0.39	51	9.86
		145	1	0.19	52	10.06
		148	1	0.19	53	10.25
		150	1	0.19	54	10.44
		151	1	0.19	55	10.64
		158	1	0.19	56	10.83
		161	1	0.19	57	11.03
		163	5	0.97	62	11.99
		164	3	0.58	65	12.57
		165	2	0.39	67	12.96
		168	1	0.19	68	13.15
		170	2	0.39	70	13.54
		171	1	0.19	71	13.73

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		172	1	0.19	72	13.93
		173	1	0.19	73	14.12
		174	1	0.19	74	14.31
		175	2	0.39	76	14.70
		176	3	0.58	79	15.28
		177	1	0.19	80	15.47
		178	2	0.39	82	15.86
		179	1	0.19	83	16.05
		181	1	0.19	84	16.25
		183	3	0.58	87	16.83
		185	1	0.19	88	17.02
		186	2	0.39	90	17.41
		188	1	0.19	91	17.60
		189	1	0.19	92	17.79
		190	4	0.77	96	18.57
		191	4	0.77	100	19.34
		192	1	0.19	101	19.54
		193	2	0.39	103	19.92
		194	2	0.39	105	20.31
		195	3	0.58	108	20.89
		196	2	0.39	110	21.28
		197	3	0.58	113	21.86
RD	7	198	3	0.58	116	22.44
		199	2	0.39	118	22.82
		202	2	0.39	120	23.21
		204	4	0.77	124	23.98
		205	4	0.77	128	24.76
		206	1	0.19	129	24.95
		207	2	0.39	131	25.34
		209	6	1.16	137	26.50
		210	1	0.19	138	26.69
		211	1	0.19	139	26.89
		212	1	0.19	140	27.08
		213	3	0.58	143	27.66
		214	8	1.55	151	29.21
		215	2	0.39	153	29.59
		216	2	0.39	155	29.98
		217	4	0.77	159	30.75
		218	5	0.97	164	31.72
		219	6	1.16	170	32.88
		220	1	0.19	171	33.08
		222	4	0.77	175	33.85
		223	2	0.39	177	34.24
		224	3	0.58	180	34.82
		225	4	0.77	184	35.59

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		226	7	1.35	191	36.94
		227	4	0.77	195	37.72
		229	3	0.58	198	38.30
		230	9	1.74	207	40.04
		231	5	0.97	212	41.01
		232	5	0.97	217	41.97
		233	1	0.19	218	42.17
		234	3	0.58	221	42.75
		235	8	1.55	229	44.29
		236	9	1.74	238	46.03
		237	7	1.35	245	47.39
		238	3	0.58	248	47.97
		239	5	0.97	253	48.94
		240	5	0.97	258	49.90
		241	13	2.51	271	52.42
		242	14	2.71	285	55.13
RD	7	243	12	2.32	297	57.45
		244	6	1.16	303	58.61
		245	11	2.13	314	60.74
		246	14	2.71	328	63.44
		247	10	1.93	338	65.38
		248	11	2.13	349	67.50
		249	9	1.74	358	69.25
		250	21	4.06	379	73.31
		251	23	4.45	402	77.76
		252	12	2.32	414	80.08
		253	15	2.90	429	82.98
		254	14	2.71	443	85.69
		255	19	3.68	462	89.36
		256	10	1.93	472	91.30
		257	14	2.71	486	94.00
		258	13	2.51	499	96.52
		259	7	1.35	506	97.87
		260	11	2.13	517	100.00

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		32	1	0.17	1	0.17
		33	12	2.03	13	2.20
		34	1	0.17	14	2.37
		35	1	0.17	15	2.54
		36	1	0.17	16	2.71
		37	3	0.51	19	3.22
		38	1	0.17	20	3.39
		39	3	0.51	23	3.90
		41	2	0.34	25	4.24
		45	3	0.51	28	4.75
		46	1	0.17	29	4.92
		48	1	0.17	30	5.08
		49	1	0.17	31	5.25
		53	1	0.17	32	5.42
		55	1	0.17	33	5.59
		56	2	0.34	35	5.93
		59	1	0.17	36	6.10
		62	1	0.17	37	6.27
		63	2	0.34	39	6.61
		64	2	0.34	41	6.95
		65	2	0.34	43	7.29
		66	1	0.17	44	7.46
RD	8	72	2	0.34	46	7.80
		73	1	0.17	47	7.97
		74	1	0.17	48	8.14
		78	2	0.34	50	8.47
		84	1	0.17	51	8.64
		85	1	0.17	52	8.81
		87	2	0.34	54	9.15
		88	2	0.34	56	9.49
		89	2	0.34	58	9.83
		90	1	0.17	59	10.00
		92	2	0.34	61	10.34
		93	1	0.17	62	10.51
		94	1	0.17	63	10.68
		96	1	0.17	64	10.85
		97	1	0.17	65	11.02
		98	1	0.17	66	11.19
		100	5	0.85	71	12.03
		102	5	0.85	76	12.88
		104	1	0.17	77	13.05
		105	1	0.17	78	13.22
		106	2	0.34	80	13.56
		107	1	0.17	81	13.73
		108	2	0.34	83	14.07

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		109	1	0.17	84	14.24
		110	3	0.51	87	14.75
		111	2	0.34	89	15.08
		112	3	0.51	92	15.59
		113	2	0.34	94	15.93
		114	1	0.17	95	16.10
		115	2	0.34	97	16.44
		116	7	1.19	104	17.63
		117	1	0.17	105	17.80
		118	5	0.85	110	18.64
		119	1	0.17	111	18.81
		120	2	0.34	113	19.15
		121	1	0.17	114	19.32
		122	2	0.34	116	19.66
		123	1	0.17	117	19.83
		124	4	0.68	121	20.51
		125	5	0.85	126	21.36
		126	6	1.02	132	22.37
		127	3	0.51	135	22.88
		128	5	0.85	140	23.73
		129	3	0.51	143	24.24
		130	4	0.68	147	24.92
RD	8	131	6	1.02	153	25.93
		132	1	0.17	154	26.10
		133	7	1.19	161	27.29
		134	5	0.85	166	28.14
		135	3	0.51	169	28.64
		136	2	0.34	171	28.98
		137	5	0.85	176	29.83
		138	3	0.51	179	30.34
		139	5	0.85	184	31.19
		140	8	1.36	192	32.54
		141	3	0.51	195	33.05
		142	11	1.86	206	34.92
		143	12	2.03	218	36.95
		144	5	0.85	223	37.80
		145	6	1.02	229	38.81
		146	7	1.19	236	40.00
		147	4	0.68	240	40.68
		148	8	1.36	248	42.03
		149	12	2.03	260	44.07
		150	9	1.53	269	45.59
		151	15	2.54	284	48.14
		152	23	3.90	307	52.03
		153	19	3.22	326	55.25

continued



**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		154	20	3.39	346	58.64
		155	25	4.24	371	62.88
		156	20	3.39	391	66.27
		157	15	2.54	406	68.81
		158	28	4.75	434	73.56
RD	8	159	19	3.22	453	76.78
		160	21	3.56	474	80.34
		161	22	3.73	496	84.07
		162	22	3.73	518	87.80
		163	33	5.59	551	93.39
		164	18	3.05	569	96.44
		165	21	3.56	590	100.00

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		40	12	2.30	12	2.30
		41	1	0.19	13	2.50
		42	1	0.19	14	2.69
		46	1	0.19	15	2.88
		47	1	0.19	16	3.07
		48	2	0.38	18	3.45
		49	1	0.19	19	3.65
		52	2	0.38	21	4.03
		55	1	0.19	22	4.22
		56	1	0.19	23	4.41
		57	1	0.19	24	4.61
		58	1	0.19	25	4.80
		60	1	0.19	26	4.99
		61	1	0.19	27	5.18
		63	1	0.19	28	5.37
		69	2	0.38	30	5.76
		70	1	0.19	31	5.95
		72	1	0.19	32	6.14
		75	1	0.19	33	6.33
		77	2	0.38	35	6.72
		78	1	0.19	36	6.91
		81	1	0.19	37	7.10
RD	9	82	1	0.19	38	7.29
		84	1	0.19	39	7.49
		85	1	0.19	40	7.68
		86	2	0.38	42	8.06
		89	1	0.19	43	8.25
		91	2	0.38	45	8.64
		93	1	0.19	46	8.83
		95	1	0.19	47	9.02
		102	3	0.58	50	9.60
		103	1	0.19	51	9.79
		104	1	0.19	52	9.98
		105	2	0.38	54	10.36
		106	2	0.38	56	10.75
		107	1	0.19	57	10.94
		115	1	0.19	58	11.13
		116	3	0.58	61	11.71
		117	1	0.19	62	11.90
		119	2	0.38	64	12.28
		120	1	0.19	65	12.48
		121	2	0.38	67	12.86
		122	1	0.19	68	13.05
		123	3	0.58	71	13.63
		125	1	0.19	72	13.82

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		126	1	0.19	73	14.01
		127	1	0.19	74	14.20
		128	3	0.58	77	14.78
		132	2	0.38	79	15.16
		133	1	0.19	80	15.36
		134	3	0.58	83	15.93
		135	1	0.19	84	16.12
		136	3	0.58	87	16.70
		137	1	0.19	88	16.89
		138	3	0.58	91	17.47
		139	2	0.38	93	17.85
		140	4	0.77	97	18.62
		142	3	0.58	100	19.19
		143	2	0.38	102	19.58
		144	7	1.34	109	20.92
		145	5	0.96	114	21.88
		146	2	0.38	116	22.26
		147	1	0.19	117	22.46
		148	2	0.38	119	22.84
		149	2	0.38	121	23.22
		150	2	0.38	123	23.61
		151	5	0.96	128	24.57
RD	9	152	6	1.15	134	25.72
		153	3	0.58	137	26.30
		154	2	0.38	139	26.68
		155	3	0.58	142	27.26
		156	2	0.38	144	27.64
		157	3	0.58	147	28.21
		158	1	0.19	148	28.41
		159	2	0.38	150	28.79
		160	2	0.38	152	29.17
		161	2	0.38	154	29.56
		162	3	0.58	157	30.13
		163	4	0.77	161	30.90
		164	5	0.96	166	31.86
		165	5	0.96	171	32.82
		166	1	0.19	172	33.01
		167	5	0.96	177	33.97
		168	3	0.58	180	34.55
		169	5	0.96	185	35.51
		170	5	0.96	190	36.47
		171	8	1.54	198	38.00
		172	9	1.73	207	39.73
		173	7	1.34	214	41.07
		174	3	0.58	217	41.65

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		175	8	1.54	225	43.19
		176	5	0.96	230	44.15
		177	6	1.15	236	45.30
		178	10	1.92	246	47.22
		179	9	1.73	255	48.94
		180	11	2.11	266	51.06
		181	5	0.96	271	52.02
		182	7	1.34	278	53.36
		183	10	1.92	288	55.28
		184	10	1.92	298	57.20
		185	13	2.50	311	59.69
		186	6	1.15	317	60.84
		187	9	1.73	326	62.57
RD	9	188	7	1.34	333	63.92
		189	8	1.54	341	65.45
		190	17	3.26	358	68.71
		191	7	1.34	365	70.06
		192	17	3.26	382	73.32
		193	18	3.45	400	76.78
		194	28	5.37	428	82.15
		195	26	4.99	454	87.14
		196	18	3.45	472	90.60
		197	15	2.88	487	93.47
		198	16	3.07	503	96.55
		199	12	2.30	515	98.85
		200	6	1.15	521	100.00

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		54	14	2.78	14	2.78
		55	2	0.40	16	3.18
		56	2	0.40	18	3.58
		58	3	0.60	21	4.17
		59	2	0.40	23	4.57
		60	1	0.20	24	4.77
		62	3	0.60	27	5.37
		64	1	0.20	28	5.57
		65	2	0.40	30	5.96
		66	1	0.20	31	6.16
		67	1	0.20	32	6.36
		69	3	0.60	35	6.96
		70	3	0.60	38	7.55
		71	2	0.40	40	7.95
		72	1	0.20	41	8.15
		73	1	0.20	42	8.35
		79	1	0.20	43	8.55
		81	1	0.20	44	8.75
		82	1	0.20	45	8.95
		83	1	0.20	46	9.15
		86	1	0.20	47	9.34
		87	2	0.40	49	9.74
RD	10	88	1	0.20	50	9.94
		93	1	0.20	51	10.14
		94	2	0.40	53	10.54
		97	1	0.20	54	10.74
		98	1	0.20	55	10.93
		101	1	0.20	56	11.13
		104	1	0.20	57	11.33
		105	2	0.40	59	11.73
		107	3	0.60	62	12.33
		108	1	0.20	63	12.52
		109	1	0.20	64	12.72
		113	2	0.40	66	13.12
		114	1	0.20	67	13.32
		116	2	0.40	69	13.72
		120	2	0.40	71	14.12
		123	2	0.40	73	14.51
		126	1	0.20	74	14.71
		127	1	0.20	75	14.91
		130	1	0.20	76	15.11
		131	3	0.60	79	15.71
		132	1	0.20	80	15.90
		135	1	0.20	81	16.10
		142	1	0.20	82	16.30

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		145	1	0.20	83	16.50
		146	1	0.20	84	16.70
		148	2	0.40	86	17.10
		151	1	0.20	87	17.30
		152	1	0.20	88	17.50
		154	3	0.60	91	18.09
		157	1	0.20	92	18.29
		159	3	0.60	95	18.89
		161	2	0.40	97	19.28
		162	2	0.40	99	19.68
		163	2	0.40	101	20.08
		164	2	0.40	103	20.48
		165	1	0.20	104	20.68
		166	1	0.20	105	20.87
		167	2	0.40	107	21.27
		171	1	0.20	108	21.47
		172	3	0.60	111	22.07
		173	1	0.20	112	22.27
		174	1	0.20	113	22.47
		178	1	0.20	114	22.66
		179	1	0.20	115	22.86
		180	4	0.80	119	23.66
RD	10	181	4	0.80	123	24.45
		182	5	0.99	128	25.45
		183	2	0.40	130	25.84
		184	1	0.20	131	26.04
		185	3	0.60	134	26.64
		186	1	0.20	135	26.84
		187	1	0.20	136	27.04
		188	2	0.40	138	27.44
		189	2	0.40	140	27.83
		190	2	0.40	142	28.23
		191	3	0.60	145	28.83
		192	7	1.39	152	30.22
		193	1	0.20	153	30.42
		195	2	0.40	155	30.82
		196	1	0.20	156	31.01
		197	3	0.60	159	31.61
		198	1	0.20	160	31.81
		199	2	0.40	162	32.21
		200	2	0.40	164	32.60
		201	3	0.60	167	33.20
		202	3	0.60	170	33.80
		203	2	0.40	172	34.19
		204	1	0.20	173	34.39

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		205	1	0.20	174	34.59
		207	2	0.40	176	34.99
		208	2	0.40	178	35.39
		210	2	0.40	180	35.79
		211	1	0.20	181	35.98
		213	3	0.60	184	36.58
		214	1	0.20	185	36.78
		215	2	0.40	187	37.18
		216	1	0.20	188	37.38
		217	4	0.80	192	38.17
		218	4	0.80	196	38.97
		219	1	0.20	197	39.17
		220	3	0.60	200	39.76
		221	7	1.39	207	41.15
		222	3	0.60	210	41.75
		224	4	0.80	214	42.54
		225	4	0.80	218	43.34
		226	1	0.20	219	43.54
		227	2	0.40	221	43.94
		228	2	0.40	223	44.33
		229	2	0.40	225	44.73
		230	4	0.80	229	45.53
RD	10	232	4	0.80	233	46.32
		233	5	0.99	238	47.32
		234	4	0.80	242	48.11
		235	4	0.80	246	48.91
		236	2	0.40	248	49.30
		237	10	1.99	258	51.29
		238	5	0.99	263	52.29
		239	4	0.80	267	53.08
		240	4	0.80	271	53.88
		241	1	0.20	272	54.08
		242	4	0.80	276	54.87
		243	3	0.60	279	55.47
		244	7	1.39	286	56.86
		245	7	1.39	293	58.25
		246	4	0.80	297	59.05
		247	5	0.99	302	60.04
		248	8	1.59	310	61.63
		250	4	0.80	314	62.43
		251	3	0.60	317	63.02
		252	11	2.19	328	65.21
		253	5	0.99	333	66.20
		254	3	0.60	336	66.80
		255	9	1.79	345	68.59

continued

**Table 36**  
**Raw Score Frequency Distributions- Reading (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		256	7	1.39	352	69.98
		257	9	1.79	361	71.77
		258	13	2.58	374	74.35
		259	11	2.19	385	76.54
		260	13	2.58	398	79.13
		261	12	2.39	410	81.51
		262	11	2.19	421	83.70
RD	10	263	11	2.19	432	85.88
		264	19	3.78	451	89.66
		265	7	1.39	458	91.05
		266	11	2.19	469	93.24
		267	12	2.39	481	95.63
		268	6	1.19	487	96.82
		269	8	1.59	495	98.41
		270	8	1.59	503	100.00



**Table 37**  
**Raw Score Frequency Distributions-Writing**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		11	21	3.48	21	3.48
		12	3	0.50	24	3.97
		13	7	1.16	31	5.13
		14	8	1.32	39	6.46
		15	8	1.32	47	7.78
		16	5	0.83	52	8.61
		17	4	0.66	56	9.27
		18	2	0.33	58	9.60
		19	3	0.50	61	10.10
		20	5	0.83	66	10.93
		21	3	0.50	69	11.42
		22	2	0.33	71	11.75
		23	3	0.50	74	12.25
		24	4	0.66	78	12.91
		25	2	0.33	80	13.25
		26	6	0.99	86	14.24
		27	4	0.66	90	14.90
		28	5	0.83	95	15.73
		29	6	0.99	101	16.72
		30	4	0.66	105	17.38
		31	1	0.17	106	17.55
		32	6	0.99	112	18.54
WR	3	33	4	0.66	116	19.21
		34	8	1.32	124	20.53
		35	5	0.83	129	21.36
		36	7	1.16	136	22.52
		37	2	0.33	138	22.85
		38	7	1.16	145	24.01
		39	11	1.82	156	25.83
		40	14	2.32	170	28.15
		41	12	1.99	182	30.13
		42	10	1.66	192	31.79
		43	18	2.98	210	34.77
		44	27	4.47	237	39.24
		45	18	2.98	255	42.22
		46	19	3.15	274	45.36
		47	20	3.31	294	48.68
		48	20	3.31	314	51.99
		49	34	5.63	348	57.62
		50	29	4.80	377	62.42
		51	33	5.46	410	67.88
		52	43	7.12	453	75.00
		53	35	5.79	488	80.79
		54	27	4.47	515	85.26
		55	89	14.74	604	100.00

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		20	16	2.70	16	2.70
		21	10	1.69	26	4.38
		22	4	0.67	30	5.06
		23	3	0.51	33	5.56
		24	2	0.34	35	5.90
		25	3	0.51	38	6.41
		26	1	0.17	39	6.58
		27	2	0.34	41	6.91
		28	2	0.34	43	7.25
		29	2	0.34	45	7.59
		30	1	0.17	46	7.76
		31	2	0.34	48	8.09
		32	4	0.67	52	8.77
		33	2	0.34	54	9.11
		36	6	1.01	60	10.12
		37	1	0.17	61	10.29
		38	3	0.51	64	10.79
		39	1	0.17	65	10.96
		40	3	0.51	68	11.47
		41	2	0.34	70	11.80
		42	3	0.51	73	12.31
		43	3	0.51	76	12.82
WR	4	44	1	0.17	77	12.98
		45	1	0.17	78	13.15
		46	2	0.34	80	13.49
		47	3	0.51	83	14.00
		48	2	0.34	85	14.33
		49	1	0.17	86	14.50
		50	3	0.51	89	15.01
		51	3	0.51	92	15.51
		52	6	1.01	98	16.53
		53	1	0.17	99	16.69
		54	1	0.17	100	16.86
		55	1	0.17	101	17.03
		56	2	0.34	103	17.37
		57	6	1.01	109	18.38
		58	3	0.51	112	18.89
		59	4	0.67	116	19.56
		60	1	0.17	117	19.73
		61	2	0.34	119	20.07
		62	3	0.51	122	20.57
		63	6	1.01	128	21.59
		64	4	0.67	132	22.26
		65	4	0.67	136	22.93
		66	2	0.34	138	23.27

continued

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		67	7	1.18	145	24.45
		68	3	0.51	148	24.96
		70	5	0.84	153	25.80
		71	8	1.35	161	27.15
		72	5	0.84	166	27.99
		73	4	0.67	170	28.67
		74	2	0.34	172	29.01
		75	5	0.84	177	29.85
		76	12	2.02	189	31.87
		77	5	0.84	194	32.72
		78	5	0.84	199	33.56
		79	7	1.18	206	34.74
		80	9	1.52	215	36.26
		81	10	1.69	225	37.94
		82	6	1.01	231	38.95
		83	13	2.19	244	41.15
WR	4	84	22	3.71	266	44.86
		85	12	2.02	278	46.88
		86	21	3.54	299	50.42
		87	19	3.20	318	53.63
		88	16	2.70	334	56.32
		89	30	5.06	364	61.38
		90	21	3.54	385	64.92
		91	14	2.36	399	67.28
		92	20	3.37	419	70.66
		93	23	3.88	442	74.54
		94	26	4.38	468	78.92
		95	21	3.54	489	82.46
		96	27	4.55	516	87.02
		97	24	4.05	540	91.06
		98	24	4.05	564	95.11
		99	17	2.87	581	97.98
		100	12	2.02	593	100.00

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		11	12	2.30	12	2.30
		12	6	1.15	18	3.45
		13	3	0.58	21	4.03
		14	3	0.58	24	4.61
		15	6	1.15	30	5.76
		16	4	0.77	34	6.53
		17	2	0.38	36	6.91
		18	3	0.58	39	7.49
		19	3	0.58	42	8.06
		20	2	0.38	44	8.45
		21	5	0.96	49	9.40
		22	3	0.58	52	9.98
		23	1	0.19	53	10.17
		24	1	0.19	54	10.36
		25	2	0.38	56	10.75
		26	1	0.19	57	10.94
		27	5	0.96	62	11.90
		28	2	0.38	64	12.28
		29	4	0.77	68	13.05
		30	2	0.38	70	13.44
		31	10	1.92	80	15.36
		32	5	0.96	85	16.31
WR	5	33	3	0.58	88	16.89
		34	2	0.38	90	17.27
		35	4	0.77	94	18.04
		36	3	0.58	97	18.62
		37	8	1.54	105	20.15
		38	8	1.54	113	21.69
		39	6	1.15	119	22.84
		40	8	1.54	127	24.38
		41	10	1.92	137	26.30
		42	3	0.58	140	26.87
		43	12	2.30	152	29.17
		44	7	1.34	159	30.52
		45	19	3.65	178	34.17
		46	9	1.73	187	35.89
		47	13	2.50	200	38.39
		48	13	2.50	213	40.88
		49	19	3.65	232	44.53
		50	22	4.22	254	48.75
		51	34	6.53	288	55.28
		52	23	4.41	311	59.69
		53	40	7.68	351	67.37
		54	51	9.79	402	77.16
		55	119	22.84	521	100.00

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		13	22	3.85	22	3.85
		14	5	0.88	27	4.73
		15	7	1.23	34	5.95
		16	1	0.18	35	6.13
		17	13	2.28	48	8.41
		18	2	0.35	50	8.76
		19	5	0.88	55	9.63
		20	6	1.05	61	10.68
		21	4	0.70	65	11.38
		22	3	0.53	68	11.91
		23	6	1.05	74	12.96
		24	1	0.18	75	13.13
		25	3	0.53	78	13.66
		26	3	0.53	81	14.19
		27	2	0.35	83	14.54
		29	3	0.53	86	15.06
		30	3	0.53	89	15.59
		31	3	0.53	92	16.11
		32	6	1.05	98	17.16
		33	4	0.70	102	17.86
		34	7	1.23	109	19.09
		35	4	0.70	113	19.79
WR	6	36	4	0.70	117	20.49
		37	6	1.05	123	21.54
		38	3	0.53	126	22.07
		39	5	0.88	131	22.94
		40	4	0.70	135	23.64
		41	6	1.05	141	24.69
		42	8	1.40	149	26.09
		43	15	2.63	164	28.72
		44	17	2.98	181	31.70
		45	7	1.23	188	32.92
		46	6	1.05	194	33.98
		47	10	1.75	204	35.73
		48	13	2.28	217	38.00
		49	8	1.40	225	39.40
		50	18	3.15	243	42.56
		51	10	1.75	253	44.31
		52	14	2.45	267	46.76
		53	22	3.85	289	50.61
		54	13	2.28	302	52.89
		55	20	3.50	322	56.39
		56	22	3.85	344	60.25
		57	18	3.15	362	63.40
		58	16	2.80	378	66.20

continued

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		59	28	4.90	406	71.10
		60	22	3.85	428	74.96
		61	23	4.03	451	78.98
WR	6	62	19	3.33	470	82.31
		63	27	4.73	497	87.04
		64	22	3.85	519	90.89
		65	52	9.11	571	100.00

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		30	16	3.14	16	3.14
		31	1	0.20	17	3.33
		32	2	0.39	19	3.73
		33	2	0.39	21	4.12
		34	3	0.59	24	4.71
		36	1	0.20	25	4.90
		37	1	0.20	26	5.10
		38	3	0.59	29	5.69
		39	1	0.20	30	5.88
		40	4	0.78	34	6.67
		41	1	0.20	35	6.86
		42	2	0.39	37	7.25
		43	1	0.20	38	7.45
		44	2	0.39	40	7.84
		45	1	0.20	41	8.04
		46	2	0.39	43	8.43
		47	3	0.59	46	9.02
		48	2	0.39	48	9.41
		49	1	0.20	49	9.61
		50	1	0.20	50	9.80
		52	2	0.39	52	10.20
		53	1	0.20	53	10.39
WR	7	54	1	0.20	54	10.59
		55	3	0.59	57	11.18
		57	3	0.59	60	11.76
		58	3	0.59	63	12.35
		59	3	0.59	66	12.94
		60	2	0.39	68	13.33
		62	1	0.20	69	13.53
		63	2	0.39	71	13.92
		65	2	0.39	73	14.31
		66	1	0.20	74	14.51
		67	4	0.78	78	15.29
		68	1	0.20	79	15.49
		69	2	0.39	81	15.88
		70	2	0.39	83	16.27
		71	2	0.39	85	16.67
		72	2	0.39	87	17.06
		73	3	0.59	90	17.65
		74	6	1.18	96	18.82
		75	1	0.20	97	19.02
		76	3	0.59	100	19.61
		77	2	0.39	102	20.00
		78	6	1.18	108	21.18
		79	2	0.39	110	21.57

continued

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		80	2	0.39	112	21.96
		81	5	0.98	117	22.94
		82	2	0.39	119	23.33
		83	7	1.37	126	24.71
		84	3	0.59	129	25.29
		85	2	0.39	131	25.69
		86	2	0.39	133	26.08
		87	2	0.39	135	26.47
		88	2	0.39	137	26.86
		89	8	1.57	145	28.43
		90	3	0.59	148	29.02
		91	6	1.18	154	30.20
		92	5	0.98	159	31.18
		93	4	0.78	163	31.96
		94	4	0.78	167	32.75
		95	2	0.39	169	33.14
		96	6	1.18	175	34.31
		97	3	0.59	178	34.90
		98	2	0.39	180	35.29
		99	4	0.78	184	36.08
		100	2	0.39	186	36.47
		101	4	0.78	190	37.25
WR	7	102	7	1.37	197	38.63
		103	5	0.98	202	39.61
		104	3	0.59	205	40.20
		105	5	0.98	210	41.18
		106	4	0.78	214	41.96
		107	5	0.98	219	42.94
		108	5	0.98	224	43.92
		109	3	0.59	227	44.51
		110	3	0.59	230	45.10
		111	2	0.39	232	45.49
		112	4	0.78	236	46.27
		113	12	2.35	248	48.63
		114	5	0.98	253	49.61
		115	4	0.78	257	50.39
		116	8	1.57	265	51.96
		117	6	1.18	271	53.14
		118	7	1.37	278	54.51
		119	4	0.78	282	55.29
		120	4	0.78	286	56.08
		121	9	1.76	295	57.84
		122	5	0.98	300	58.82
		123	15	2.94	315	61.76
		124	4	0.78	319	62.55

continued



**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		125	3	0.59	322	63.14
		126	10	1.96	332	65.10
		127	9	1.76	341	66.86
		128	14	2.75	355	69.61
		129	7	1.37	362	70.98
		130	7	1.37	369	72.35
		131	6	1.18	375	73.53
		132	7	1.37	382	74.90
		133	14	2.75	396	77.65
		134	9	1.76	405	79.41
		135	13	2.55	418	81.96
		136	10	1.96	428	83.92
WR	7	137	8	1.57	436	85.49
		138	14	2.75	450	88.24
		139	9	1.76	459	90.00
		140	12	2.35	471	92.35
		141	7	1.37	478	93.73
		142	5	0.98	483	94.71
		143	8	1.57	491	96.27
		144	5	0.98	496	97.25
		145	5	0.98	501	98.24
		146	4	0.78	505	99.02
		148	2	0.39	507	99.41
		149	1	0.20	508	99.61
		150	2	0.39	510	100.00

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		13	1	0.17	1	0.17
		14	25	4.25	26	4.42
		15	4	0.68	30	5.10
		16	6	1.02	36	6.12
		17	2	0.34	38	6.46
		18	9	1.53	47	7.99
		19	1	0.17	48	8.16
		20	2	0.34	50	8.50
		21	4	0.68	54	9.18
		22	2	0.34	56	9.52
		23	4	0.68	60	10.20
		25	1	0.17	61	10.37
		26	2	0.34	63	10.71
		27	2	0.34	65	11.05
		29	4	0.68	69	11.73
		30	2	0.34	71	12.07
		31	5	0.85	76	12.93
		32	1	0.17	77	13.10
		33	4	0.68	81	13.78
		34	1	0.17	82	13.95
		35	5	0.85	87	14.80
		36	2	0.34	89	15.14
WR	8	37	6	1.02	95	16.16
		38	8	1.36	103	17.52
		39	4	0.68	107	18.20
		40	6	1.02	113	19.22
		41	7	1.19	120	20.41
		42	6	1.02	126	21.43
		43	11	1.87	137	23.30
		44	5	0.85	142	24.15
		45	10	1.70	152	25.85
		46	14	2.38	166	28.23
		47	7	1.19	173	29.42
		48	11	1.87	184	31.29
		49	11	1.87	195	33.16
		50	7	1.19	202	34.35
		51	7	1.19	209	35.54
		52	9	1.53	218	37.07
		53	17	2.89	235	39.97
		54	15	2.55	250	42.52
		55	14	2.38	264	44.90
		56	9	1.53	273	46.43
		57	15	2.55	288	48.98
		58	9	1.53	297	50.51
		59	21	3.57	318	54.08

continued

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		60	24	4.08	342	58.16
		61	22	3.74	364	61.90
		62	18	3.06	382	64.97
		63	15	2.55	397	67.52
		64	24	4.08	421	71.60
WR	8	65	20	3.40	441	75.00
		66	21	3.57	462	78.57
		67	22	3.74	484	82.31
		68	29	4.93	513	87.24
		69	14	2.38	527	89.63
		70	61	10.37	588	100.00

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		13	22	4.32	22	4.32
		14	6	1.18	28	5.50
		15	4	0.79	32	6.29
		16	3	0.59	35	6.88
		17	6	1.18	41	8.06
		18	2	0.39	43	8.45
		19	6	1.18	49	9.63
		20	4	0.79	53	10.41
		21	4	0.79	57	11.20
		22	1	0.20	58	11.39
		23	4	0.79	62	12.18
		24	1	0.20	63	12.38
		25	3	0.59	66	12.97
		26	1	0.20	67	13.16
		27	2	0.39	69	13.56
		28	4	0.79	73	14.34
		29	3	0.59	76	14.93
		30	4	0.79	80	15.72
		31	2	0.39	82	16.11
		32	2	0.39	84	16.50
		33	5	0.98	89	17.49
		34	6	1.18	95	18.66
WR	9	35	4	0.79	99	19.45
		36	4	0.79	103	20.24
		37	6	1.18	109	21.41
		38	5	0.98	114	22.40
		39	5	0.98	119	23.38
		40	7	1.38	126	24.75
		41	9	1.77	135	26.52
		42	7	1.38	142	27.90
		43	13	2.55	155	30.45
		44	12	2.36	167	32.81
		45	12	2.36	179	35.17
		46	6	1.18	185	36.35
		47	12	2.36	197	38.70
		48	13	2.55	210	41.26
		49	18	3.54	228	44.79
		50	27	5.30	255	50.10
		51	15	2.95	270	53.05
		52	14	2.75	284	55.80
		53	17	3.34	301	59.14
		54	17	3.34	318	62.48
		55	19	3.73	337	66.21
		56	13	2.55	350	68.76
		57	10	1.96	360	70.73

continued

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		58	16	3.14	376	73.87
		59	24	4.72	400	78.59
		60	17	3.34	417	81.93
WR	9	61	18	3.54	435	85.46
		62	16	3.14	451	88.61
		63	10	1.96	461	90.57
		64	12	2.36	473	92.93
		65	36	7.07	509	100.00

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		34	1	0.20	1	0.20
		35	28	5.57	29	5.77
		36	5	0.99	34	6.76
		37	3	0.60	37	7.36
		38	3	0.60	40	7.95
		39	3	0.60	43	8.55
		41	2	0.40	45	8.95
		44	3	0.60	48	9.54
		45	4	0.80	52	10.34
		46	1	0.20	53	10.54
		47	6	1.19	59	11.73
		48	3	0.60	62	12.33
		49	2	0.40	64	12.72
		50	3	0.60	67	13.32
		51	3	0.60	70	13.92
		52	1	0.20	71	14.12
		53	2	0.40	73	14.51
		54	4	0.80	77	15.31
		55	2	0.40	79	15.71
		56	3	0.60	82	16.30
		57	1	0.20	83	16.50
		58	1	0.20	84	16.70
WR	10	59	1	0.20	85	16.90
		60	2	0.40	87	17.30
		61	2	0.40	89	17.69
		62	3	0.60	92	18.29
		63	2	0.40	94	18.69
		64	2	0.40	96	19.09
		65	1	0.20	97	19.28
		66	2	0.40	99	19.68
		67	1	0.20	100	19.88
		68	1	0.20	101	20.08
		70	3	0.60	104	20.68
		71	2	0.40	106	21.07
		72	2	0.40	108	21.47
		73	3	0.60	111	22.07
		74	1	0.20	112	22.27
		75	2	0.40	114	22.66
		76	2	0.40	116	23.06
		78	2	0.40	118	23.46
		79	1	0.20	119	23.66
		80	3	0.60	122	24.25
		81	2	0.40	124	24.65
		82	2	0.40	126	25.05
		83	2	0.40	128	25.45

continued

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		84	1	0.20	129	25.65
		85	3	0.60	132	26.24
		86	2	0.40	134	26.64
		87	4	0.80	138	27.44
		88	3	0.60	141	28.03
		89	1	0.20	142	28.23
		90	4	0.80	146	29.03
		92	2	0.40	148	29.42
		93	2	0.40	150	29.82
		94	4	0.80	154	30.62
		95	3	0.60	157	31.21
		96	5	0.99	162	32.21
		97	4	0.80	166	33.00
		98	2	0.40	168	33.40
		99	2	0.40	170	33.80
		100	6	1.19	176	34.99
		101	2	0.40	178	35.39
		102	2	0.40	180	35.79
		103	2	0.40	182	36.18
		105	3	0.60	185	36.78
		106	5	0.99	190	37.77
		107	3	0.60	193	38.37
WR	10	108	2	0.40	195	38.77
		109	5	0.99	200	39.76
		111	7	1.39	207	41.15
		112	3	0.60	210	41.75
		113	2	0.40	212	42.15
		114	5	0.99	217	43.14
		115	5	0.99	222	44.14
		116	1	0.20	223	44.33
		117	5	0.99	228	45.33
		118	2	0.40	230	45.73
		119	5	0.99	235	46.72
		120	4	0.80	239	47.51
		121	5	0.99	244	48.51
		122	1	0.20	245	48.71
		123	4	0.80	249	49.50
		124	6	1.19	255	50.70
		125	2	0.40	257	51.09
		126	3	0.60	260	51.69
		127	6	1.19	266	52.88
		128	6	1.19	272	54.08
		129	8	1.59	280	55.67
		130	4	0.80	284	56.46
		131	2	0.40	286	56.86

continued

**Table 37**  
**Raw Score Frequency Distributions- Writing (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		132	3	0.60	289	57.46
		133	4	0.80	293	58.25
		134	4	0.80	297	59.05
		135	4	0.80	301	59.84
		136	6	1.19	307	61.03
		137	2	0.40	309	61.43
		138	3	0.60	312	62.03
		139	9	1.79	321	63.82
		140	3	0.60	324	64.41
		141	3	0.60	327	65.01
		142	4	0.80	331	65.81
		143	7	1.39	338	67.20
		144	4	0.80	342	67.99
		145	10	1.99	352	69.98
		146	6	1.19	358	71.17
		147	6	1.19	364	72.37
		148	4	0.80	368	73.16
		149	4	0.80	372	73.96
		150	6	1.19	378	75.15
		151	4	0.80	382	75.94
		152	7	1.39	389	77.34
WR	10	153	5	0.99	394	78.33
		154	5	0.99	399	79.32
		155	11	2.19	410	81.51
		156	8	1.59	418	83.10
		157	4	0.80	422	83.90
		158	6	1.19	428	85.09
		159	4	0.80	432	85.88
		160	4	0.80	436	86.68
		161	14	2.78	450	89.46
		162	8	1.59	458	91.05
		163	3	0.60	461	91.65
		164	4	0.80	465	92.45
		165	7	1.39	472	93.84
		166	4	0.80	476	94.63
		167	4	0.80	480	95.43
		168	7	1.39	487	96.82
		169	2	0.40	489	97.22
		170	5	0.99	494	98.21
		172	3	0.60	497	98.81
		173	4	0.80	501	99.60
		174	1	0.20	502	99.80
		175	1	0.20	503	100.00



**Table 38**  
**Raw Score Frequency Distributions-Mathematics**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		0	14	2.61	14	2.61
		2	1	0.19	15	2.79
		3	1	0.19	16	2.98
		7	1	0.19	17	3.17
		8	4	0.74	21	3.91
		11	1	0.19	22	4.10
		13	1	0.19	23	4.28
		14	3	0.56	26	4.84
		15	2	0.37	28	5.21
		17	1	0.19	29	5.40
		18	1	0.19	30	5.59
		19	1	0.19	31	5.77
		20	1	0.19	32	5.96
		22	1	0.19	33	6.15
		23	1	0.19	34	6.33
		24	1	0.19	35	6.52
		26	1	0.19	36	6.70
		27	2	0.37	38	7.08
		28	1	0.19	39	7.26
		29	3	0.56	42	7.82
		31	4	0.74	46	8.57
		32	4	0.74	50	9.31
MA	3	33	1	0.19	51	9.50
		34	3	0.56	54	10.06
		35	3	0.56	57	10.61
		36	2	0.37	59	10.99
		37	1	0.19	60	11.17
		38	1	0.19	61	11.36
		39	6	1.12	67	12.48
		40	4	0.74	71	13.22
		41	2	0.37	73	13.59
		42	2	0.37	75	13.97
		43	3	0.56	78	14.53
		44	1	0.19	79	14.71
		45	2	0.37	81	15.08
		46	2	0.37	83	15.46
		47	4	0.74	87	16.20
		48	1	0.19	88	16.39
		49	1	0.19	89	16.57
		50	1	0.19	90	16.76
		51	2	0.37	92	17.13
		52	2	0.37	94	17.50
		53	7	1.30	101	18.81
		54	2	0.37	103	19.18
		55	2	0.37	105	19.55

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		57	1	0.19	106	19.74
		59	5	0.93	111	20.67
		60	3	0.56	114	21.23
		61	2	0.37	116	21.60
		62	4	0.74	120	22.35
		63	3	0.56	123	22.91
		64	4	0.74	127	23.65
		66	2	0.37	129	24.02
		67	3	0.56	132	24.58
		68	2	0.37	134	24.95
		69	4	0.74	138	25.70
		70	5	0.93	143	26.63
		71	2	0.37	145	27.00
		72	5	0.93	150	27.93
		73	3	0.56	153	28.49
		74	3	0.56	156	29.05
		75	1	0.19	157	29.24
		76	5	0.93	162	30.17
		77	5	0.93	167	31.10
		78	6	1.12	173	32.22
		79	7	1.30	180	33.52
		80	4	0.74	184	34.26
MA	3	81	7	1.30	191	35.57
		82	2	0.37	193	35.94
		83	5	0.93	198	36.87
		84	6	1.12	204	37.99
		85	5	0.93	209	38.92
		86	6	1.12	215	40.04
		87	5	0.93	220	40.97
		88	4	0.74	224	41.71
		89	5	0.93	229	42.64
		90	5	0.93	234	43.58
		91	10	1.86	244	45.44
		92	6	1.12	250	46.55
		93	9	1.68	259	48.23
		94	11	2.05	270	50.28
		95	14	2.61	284	52.89
		96	9	1.68	293	54.56
		97	7	1.30	300	55.87
		98	11	2.05	311	57.91
		99	10	1.86	321	59.78
		100	9	1.68	330	61.45
		101	10	1.86	340	63.31
		102	10	1.86	350	65.18
		103	9	1.68	359	66.85

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		104	9	1.68	368	68.53
		105	7	1.30	375	69.83
		106	7	1.30	382	71.14
		107	16	2.98	398	74.12
		108	9	1.68	407	75.79
		109	8	1.49	415	77.28
		110	13	2.42	428	79.70
		111	9	1.68	437	81.38
		112	9	1.68	446	83.05
		113	11	2.05	457	85.10
		114	6	1.12	463	86.22
MA	3	115	16	2.98	479	89.20
		116	8	1.49	487	90.69
		117	11	2.05	498	92.74
		118	9	1.68	507	94.41
		119	2	0.37	509	94.79
		120	10	1.86	519	96.65
		121	6	1.12	525	97.77
		122	1	0.19	526	97.95
		123	4	0.74	530	98.70
		124	3	0.56	533	99.26
		125	2	0.37	535	99.63
		126	2	0.37	537	100.00

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		0	17	3.35	17	3.35
		1	4	0.79	21	4.13
		3	3	0.59	24	4.72
		8	2	0.39	26	5.12
		9	1	0.20	27	5.31
		10	1	0.20	28	5.51
		12	2	0.39	30	5.91
		13	2	0.39	32	6.30
		14	2	0.39	34	6.69
		15	1	0.20	35	6.89
		16	1	0.20	36	7.09
		17	1	0.20	37	7.28
		19	2	0.39	39	7.68
		20	2	0.39	41	8.07
		21	1	0.20	42	8.27
		22	2	0.39	44	8.66
		23	1	0.20	45	8.86
		24	1	0.20	46	9.06
		25	1	0.20	47	9.25
		26	2	0.39	49	9.65
		27	2	0.39	51	10.04
		28	3	0.59	54	10.63
MA	4	29	2	0.39	56	11.02
		31	1	0.20	57	11.22
		32	1	0.20	58	11.42
		35	2	0.39	60	11.81
		36	2	0.39	62	12.20
		37	2	0.39	64	12.60
		38	1	0.20	65	12.80
		39	2	0.39	67	13.19
		40	3	0.59	70	13.78
		41	1	0.20	71	13.98
		42	5	0.98	76	14.96
		43	2	0.39	78	15.35
		44	1	0.20	79	15.55
		45	1	0.20	80	15.75
		46	2	0.39	82	16.14
		47	1	0.20	83	16.34
		48	1	0.20	84	16.54
		49	1	0.20	85	16.73
		50	1	0.20	86	16.93
		51	2	0.39	88	17.32
		53	3	0.59	91	17.91
		54	2	0.39	93	18.31
		56	5	0.98	98	19.29

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		57	5	0.98	103	20.28
		58	2	0.39	105	20.67
		59	1	0.20	106	20.87
		60	2	0.39	108	21.26
		61	6	1.18	114	22.44
		62	1	0.20	115	22.64
		63	6	1.18	121	23.82
		64	3	0.59	124	24.41
		65	3	0.59	127	25.00
		66	1	0.20	128	25.20
		67	5	0.98	133	26.18
		68	4	0.79	137	26.97
		69	1	0.20	138	27.17
		70	1	0.20	139	27.36
		71	4	0.79	143	28.15
		72	5	0.98	148	29.13
		73	2	0.39	150	29.53
		74	4	0.79	154	30.31
		75	3	0.59	157	30.91
		76	5	0.98	162	31.89
		77	2	0.39	164	32.28
		78	4	0.79	168	33.07
MA	4	79	4	0.79	172	33.86
		80	4	0.79	176	34.65
		81	6	1.18	182	35.83
		82	3	0.59	185	36.42
		83	8	1.57	193	37.99
		84	4	0.79	197	38.78
		85	5	0.98	202	39.76
		86	1	0.20	203	39.96
		87	7	1.38	210	41.34
		88	7	1.38	217	42.72
		89	6	1.18	223	43.90
		90	2	0.39	225	44.29
		91	6	1.18	231	45.47
		92	5	0.98	236	46.46
		93	8	1.57	244	48.03
		94	7	1.38	251	49.41
		95	3	0.59	254	50.00
		96	5	0.98	259	50.98
		97	4	0.79	263	51.77
		98	6	1.18	269	52.95
		99	8	1.57	277	54.53
		100	6	1.18	283	55.71
		101	9	1.77	292	57.48

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		102	9	1.77	301	59.25
		103	5	0.98	306	60.24
		104	5	0.98	311	61.22
		105	5	0.98	316	62.20
		106	4	0.79	320	62.99
		107	8	1.57	328	64.57
		108	7	1.38	335	65.94
		109	12	2.36	347	68.31
		110	5	0.98	352	69.29
		111	9	1.77	361	71.06
		112	6	1.18	367	72.24
		113	10	1.97	377	74.21
		114	10	1.97	387	76.18
		115	13	2.56	400	78.74
		116	7	1.38	407	80.12
		117	7	1.38	414	81.50
MA	4	118	5	0.98	419	82.48
		119	7	1.38	426	83.86
		120	12	2.36	438	86.22
		121	11	2.17	449	88.39
		122	3	0.59	452	88.98
		123	10	1.97	462	90.94
		124	7	1.38	469	92.32
		125	5	0.98	474	93.31
		126	7	1.38	481	94.69
		127	5	0.98	486	95.67
		128	4	0.79	490	96.46
		129	4	0.79	494	97.24
		130	3	0.59	497	97.83
		131	5	0.98	502	98.82
		132	5	0.98	507	99.80
		133	1	0.20	508	100.00

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		0	11	2.32	11	2.32
		2	1	0.21	12	2.53
		3	1	0.21	13	2.74
		4	2	0.42	15	3.16
		5	1	0.21	16	3.38
		7	2	0.42	18	3.80
		8	1	0.21	19	4.01
		9	2	0.42	21	4.43
		10	1	0.21	22	4.64
		12	1	0.21	23	4.85
		13	2	0.42	25	5.27
		15	2	0.42	27	5.70
		16	1	0.21	28	5.91
		19	3	0.63	31	6.54
		21	2	0.42	33	6.96
		22	2	0.42	35	7.38
		23	1	0.21	36	7.59
		24	2	0.42	38	8.02
		25	1	0.21	39	8.23
		27	1	0.21	40	8.44
		29	1	0.21	41	8.65
		30	4	0.84	45	9.49
MA	5	31	2	0.42	47	9.92
		32	1	0.21	48	10.13
		33	2	0.42	50	10.55
		34	1	0.21	51	10.76
		35	1	0.21	52	10.97
		37	2	0.42	54	11.39
		38	1	0.21	55	11.60
		40	2	0.42	57	12.03
		41	3	0.63	60	12.66
		42	2	0.42	62	13.08
		44	1	0.21	63	13.29
		45	1	0.21	64	13.50
		46	1	0.21	65	13.71
		47	1	0.21	66	13.92
		48	4	0.84	70	14.77
		49	1	0.21	71	14.98
		50	3	0.63	74	15.61
		51	1	0.21	75	15.82
		52	3	0.63	78	16.46
		53	2	0.42	80	16.88
		54	1	0.21	81	17.09
		57	3	0.63	84	17.72
		58	1	0.21	85	17.93

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		59	1	0.21	86	18.14
		60	2	0.42	88	18.57
		61	1	0.21	89	18.78
		62	1	0.21	90	18.99
		63	3	0.63	93	19.62
		64	2	0.42	95	20.04
		65	1	0.21	96	20.25
		66	1	0.21	97	20.46
		67	2	0.42	99	20.89
		68	4	0.84	103	21.73
		69	3	0.63	106	22.36
		70	3	0.63	109	23.00
		71	1	0.21	110	23.21
		72	2	0.42	112	23.63
		73	1	0.21	113	23.84
		74	1	0.21	114	24.05
		75	2	0.42	116	24.47
		76	3	0.63	119	25.11
		77	3	0.63	122	25.74
		79	3	0.63	125	26.37
		80	2	0.42	127	26.79
		81	1	0.21	128	27.00
MA	5	82	5	1.05	133	28.06
		83	1	0.21	134	28.27
		84	1	0.21	135	28.48
		85	3	0.63	138	29.11
		86	3	0.63	141	29.75
		87	3	0.63	144	30.38
		88	2	0.42	146	30.80
		89	3	0.63	149	31.43
		90	2	0.42	151	31.86
		91	2	0.42	153	32.28
		92	1	0.21	154	32.49
		93	6	1.27	160	33.76
		95	1	0.21	161	33.97
		96	1	0.21	162	34.18
		97	7	1.48	169	35.65
		98	2	0.42	171	36.08
		99	2	0.42	173	36.50
		100	7	1.48	180	37.97
		101	4	0.84	184	38.82
		102	5	1.05	189	39.87
		103	5	1.05	194	40.93
		104	5	1.05	199	41.98
		105	5	1.05	204	43.04

continued



**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		106	3	0.63	207	43.67
		107	6	1.27	213	44.94
		108	4	0.84	217	45.78
		109	3	0.63	220	46.41
		110	1	0.21	221	46.62
		111	5	1.05	226	47.68
		112	2	0.42	228	48.10
		113	4	0.84	232	48.95
		114	4	0.84	236	49.79
		115	8	1.69	244	51.48
		116	5	1.05	249	52.53
		117	3	0.63	252	53.16
		118	2	0.42	254	53.59
		119	6	1.27	260	54.85
		120	4	0.84	264	55.70
		121	5	1.05	269	56.75
		122	10	2.11	279	58.86
		123	5	1.05	284	59.92
		124	7	1.48	291	61.39
		125	8	1.69	299	63.08
		126	6	1.27	305	64.35
		127	7	1.48	312	65.82
MA	5	128	6	1.27	318	67.09
		129	7	1.48	325	68.57
		130	4	0.84	329	69.41
		131	4	0.84	333	70.25
		132	6	1.27	339	71.52
		133	7	1.48	346	73.00
		134	7	1.48	353	74.47
		135	6	1.27	359	75.74
		136	4	0.84	363	76.58
		137	8	1.69	371	78.27
		138	3	0.63	374	78.90
		139	6	1.27	380	80.17
		140	7	1.48	387	81.65
		141	10	2.11	397	83.76
		142	3	0.63	400	84.39
		143	6	1.27	406	85.65
		144	6	1.27	412	86.92
		145	3	0.63	415	87.55
		146	5	1.05	420	88.61
		147	7	1.48	427	90.08
		148	3	0.63	430	90.72
		149	4	0.84	434	91.56
		150	7	1.48	441	93.04

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		151	1	0.21	442	93.25
		152	4	0.84	446	94.09
		153	1	0.21	447	94.30
		154	4	0.84	451	95.15
		155	2	0.42	453	95.57
		156	2	0.42	455	95.99
		157	2	0.42	457	96.41
		158	4	0.84	461	97.26
MA	5	159	5	1.05	466	98.31
		160	1	0.21	467	98.52
		161	1	0.21	468	98.73
		164	1	0.21	469	98.95
		165	1	0.21	470	99.16
		166	1	0.21	471	99.37
		167	1	0.21	472	99.58
		170	1	0.21	473	99.79
		171	1	0.21	474	100.00

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		0	23	4.44	23	4.44
		2	1	0.19	24	4.63
		3	4	0.77	28	5.41
		4	2	0.39	30	5.79
		5	1	0.19	31	5.98
		6	2	0.39	33	6.37
		7	3	0.58	36	6.95
		9	2	0.39	38	7.34
		12	1	0.19	39	7.53
		13	2	0.39	41	7.92
		14	3	0.58	44	8.49
		15	1	0.19	45	8.69
		16	2	0.39	47	9.07
		17	1	0.19	48	9.27
		19	2	0.39	50	9.65
		21	1	0.19	51	9.85
		22	4	0.77	55	10.62
		23	3	0.58	58	11.20
		24	3	0.58	61	11.78
		25	2	0.39	63	12.16
		26	2	0.39	65	12.55
		27	3	0.58	68	13.13
MA	6	28	4	0.77	72	13.90
		29	3	0.58	75	14.48
		31	2	0.39	77	14.86
		32	2	0.39	79	15.25
		33	4	0.77	83	16.02
		34	5	0.97	88	16.99
		36	4	0.77	92	17.76
		37	5	0.97	97	18.73
		38	3	0.58	100	19.31
		40	2	0.39	102	19.69
		41	1	0.19	103	19.88
		42	3	0.58	106	20.46
		43	4	0.77	110	21.24
		44	1	0.19	111	21.43
		45	1	0.19	112	21.62
		46	4	0.77	116	22.39
		47	5	0.97	121	23.36
		49	3	0.58	124	23.94
		50	3	0.58	127	24.52
		51	6	1.16	133	25.68
		52	3	0.58	136	26.25
		53	4	0.77	140	27.03
		54	2	0.39	142	27.41

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		55	1	0.19	143	27.61
		56	2	0.39	145	27.99
		57	2	0.39	147	28.38
		58	2	0.39	149	28.76
		59	1	0.19	150	28.96
		60	4	0.77	154	29.73
		61	5	0.97	159	30.69
		62	2	0.39	161	31.08
		63	4	0.77	165	31.85
		64	1	0.19	166	32.05
		65	3	0.58	169	32.63
		66	6	1.16	175	33.78
		67	1	0.19	176	33.98
		68	7	1.35	183	35.33
		69	2	0.39	185	35.71
		70	4	0.77	189	36.49
		71	6	1.16	195	37.64
		72	3	0.58	198	38.22
		73	4	0.77	202	39.00
		74	3	0.58	205	39.58
		75	2	0.39	207	39.96
		76	4	0.77	211	40.73
MA	6	77	5	0.97	216	41.70
		78	5	0.97	221	42.66
		79	1	0.19	222	42.86
		80	4	0.77	226	43.63
		81	4	0.77	230	44.40
		82	5	0.97	235	45.37
		83	4	0.77	239	46.14
		84	6	1.16	245	47.30
		85	4	0.77	249	48.07
		86	2	0.39	251	48.46
		87	2	0.39	253	48.84
		88	5	0.97	258	49.81
		89	2	0.39	260	50.19
		90	5	0.97	265	51.16
		91	5	0.97	270	52.12
		92	6	1.16	276	53.28
		93	4	0.77	280	54.05
		94	6	1.16	286	55.21
		95	3	0.58	289	55.79
		96	1	0.19	290	55.98
		97	4	0.77	294	56.76
		98	5	0.97	299	57.72
		99	13	2.51	312	60.23

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		100	5	0.97	317	61.20
		101	5	0.97	322	62.16
		102	7	1.35	329	63.51
		103	7	1.35	336	64.86
		104	7	1.35	343	66.22
		105	7	1.35	350	67.57
		106	9	1.74	359	69.31
		107	10	1.93	369	71.24
		108	6	1.16	375	72.39
		109	9	1.74	384	74.13
		110	9	1.74	393	75.87
		111	10	1.93	403	77.80
		112	6	1.16	409	78.96
		113	3	0.58	412	79.54
		114	6	1.16	418	80.69
		115	4	0.77	422	81.47
		116	11	2.12	433	83.59
		117	2	0.39	435	83.98
MA	6	118	3	0.58	438	84.56
		119	10	1.93	448	86.49
		120	5	0.97	453	87.45
		121	7	1.35	460	88.80
		122	6	1.16	466	89.96
		123	5	0.97	471	90.93
		124	7	1.35	478	92.28
		125	6	1.16	484	93.44
		126	4	0.77	488	94.21
		127	5	0.97	493	95.17
		128	4	0.77	497	95.95
		129	5	0.97	502	96.91
		130	4	0.77	506	97.68
		132	2	0.39	508	98.07
		133	1	0.19	509	98.26
		134	2	0.39	511	98.65
		135	4	0.77	515	99.42
		136	1	0.19	516	99.61
		138	2	0.39	518	100.00

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		0	16	3.41	16	3.41
		1	2	0.43	18	3.84
		2	4	0.85	22	4.69
		3	3	0.64	25	5.33
		4	1	0.21	26	5.54
		5	1	0.21	27	5.76
		7	3	0.64	30	6.40
		10	3	0.64	33	7.04
		11	1	0.21	34	7.25
		14	2	0.43	36	7.68
		17	1	0.21	37	7.89
		18	3	0.64	40	8.53
		21	2	0.43	42	8.96
		23	1	0.21	43	9.17
		24	3	0.64	46	9.81
		25	1	0.21	47	10.02
		26	1	0.21	48	10.23
		27	1	0.21	49	10.45
		28	1	0.21	50	10.66
		29	3	0.64	53	11.30
		30	2	0.43	55	11.73
		31	1	0.21	56	11.94
MA	7	32	5	1.07	61	13.01
		33	5	1.07	66	14.07
		34	4	0.85	70	14.93
		35	3	0.64	73	15.57
		36	2	0.43	75	15.99
		39	4	0.85	79	16.84
		40	4	0.85	83	17.70
		41	2	0.43	85	18.12
		42	3	0.64	88	18.76
		43	2	0.43	90	19.19
		44	4	0.85	94	20.04
		45	3	0.64	97	20.68
		46	3	0.64	100	21.32
		47	6	1.28	106	22.60
		49	2	0.43	108	23.03
		50	3	0.64	111	23.67
		51	2	0.43	113	24.09
		52	7	1.49	120	25.59
		53	2	0.43	122	26.01
		54	3	0.64	125	26.65
		55	4	0.85	129	27.51
		56	2	0.43	131	27.93
		57	1	0.21	132	28.14

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		58	4	0.85	136	29.00
		59	2	0.43	138	29.42
		60	3	0.64	141	30.06
		61	1	0.21	142	30.28
		62	4	0.85	146	31.13
		63	6	1.28	152	32.41
		64	5	1.07	157	33.48
		65	4	0.85	161	34.33
		66	6	1.28	167	35.61
		67	3	0.64	170	36.25
		68	3	0.64	173	36.89
		69	1	0.21	174	37.10
		70	7	1.49	181	38.59
		71	7	1.49	188	40.09
		72	4	0.85	192	40.94
		73	3	0.64	195	41.58
		74	4	0.85	199	42.43
		75	6	1.28	205	43.71
		76	3	0.64	208	44.35
		77	2	0.43	210	44.78
		78	6	1.28	216	46.06
		79	3	0.64	219	46.70
MA	7	80	4	0.85	223	47.55
		81	5	1.07	228	48.61
		82	8	1.71	236	50.32
		83	5	1.07	241	51.39
		84	7	1.49	248	52.88
		85	6	1.28	254	54.16
		86	8	1.71	262	55.86
		87	4	0.85	266	56.72
		88	5	1.07	271	57.78
		89	6	1.28	277	59.06
		90	8	1.71	285	60.77
		91	7	1.49	292	62.26
		92	1	0.21	293	62.47
		93	10	2.13	303	64.61
		94	4	0.85	307	65.46
		95	8	1.71	315	67.16
		96	3	0.64	318	67.80
		97	7	1.49	325	69.30
		98	7	1.49	332	70.79
		99	4	0.85	336	71.64
		100	3	0.64	339	72.28
		101	5	1.07	344	73.35
		102	7	1.49	351	74.84

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		103	6	1.28	357	76.12
		104	8	1.71	365	77.83
		105	3	0.64	368	78.46
		106	4	0.85	372	79.32
		107	11	2.35	383	81.66
		108	5	1.07	388	82.73
		109	4	0.85	392	83.58
		110	10	2.13	402	85.71
		111	1	0.21	403	85.93
		112	6	1.28	409	87.21
		113	14	2.99	423	90.19
		114	5	1.07	428	91.26
		115	5	1.07	433	92.32
MA	7	116	5	1.07	438	93.39
		117	4	0.85	442	94.24
		118	1	0.21	443	94.46
		119	4	0.85	447	95.31
		120	3	0.64	450	95.95
		121	3	0.64	453	96.59
		122	4	0.85	457	97.44
		123	2	0.43	459	97.87
		124	2	0.43	461	98.29
		125	3	0.64	464	98.93
		126	1	0.21	465	99.15
		129	2	0.43	467	99.57
		130	1	0.21	468	99.79
		132	1	0.21	469	100.00



**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		0	20	3.65	20	3.65
		1	2	0.36	22	4.01
		3	2	0.36	24	4.38
		4	2	0.36	26	4.74
		6	1	0.18	27	4.93
		7	4	0.73	31	5.66
		8	2	0.36	33	6.02
		11	2	0.36	35	6.39
		12	1	0.18	36	6.57
		13	1	0.18	37	6.75
		15	1	0.18	38	6.93
		16	1	0.18	39	7.12
		17	3	0.55	42	7.66
		18	1	0.18	43	7.85
		19	4	0.73	47	8.58
		21	2	0.36	49	8.94
		22	3	0.55	52	9.49
		23	1	0.18	53	9.67
		24	1	0.18	54	9.85
		25	5	0.91	59	10.77
		26	3	0.55	62	11.31
		27	1	0.18	63	11.50
MA	8	28	3	0.55	66	12.04
		30	2	0.36	68	12.41
		31	1	0.18	69	12.59
		33	2	0.36	71	12.96
		34	1	0.18	72	13.14
		35	3	0.55	75	13.69
		36	3	0.55	78	14.23
		37	2	0.36	80	14.60
		38	3	0.55	83	15.15
		39	7	1.28	90	16.42
		40	4	0.73	94	17.15
		41	6	1.09	100	18.25
		42	4	0.73	104	18.98
		43	4	0.73	108	19.71
		44	5	0.91	113	20.62
		45	3	0.55	116	21.17
		46	4	0.73	120	21.90
		47	6	1.09	126	22.99
		48	2	0.36	128	23.36
		49	5	0.91	133	24.27
		50	8	1.46	141	25.73
		51	6	1.09	147	26.82
		52	2	0.36	149	27.19

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		53	2	0.36	151	27.55
		54	5	0.91	156	28.47
		56	5	0.91	161	29.38
		57	5	0.91	166	30.29
		58	4	0.73	170	31.02
		59	2	0.36	172	31.39
		60	3	0.55	175	31.93
		61	5	0.91	180	32.85
		62	6	1.09	186	33.94
		63	3	0.55	189	34.49
		64	5	0.91	194	35.40
		65	3	0.55	197	35.95
		66	5	0.91	202	36.86
		67	2	0.36	204	37.23
		69	2	0.36	206	37.59
		70	5	0.91	211	38.50
		71	3	0.55	214	39.05
		72	2	0.36	216	39.42
		73	3	0.55	219	39.96
		74	3	0.55	222	40.51
		75	3	0.55	225	41.06
		76	1	0.18	226	41.24
MA	8	77	4	0.73	230	41.97
		78	2	0.36	232	42.34
		79	6	1.09	238	43.43
		80	6	1.09	244	44.53
		81	5	0.91	249	45.44
		82	9	1.64	258	47.08
		83	5	0.91	263	47.99
		84	5	0.91	268	48.91
		85	8	1.46	276	50.36
		86	2	0.36	278	50.73
		87	7	1.28	285	52.01
		88	5	0.91	290	52.92
		89	2	0.36	292	53.28
		90	5	0.91	297	54.20
		91	5	0.91	302	55.11
		92	8	1.46	310	56.57
		93	6	1.09	316	57.66
		94	9	1.64	325	59.31
		95	4	0.73	329	60.04
		96	5	0.91	334	60.95
		97	5	0.91	339	61.86
		98	9	1.64	348	63.50
		99	4	0.73	352	64.23

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		100	1	0.18	353	64.42
		101	5	0.91	358	65.33
		102	6	1.09	364	66.42
		103	4	0.73	368	67.15
		104	8	1.46	376	68.61
		105	3	0.55	379	69.16
		106	7	1.28	386	70.44
		107	5	0.91	391	71.35
		108	6	1.09	397	72.45
		109	9	1.64	406	74.09
		110	7	1.28	413	75.36
		111	4	0.73	417	76.09
		112	7	1.28	424	77.37
		113	4	0.73	428	78.10
		114	10	1.82	438	79.93
		115	4	0.73	442	80.66
		116	5	0.91	447	81.57
		117	7	1.28	454	82.85
		118	7	1.28	461	84.12
		119	4	0.73	465	84.85
MA	8	120	7	1.28	472	86.13
		121	5	0.91	477	87.04
		122	9	1.64	486	88.69
		123	9	1.64	495	90.33
		124	4	0.73	499	91.06
		125	6	1.09	505	92.15
		126	6	1.09	511	93.25
		128	2	0.36	513	93.61
		129	5	0.91	518	94.53
		130	3	0.55	521	95.07
		131	1	0.18	522	95.26
		132	5	0.91	527	96.17
		133	2	0.36	529	96.53
		134	2	0.36	531	96.90
		136	2	0.36	533	97.26
		137	4	0.73	537	97.99
		138	4	0.73	541	98.72
		139	3	0.55	544	99.27
		141	1	0.18	545	99.45
		143	1	0.18	546	99.64
		144	1	0.18	547	99.82
		147	1	0.18	548	100.00

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		0	23	4.83	23	4.83
		2	2	0.42	25	5.25
		5	2	0.42	27	5.67
		6	4	0.84	31	6.51
		7	2	0.42	33	6.93
		8	1	0.21	34	7.14
		9	2	0.42	36	7.56
		10	2	0.42	38	7.98
		11	3	0.63	41	8.61
		12	3	0.63	44	9.24
		13	3	0.63	47	9.87
		14	1	0.21	48	10.08
		15	2	0.42	50	10.50
		17	2	0.42	52	10.92
		18	4	0.84	56	11.76
		20	2	0.42	58	12.18
		21	3	0.63	61	12.82
		23	1	0.21	62	13.03
		24	2	0.42	64	13.45
		26	4	0.84	68	14.29
		27	2	0.42	70	14.71
		28	1	0.21	71	14.92
MA	9	29	3	0.63	74	15.55
		31	2	0.42	76	15.97
		32	3	0.63	79	16.60
		33	5	1.05	84	17.65
		34	1	0.21	85	17.86
		35	4	0.84	89	18.70
		36	4	0.84	93	19.54
		37	2	0.42	95	19.96
		38	6	1.26	101	21.22
		39	7	1.47	108	22.69
		40	5	1.05	113	23.74
		41	7	1.47	120	25.21
		42	2	0.42	122	25.63
		43	4	0.84	126	26.47
		44	4	0.84	130	27.31
		45	3	0.63	133	27.94
		46	9	1.89	142	29.83
		47	5	1.05	147	30.88
		48	2	0.42	149	31.30
		49	5	1.05	154	32.35
		50	1	0.21	155	32.56
		51	2	0.42	157	32.98
		52	3	0.63	160	33.61

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		53	2	0.42	162	34.03
		54	6	1.26	168	35.29
		55	7	1.47	175	36.76
		56	3	0.63	178	37.39
		57	4	0.84	182	38.24
		58	1	0.21	183	38.45
		59	7	1.47	190	39.92
		60	1	0.21	191	40.13
		61	5	1.05	196	41.18
		62	6	1.26	202	42.44
		63	3	0.63	205	43.07
		64	3	0.63	208	43.70
		65	3	0.63	211	44.33
		66	7	1.47	218	45.80
		67	4	0.84	222	46.64
		68	2	0.42	224	47.06
		69	6	1.26	230	48.32
		70	2	0.42	232	48.74
		71	3	0.63	235	49.37
		72	2	0.42	237	49.79
		73	5	1.05	242	50.84
		74	3	0.63	245	51.47
MA	9	75	2	0.42	247	51.89
		76	2	0.42	249	52.31
		77	5	1.05	254	53.36
		78	5	1.05	259	54.41
		79	5	1.05	264	55.46
		80	5	1.05	269	56.51
		81	6	1.26	275	57.77
		82	3	0.63	278	58.40
		83	2	0.42	280	58.82
		84	9	1.89	289	60.71
		85	2	0.42	291	61.13
		86	9	1.89	300	63.03
		87	4	0.84	304	63.87
		88	5	1.05	309	64.92
		89	8	1.68	317	66.60
		90	2	0.42	319	67.02
		91	6	1.26	325	68.28
		92	5	1.05	330	69.33
		93	5	1.05	335	70.38
		94	6	1.26	341	71.64
		95	9	1.89	350	73.53
		96	5	1.05	355	74.58
		97	5	1.05	360	75.63

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		98	5	1.05	365	76.68
		99	4	0.84	369	77.52
		100	5	1.05	374	78.57
		101	7	1.47	381	80.04
		102	4	0.84	385	80.88
		103	3	0.63	388	81.51
		104	4	0.84	392	82.35
		105	2	0.42	394	82.77
		106	3	0.63	397	83.40
		107	5	1.05	402	84.45
		108	9	1.89	411	86.34
		109	4	0.84	415	87.18
		110	6	1.26	421	88.45
		111	4	0.84	425	89.29
		112	2	0.42	427	89.71
		113	5	1.05	432	90.76
MA	9	114	6	1.26	438	92.02
		116	3	0.63	441	92.65
		117	6	1.26	447	93.91
		119	5	1.05	452	94.96
		120	2	0.42	454	95.38
		121	1	0.21	455	95.59
		123	1	0.21	456	95.80
		124	2	0.42	458	96.22
		125	2	0.42	460	96.64
		126	1	0.21	461	96.85
		127	4	0.84	465	97.69
		128	2	0.42	467	98.11
		129	2	0.42	469	98.53
		130	1	0.21	470	98.74
		131	1	0.21	471	98.95
		132	1	0.21	472	99.16
		137	1	0.21	473	99.37
		138	3	0.63	476	100.00

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		0	26	5.82	26	5.82
		1	1	0.22	27	6.04
		2	1	0.22	28	6.26
		4	1	0.22	29	6.49
		5	1	0.22	30	6.71
		6	4	0.89	34	7.61
		7	1	0.22	35	7.83
		9	2	0.45	37	8.28
		11	3	0.67	40	8.95
		12	3	0.67	43	9.62
		13	1	0.22	44	9.84
		15	3	0.67	47	10.51
		16	4	0.89	51	11.41
		17	3	0.67	54	12.08
		18	4	0.89	58	12.98
		19	4	0.89	62	13.87
		20	2	0.45	64	14.32
		22	3	0.67	67	14.99
		23	2	0.45	69	15.44
		26	9	2.01	78	17.45
		27	1	0.22	79	17.67
		28	2	0.45	81	18.12
MA	10	29	3	0.67	84	18.79
		30	3	0.67	87	19.46
		32	1	0.22	88	19.69
		33	2	0.45	90	20.13
		34	1	0.22	91	20.36
		35	2	0.45	93	20.81
		36	3	0.67	96	21.48
		37	3	0.67	99	22.15
		39	4	0.89	103	23.04
		40	4	0.89	107	23.94
		41	2	0.45	109	24.38
		42	2	0.45	111	24.83
		43	2	0.45	113	25.28
		44	2	0.45	115	25.73
		45	5	1.12	120	26.85
		46	2	0.45	122	27.29
		47	3	0.67	125	27.96
		48	2	0.45	127	28.41
		49	3	0.67	130	29.08
		50	4	0.89	134	29.98
		51	2	0.45	136	30.43
		52	2	0.45	138	30.87
		53	4	0.89	142	31.77

continued

**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		54	3	0.67	145	32.44
		55	4	0.89	149	33.33
		56	2	0.45	151	33.78
		57	4	0.89	155	34.68
		58	7	1.57	162	36.24
		59	3	0.67	165	36.91
		60	6	1.34	171	38.26
		61	2	0.45	173	38.70
		62	5	1.12	178	39.82
		63	1	0.22	179	40.04
		64	7	1.57	186	41.61
		65	1	0.22	187	41.83
		66	8	1.79	195	43.62
		67	6	1.34	201	44.97
		68	7	1.57	208	46.53
		69	5	1.12	213	47.65
		70	5	1.12	218	48.77
		71	1	0.22	219	48.99
		72	3	0.67	222	49.66
		73	2	0.45	224	50.11
		74	6	1.34	230	51.45
		75	4	0.89	234	52.35
MA	10	76	5	1.12	239	53.47
		77	6	1.34	245	54.81
		78	5	1.12	250	55.93
		79	3	0.67	253	56.60
		80	6	1.34	259	57.94
		81	3	0.67	262	58.61
		82	4	0.89	266	59.51
		83	2	0.45	268	59.96
		84	3	0.67	271	60.63
		85	4	0.89	275	61.52
		86	8	1.79	283	63.31
		87	5	1.12	288	64.43
		88	2	0.45	290	64.88
		89	7	1.57	297	66.44
		90	3	0.67	300	67.11
		91	8	1.79	308	68.90
		92	2	0.45	310	69.35
		93	1	0.22	311	69.57
		94	5	1.12	316	70.69
		95	4	0.89	320	71.59
		96	10	2.24	330	73.83
		97	3	0.67	333	74.50
		98	5	1.12	338	75.62

continued



**Table 38**  
**Raw Score Frequency Distributions- Mathematics (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		99	2	0.45	340	76.06
		100	7	1.57	347	77.63
		101	1	0.22	348	77.85
		102	3	0.67	351	78.52
		103	5	1.12	356	79.64
		104	6	1.34	362	80.98
		105	6	1.34	368	82.33
		106	2	0.45	370	82.77
		107	4	0.89	374	83.67
		108	1	0.22	375	83.89
		109	2	0.45	377	84.34
		110	2	0.45	379	84.79
		111	6	1.34	385	86.13
		112	4	0.89	389	87.02
		113	2	0.45	391	87.47
		114	4	0.89	395	88.37
		115	5	1.12	400	89.49
		116	4	0.89	404	90.38
		117	3	0.67	407	91.05
MA	10	118	4	0.89	411	91.95
		119	4	0.89	415	92.84
		120	2	0.45	417	93.29
		121	1	0.22	418	93.51
		122	2	0.45	420	93.96
		123	4	0.89	424	94.85
		124	4	0.89	428	95.75
		125	2	0.45	430	96.20
		126	2	0.45	432	96.64
		128	2	0.45	434	97.09
		130	2	0.45	436	97.54
		133	1	0.22	437	97.76
		136	1	0.22	438	97.99
		137	1	0.22	439	98.21
		138	3	0.67	442	98.88
		140	1	0.22	443	99.11
		142	1	0.22	444	99.33
		144	1	0.22	445	99.55
		145	1	0.22	446	99.78
		148	1	0.22	447	100.00

**Table 39**  
**Raw Score Frequency Distributions-Science**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		23	6	1.13	6	1.13
		24	2	0.38	8	1.50
		25	1	0.19	9	1.69
		26	2	0.38	11	2.06
		27	9	1.69	20	3.75
		28	3	0.56	23	4.32
		29	1	0.19	24	4.50
		30	1	0.19	25	4.69
		31	2	0.38	27	5.07
		32	2	0.38	29	5.44
		33	3	0.56	32	6.00
		35	2	0.38	34	6.38
		36	2	0.38	36	6.75
		37	4	0.75	40	7.50
		38	3	0.56	43	8.07
		39	2	0.38	45	8.44
		40	1	0.19	46	8.63
		41	1	0.19	47	8.82
		43	4	0.75	51	9.57
		44	2	0.38	53	9.94
		45	3	0.56	56	10.51
		46	3	0.56	59	11.07
SC	5	48	2	0.38	61	11.44
		49	1	0.19	62	11.63
		50	2	0.38	64	12.01
		51	2	0.38	66	12.38
		52	3	0.56	69	12.95
		53	2	0.38	71	13.32
		54	2	0.38	73	13.70
		55	2	0.38	75	14.07
		56	2	0.38	77	14.45
		58	2	0.38	79	14.82
		59	2	0.38	81	15.20
		60	3	0.56	84	15.76
		61	1	0.19	85	15.95
		62	1	0.19	86	16.14
		63	5	0.94	91	17.07
		64	3	0.56	94	17.64
		66	3	0.56	97	18.20
		67	1	0.19	98	18.39
		68	2	0.38	100	18.76
		69	6	1.13	106	19.89
		70	2	0.38	108	20.26
		71	3	0.56	111	20.83
		72	2	0.38	113	21.20

continued

**Table 39**  
**Raw Score Frequency Distributions- Science (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		73	3	0.56	116	21.76
		74	2	0.38	118	22.14
		75	6	1.13	124	23.26
		76	3	0.56	127	23.83
		77	7	1.31	134	25.14
		78	3	0.56	137	25.70
		79	2	0.38	139	26.08
		80	4	0.75	143	26.83
		81	4	0.75	147	27.58
		82	4	0.75	151	28.33
		83	5	0.94	156	29.27
		84	3	0.56	159	29.83
		85	1	0.19	160	30.02
		86	7	1.31	167	31.33
		87	4	0.75	171	32.08
		88	8	1.50	179	33.58
		89	4	0.75	183	34.33
		90	9	1.69	192	36.02
		91	4	0.75	196	36.77
		92	10	1.88	206	38.65
		93	5	0.94	211	39.59
SC	5	94	6	1.13	217	40.71
		95	6	1.13	223	41.84
		96	11	2.06	234	43.90
		97	10	1.88	244	45.78
		98	12	2.25	256	48.03
		99	7	1.31	263	49.34
		100	18	3.38	281	52.72
		101	18	3.38	299	56.10
		102	15	2.81	314	58.91
		103	17	3.19	331	62.10
		104	12	2.25	343	64.35
		105	13	2.44	356	66.79
		106	19	3.56	375	70.36
		107	23	4.32	398	74.67
		108	20	3.75	418	78.42
		109	21	3.94	439	82.36
		110	15	2.81	454	85.18
		111	22	4.13	476	89.31
		112	17	3.19	493	92.50
		113	14	2.63	507	95.12
		114	16	3.00	523	98.12
		115	10	1.88	533	100.00

**Table 39**  
**Raw Score Frequency Distributions- Science (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		45	12	2.03	12	2.03
		46	2	0.34	14	2.37
		48	2	0.34	16	2.71
		49	5	0.85	21	3.55
		50	1	0.17	22	3.72
		51	2	0.34	24	4.06
		52	3	0.51	27	4.57
		53	3	0.51	30	5.08
		54	1	0.17	31	5.25
		55	3	0.51	34	5.75
		56	1	0.17	35	5.92
		57	1	0.17	36	6.09
		59	1	0.17	37	6.26
		60	1	0.17	38	6.43
		62	1	0.17	39	6.60
		64	1	0.17	40	6.77
		65	1	0.17	41	6.94
		66	3	0.51	44	7.45
		67	1	0.17	45	7.61
		69	1	0.17	46	7.78
		72	1	0.17	47	7.95
		74	2	0.34	49	8.29
SC	8	75	1	0.17	50	8.46
		81	3	0.51	53	8.97
		83	1	0.17	54	9.14
		85	1	0.17	55	9.31
		87	1	0.17	56	9.48
		90	3	0.51	59	9.98
		93	1	0.17	60	10.15
		97	2	0.34	62	10.49
		99	1	0.17	63	10.66
		100	2	0.34	65	11.00
		102	1	0.17	66	11.17
		104	1	0.17	67	11.34
		106	2	0.34	69	11.68
		107	1	0.17	70	11.84
		108	3	0.51	73	12.35
		110	2	0.34	75	12.69
		111	1	0.17	76	12.86
		112	1	0.17	77	13.03
		115	2	0.34	79	13.37
		116	1	0.17	80	13.54
		117	2	0.34	82	13.87
		118	1	0.17	83	14.04
		119	2	0.34	85	14.38

continued

**Table 39**  
**Raw Score Frequency Distributions- Science (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		121	2	0.34	87	14.72
		122	1	0.17	88	14.89
		123	4	0.68	92	15.57
		125	2	0.34	94	15.91
		127	3	0.51	97	16.41
		129	1	0.17	98	16.58
		131	5	0.85	103	17.43
		132	1	0.17	104	17.60
		133	2	0.34	106	17.94
		134	1	0.17	107	18.10
		135	2	0.34	109	18.44
		136	4	0.68	113	19.12
		137	3	0.51	116	19.63
		138	5	0.85	121	20.47
		140	2	0.34	123	20.81
		141	2	0.34	125	21.15
		142	1	0.17	126	21.32
		143	3	0.51	129	21.83
		144	3	0.51	132	22.34
		145	4	0.68	136	23.01
		146	1	0.17	137	23.18
		147	1	0.17	138	23.35
SC	8	148	1	0.17	139	23.52
		149	1	0.17	140	23.69
		150	3	0.51	143	24.20
		151	3	0.51	146	24.70
		152	4	0.68	150	25.38
		153	3	0.51	153	25.89
		154	1	0.17	154	26.06
		155	1	0.17	155	26.23
		156	6	1.02	161	27.24
		158	5	0.85	166	28.09
		159	3	0.51	169	28.60
		160	3	0.51	172	29.10
		161	3	0.51	175	29.61
		162	2	0.34	177	29.95
		163	3	0.51	180	30.46
		164	2	0.34	182	30.80
		165	4	0.68	186	31.47
		166	5	0.85	191	32.32
		167	2	0.34	193	32.66
		168	4	0.68	197	33.33
		169	4	0.68	201	34.01
		170	2	0.34	203	34.35
		171	4	0.68	207	35.03

continued

**Table 39**  
**Raw Score Frequency Distributions- Science (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		172	3	0.51	210	35.53
		173	2	0.34	212	35.87
		174	5	0.85	217	36.72
		175	1	0.17	218	36.89
		176	5	0.85	223	37.73
		177	5	0.85	228	38.58
		178	2	0.34	230	38.92
		179	1	0.17	231	39.09
		180	5	0.85	236	39.93
		181	1	0.17	237	40.10
		182	1	0.17	238	40.27
		183	1	0.17	239	40.44
		184	3	0.51	242	40.95
		185	7	1.18	249	42.13
		186	9	1.52	258	43.65
		187	5	0.85	263	44.50
		188	5	0.85	268	45.35
		189	6	1.02	274	46.36
		190	7	1.18	281	47.55
		192	5	0.85	286	48.39
		193	6	1.02	292	49.41
		194	7	1.18	299	50.59
SC	8	195	7	1.18	306	51.78
		196	5	0.85	311	52.62
		197	6	1.02	317	53.64
		198	10	1.69	327	55.33
		199	8	1.35	335	56.68
		200	14	2.37	349	59.05
		201	8	1.35	357	60.41
		202	9	1.52	366	61.93
		203	6	1.02	372	62.94
		204	19	3.21	391	66.16
		205	6	1.02	397	67.17
		206	9	1.52	406	68.70
		207	9	1.52	415	70.22
		208	7	1.18	422	71.40
		209	11	1.86	433	73.27
		210	10	1.69	443	74.96
		211	9	1.52	452	76.48
		212	10	1.69	462	78.17
		213	10	1.69	472	79.86
		214	15	2.54	487	82.40
		215	18	3.05	505	85.45
		216	12	2.03	517	87.48
		217	9	1.52	526	89.00

continued

**Table 39**  
**Raw Score Frequency Distributions- Science (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		218	9	1.52	535	90.52
		219	13	2.20	548	92.72
		220	10	1.69	558	94.42
SC	8	221	8	1.35	566	95.77
		222	5	0.85	571	96.62
		223	8	1.35	579	97.97
		224	7	1.18	586	99.15
		225	5	0.85	591	100.00

**Table 39**  
**Raw Score Frequency Distributions- Science (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		0	23	4.98	23	4.98
		1	1	0.22	24	5.19
		2	1	0.22	25	5.41
		3	1	0.22	26	5.63
		4	1	0.22	27	5.84
		5	1	0.22	28	6.06
		7	2	0.43	30	6.49
		9	2	0.43	32	6.93
		12	3	0.65	35	7.58
		14	2	0.43	37	8.01
		15	1	0.22	38	8.23
		17	2	0.43	40	8.66
		18	1	0.22	41	8.87
		19	4	0.87	45	9.74
		20	4	0.87	49	10.61
		21	5	1.08	54	11.69
		22	7	1.52	61	13.20
		23	4	0.87	65	14.07
		24	4	0.87	69	14.94
		25	2	0.43	71	15.37
		26	6	1.30	77	16.67
		27	6	1.30	83	17.97
SC	10	28	4	0.87	87	18.83
		29	9	1.95	96	20.78
		30	5	1.08	101	21.86
		31	3	0.65	104	22.51
		32	4	0.87	108	23.38
		33	4	0.87	112	24.24
		34	3	0.65	115	24.89
		35	2	0.43	117	25.32
		36	8	1.73	125	27.06
		37	5	1.08	130	28.14
		38	3	0.65	133	28.79
		39	6	1.30	139	30.09
		40	1	0.22	140	30.30
		41	6	1.30	146	31.60
		42	9	1.95	155	33.55
		43	3	0.65	158	34.20
		44	3	0.65	161	34.85
		45	3	0.65	164	35.50
		46	2	0.43	166	35.93
		47	4	0.87	170	36.80
		48	5	1.08	175	37.88
		49	2	0.43	177	38.31
		50	2	0.43	179	38.74

continued



**Table 39**  
**Raw Score Frequency Distributions- Science (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		51	3	0.65	182	39.39
		52	3	0.65	185	40.04
		53	9	1.95	194	41.99
		54	3	0.65	197	42.64
		55	1	0.22	198	42.86
		56	6	1.30	204	44.16
		57	8	1.73	212	45.89
		58	3	0.65	215	46.54
		59	3	0.65	218	47.19
		60	8	1.73	226	48.92
		61	6	1.30	232	50.22
		62	3	0.65	235	50.87
		63	4	0.87	239	51.73
		64	2	0.43	241	52.16
		65	3	0.65	244	52.81
		66	7	1.52	251	54.33
		67	1	0.22	252	54.55
		68	3	0.65	255	55.19
		69	6	1.30	261	56.49
		70	7	1.52	268	58.01
		71	8	1.73	276	59.74
		72	6	1.30	282	61.04
SC	10	73	4	0.87	286	61.90
		74	4	0.87	290	62.77
		75	9	1.95	299	64.72
		76	7	1.52	306	66.23
		77	7	1.52	313	67.75
		78	6	1.30	319	69.05
		79	5	1.08	324	70.13
		80	7	1.52	331	71.65
		81	12	2.60	343	74.24
		82	6	1.30	349	75.54
		83	5	1.08	354	76.62
		84	9	1.95	363	78.57
		85	4	0.87	367	79.44
		86	4	0.87	371	80.30
		87	18	3.90	389	84.20
		88	5	1.08	394	85.28
		89	7	1.52	401	86.80
		90	10	2.16	411	88.96
		91	1	0.22	412	89.18
		92	9	1.95	421	91.13
		93	11	2.38	432	93.51
		95	2	0.43	434	93.94
		96	13	2.81	447	96.75

continued

**Table 39**  
**Raw Score Frequency Distributions- Science (continued)**

Content	Grade	Raw Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		98	4	0.87	451	97.62
		99	5	1.08	456	98.70
SC	10	100	1	0.22	457	98.92
		101	3	0.65	460	99.57
		102	2	0.43	462	100.00

**Table 40**  
**Cut Scores and Percent of Students in Each Proficiency Level**

Content	Grade	N	Cut Scores				Percent of Students in Each Proficiency Level					
			Exploring	Emerging	Developing	Novice	Inconclusive	Exploring	Emerging	Developing	Novice	Developing & Novice Combined
RD	3	626	24	65	105	145	0.00%	6.71%	9.58%	34.82%	48.88%	83.71%
	4	606	40	100	125	165	2.15%	9.90%	6.44%	43.56%	37.95%	81.52%
	5	549	34	70	130	145	1.09%	6.92%	18.21%	18.40%	55.37%	73.77%
	6	581	60	90	125	140	8.61%	5.51%	21.69%	27.02%	37.18%	64.20%
	7	517	44	160	210	245	0.00%	10.83%	15.67%	32.11%	41.39%	73.50%
	8	590	23	70	120	145	0.00%	7.46%	11.36%	18.98%	62.20%	81.19%
	9	521	50	125	145	185	3.65%	9.98%	7.29%	36.28%	42.80%	79.08%
	10	503	43	145	195	250	0.00%	16.30%	14.12%	31.21%	38.37%	69.58%
WR	3	604	14	19	33	46	5.13%	4.47%	8.94%	23.68%	57.78%	81.46%
	4	593	25	40	60	90	5.90%	5.06%	8.60%	41.82%	38.62%	80.44%
	5	521	13	24	41	50	3.45%	6.72%	14.20%	20.15%	55.47%	75.62%
	6	571	22	33	46	55	11.38%	5.78%	15.76%	19.97%	47.11%	67.08%
	7	510	55	80	100	125	10.59%	10.98%	14.51%	26.47%	37.45%	63.92%
	8	588	15	31	48	64	4.42%	7.65%	17.35%	38.10%	32.48%	70.58%
	9	509	20	34	42	56	9.63%	7.86%	9.04%	39.69%	33.79%	73.48%
	10	503	65	95	120	145	19.09%	11.53%	16.10%	21.27%	32.01%	53.28%
MA	3	537	19	63	93	108	5.59%	16.76%	24.21%	27.56%	25.88%	53.45%
	4	508	13	72	99	119	5.91%	22.24%	24.80%	29.53%	17.52%	47.05%
	5	474	41	82	115	150	12.03%	14.98%	22.78%	41.77%	8.44%	50.21%
	6	518	28	60	92	113	13.13%	15.83%	23.17%	26.83%	21.04%	47.88%
	7	469	29	61	89	110	10.66%	19.40%	27.72%	25.80%	16.42%	42.22%
	8	548	30	76	107	129	12.04%	29.01%	29.38%	23.18%	6.39%	29.56%
	9	476	29	63	97	116	14.92%	27.52%	32.14%	17.44%	7.98%	25.42%
	10	447	29	67	104	125	18.12%	25.50%	36.02%	16.11%	4.25%	20.36%
SC	5	533	30	60	90	105	4.50%	10.69%	19.14%	30.02%	35.65%	65.67%
	8	591	55	105	175	210	5.25%	6.09%	25.38%	36.55%	26.73%	63.28%
	10	462	33	66	81	92	23.38%	29.44%	18.83%	17.53%	10.82%	28.36%

**Table 41**  
**Total Group Statistics, Including Reliability**

Content	Grade	Subgroup	Sample Size	%	Raw Score		N Students at Max Score	N Students at Min Score	Coefficient Alpha	Standard Error of Measurement
					Mean	SD				
RD	3	Total	626	100.00%	131.57	31.36	22	5	0.98	4.96
	4		606	100.00%	145.04	35.50	11	4	0.98	5.09
	5		549	100.00%	135.61	32.53	16	6	0.98	5.07
	6		581	100.00%	121.57	31.55	7	6	0.98	4.85
	7		517	100.00%	218.60	49.88	11	7	0.99	6.08
	8		590	100.00%	138.10	32.92	21	1	0.98	4.75
	9		521	100.00%	164.92	39.98	6	12	0.98	5.33
	10		503	100.00%	209.65	64.01	8	14	0.99	6.59
WR	3	Total	604	100.00%	43.10	12.82	89	21	0.95	2.86
	4		593	100.00%	77.41	22.63	12	16	0.97	3.95
	5		521	100.00%	45.24	12.40	119	12	0.95	2.74
	6		571	100.00%	48.44	15.47	52	22	0.96	3.19
	7		510	100.00%	105.35	32.58	2	16	0.97	5.38
	8		588	100.00%	52.84	16.14	61	1	0.96	3.14
	9		509	100.00%	47.16	14.80	36	22	0.95	3.15
	10		503	100.00%	113.90	42.41	1	1	0.98	5.70
MA	3	Total	537	100.00%	84.24	31.56	2	14	0.94	7.74
	4		508	100.00%	85.88	35.50	1	17	0.95	8.26
	5		474	100.00%	102.30	42.79	1	11	0.95	9.92
	6		518	100.00%	79.28	38.15	2	23	0.95	8.73
	7		469	100.00%	75.18	33.78	1	16	0.94	8.59
	8		548	100.00%	79.29	37.54	1	20	0.94	9.17
	9		476	100.00%	68.76	35.54	3	23	0.93	9.15
	10		447	100.00%	69.47	37.11	1	26	0.93	9.53
SC	5	Total	533	100.00%	89.21	25.14	10	6	0.97	4.48
	8		591	100.00%	174.07	49.07	5	12	0.98	6.29
	10		462	100.00%	57.72	28.36	2	23	0.93	7.31

**Table 42**  
**Classification Consistency and Accuracy**

Content	Grade	Prob of Correct Classification	Prob of Correct Classification By Chance	Kappa	Prob of Misclassification	Prob of Accuracy	Prob of False Positive Error	Prob of False Negative Error
RD	3	0.64	0.37	0.43	0.36	0.74	0.09	0.17
	4	0.55	0.36	0.30	0.45	0.60	0.35	0.05
	5	0.68	0.40	0.47	0.32	0.78	0.07	0.15
	6	0.50	0.26	0.32	0.50	0.59	0.14	0.27
	7	0.54	0.32	0.32	0.46	0.61	0.13	0.26
	8	0.70	0.44	0.46	0.30	0.80	0.06	0.14
	9	0.56	0.33	0.34	0.44	0.66	0.13	0.21
WR	10	0.56	0.30	0.38	0.44	0.65	0.13	0.21
	3	0.73	0.42	0.54	0.27	0.80	0.09	0.10
	4	0.55	0.33	0.33	0.45	0.65	0.11	0.24
	5	0.64	0.36	0.44	0.36	0.75	0.10	0.15
	6	0.65	0.31	0.49	0.35	0.74	0.13	0.13
	7	0.61	0.25	0.48	0.39	0.71	0.13	0.16
	8	0.60	0.28	0.44	0.40	0.71	0.13	0.16
MA	9	0.63	0.28	0.48	0.37	0.72	0.13	0.14
	10	0.58	0.22	0.46	0.42	0.69	0.15	0.16
	3	0.52	0.23	0.38	0.48	0.61	0.19	0.19
	4	0.56	0.25	0.41	0.44	0.67	0.21	0.12
	5	0.63	0.29	0.48	0.37	0.74	0.16	0.10
	6	0.54	0.21	0.42	0.46	0.64	0.16	0.20
	7	0.56	0.22	0.43	0.44	0.66	0.22	0.12
SC	8	0.60	0.24	0.47	0.40	0.71	0.16	0.13
	9	0.59	0.23	0.47	0.41	0.69	0.18	0.13
	10	0.62	0.25	0.49	0.38	0.72	0.15	0.13
	5	0.53	0.27	0.36	0.47	0.63	0.12	0.26
SC	8	0.55	0.29	0.37	0.45	0.63	0.29	0.08
	10	0.57	0.22	0.44	0.43	0.66	0.19	0.15

**Table 43**  
**Level of Independence – Total Percentage by Level Across All Items**

Content	Total Items	Level of Independence				
		1	2	3	4	5
RD	171031	10.03	7.90	8.83	8.54	<b>64.70</b>
WR	79338	17.45	11.39	10.96	9.52	<b>50.68</b>
SC (5, 8)	38832	14.34	9.83	27.40	10.97	<b>56.66</b>
MA	143708	6.68	8.36	13.46	<b>70.79</b>	
SC (10)	13853	6.26	5.07	7.73	<b>80.94</b>	

**Table 44**  
**Reliability of Levels of Independence**

Content	Grade	Independent vs	
		Not Independent	All LOI Levels
RD	3	0.95	0.96
	4	0.96	0.96
	5	0.95	0.96
	6	0.95	0.96
	7	0.97	0.97
	8	0.95	0.96
	9	0.96	0.97
	10	0.98	0.98
WR	3	0.90	0.91
	4	0.93	0.94
	5	0.91	0.92
	6	0.91	0.93
	7	0.93	0.95
	8	0.91	0.93
	9	0.89	0.91
	10	0.95	0.97
MA	3	0.95	0.98
	4	0.96	0.98
	5	0.96	0.98
	6	0.96	0.98
	7	0.96	0.98
	8	0.96	0.98
	9	0.97	0.98
	10	0.97	0.99
SC	5	0.93	0.95
	8	0.96	0.97
	10	0.97	0.99

**Table 45**  
**Percentages of Test Administrator Coding Errors**

Content	Grade	Level 1 and correct answer	Levels 2 - 4 and no response
MA	3	2.42%	10.63%
	4	2.21%	10.17%
	5	3.17%	12.12%
	6	2.48%	8.61%
	7	2.37%	8.05%
	8	2.82%	7.49%
	9	2.48%	4.49%
	10	3.74%	7.77%
SC	10	2.67%	6.58%



**Table 46**  
**Reliability of Teacher Rated Performance Level (via Contrasting Groups Surveys)**  
**versus Earned Performance Level**

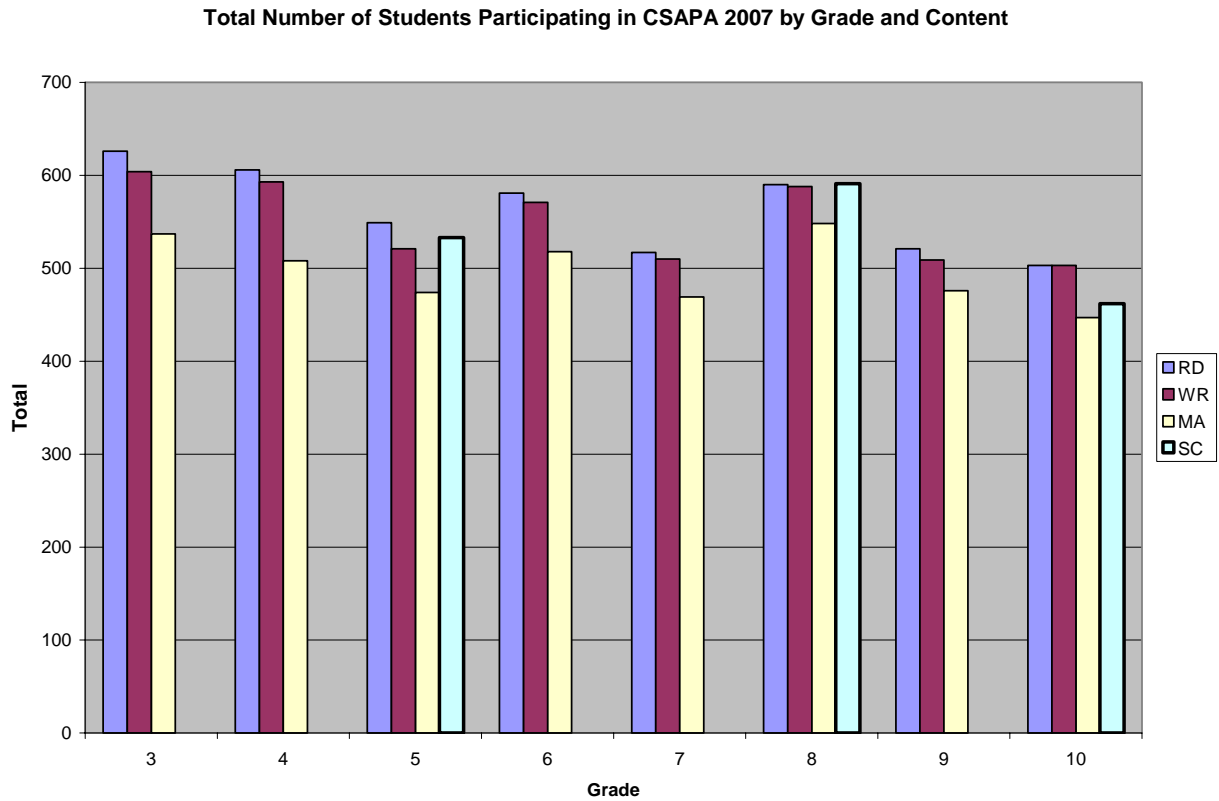
Content	Grade	N Students	Kappa	Weighted Kappa	Percent Perfect	Percent Adjacent	Percent Discrepant
MA	3	71	0.38	0.88	52.11	42.25	5.63
	4	92	0.34	0.70	50.00	38.04	11.96
	5	70	0.18	0.84	35.71	50.00	14.29
	6	109	0.38	0.90	51.38	42.20	6.42
	7	113	0.39	0.90	52.21	42.48	5.31
	8	127	0.27	0.82	44.88	44.09	11.02
	9	74	0.21	0.89	39.19	55.41	5.41
	10	71	0.28	0.89	45.07	47.89	7.04
SC	10	70	0.30	0.81	45.71	37.14	17.14

---

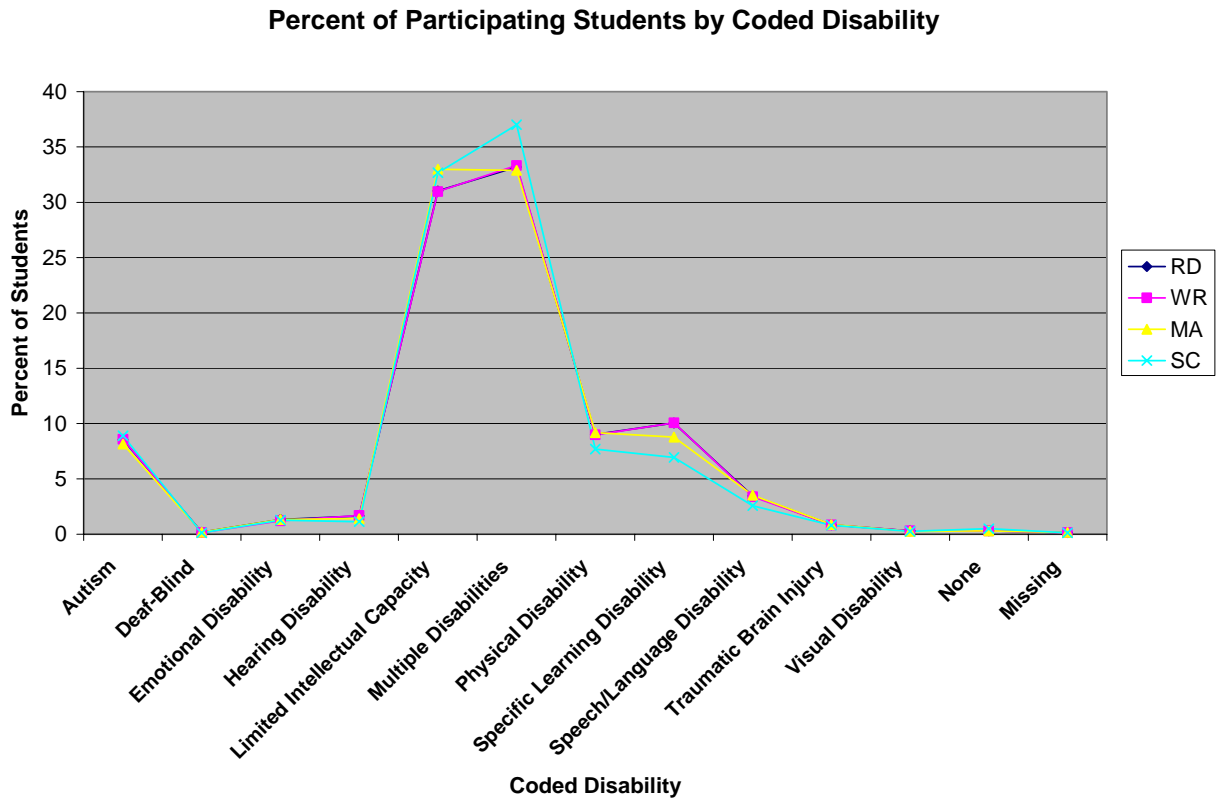
## **Figures 1-19**

---

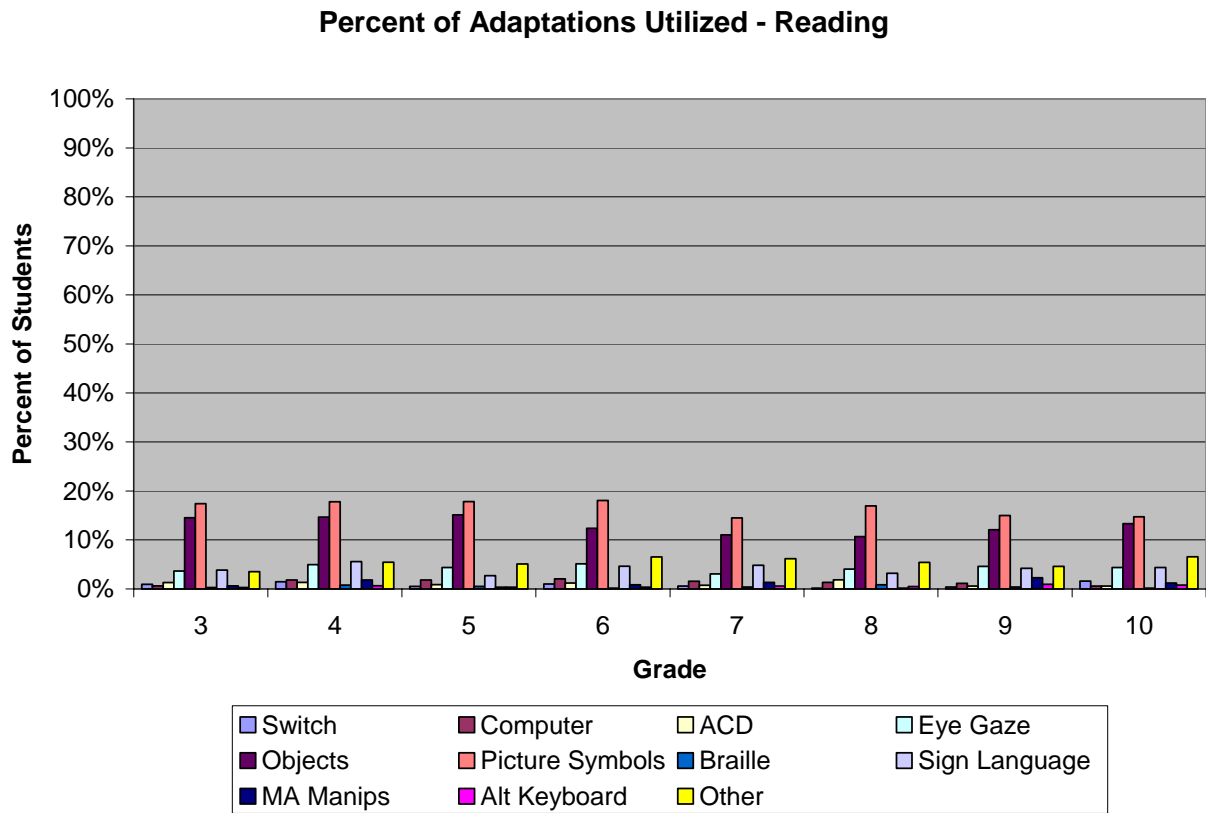
**Figure 1. Total Number of Participating Students Participating in CSAPA 2007 by Grade and Content**



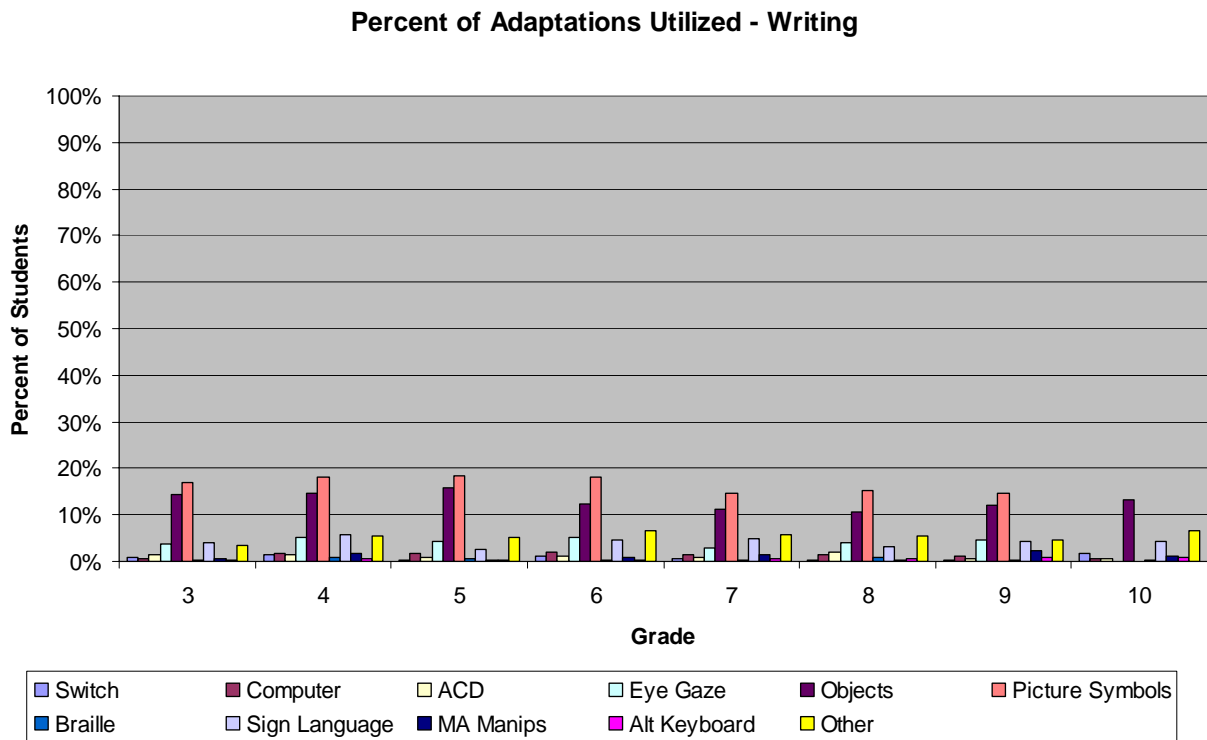
**Figure 2. Percent of Participating Students by Coded Disability**



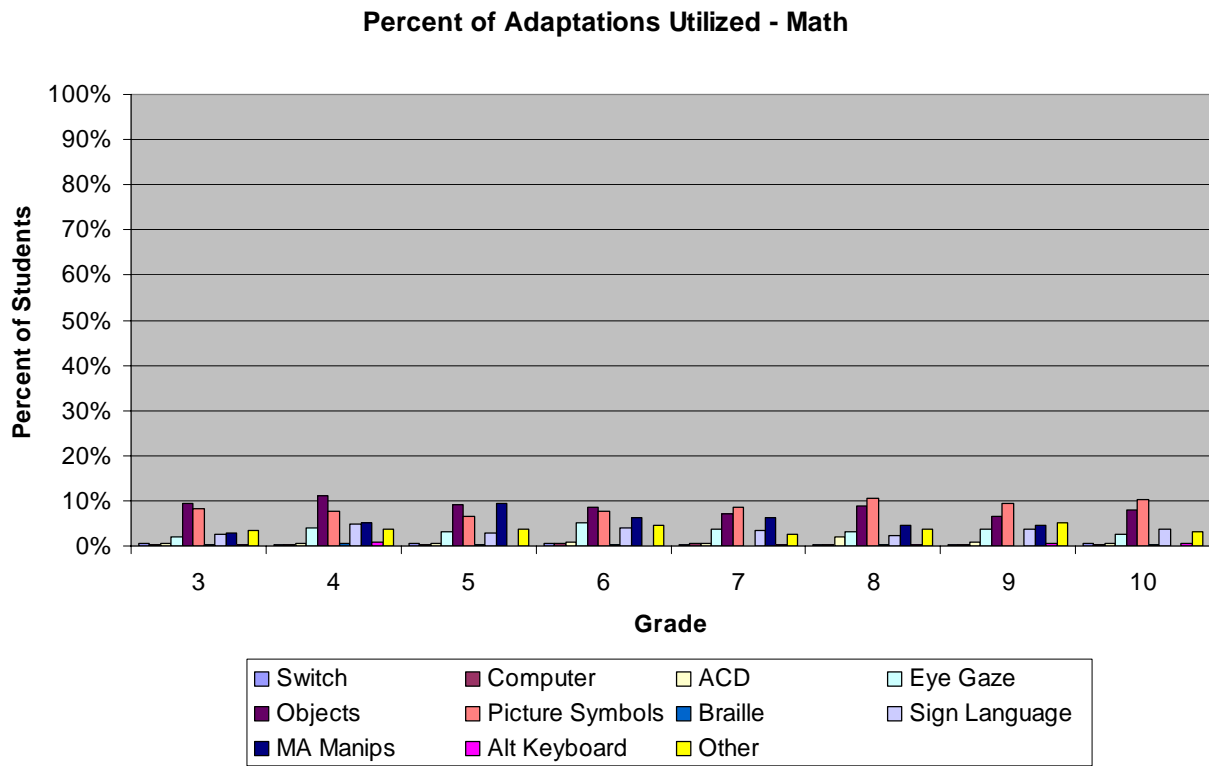
**Figure 3. Percent of Adaptations Utilized- Reading**



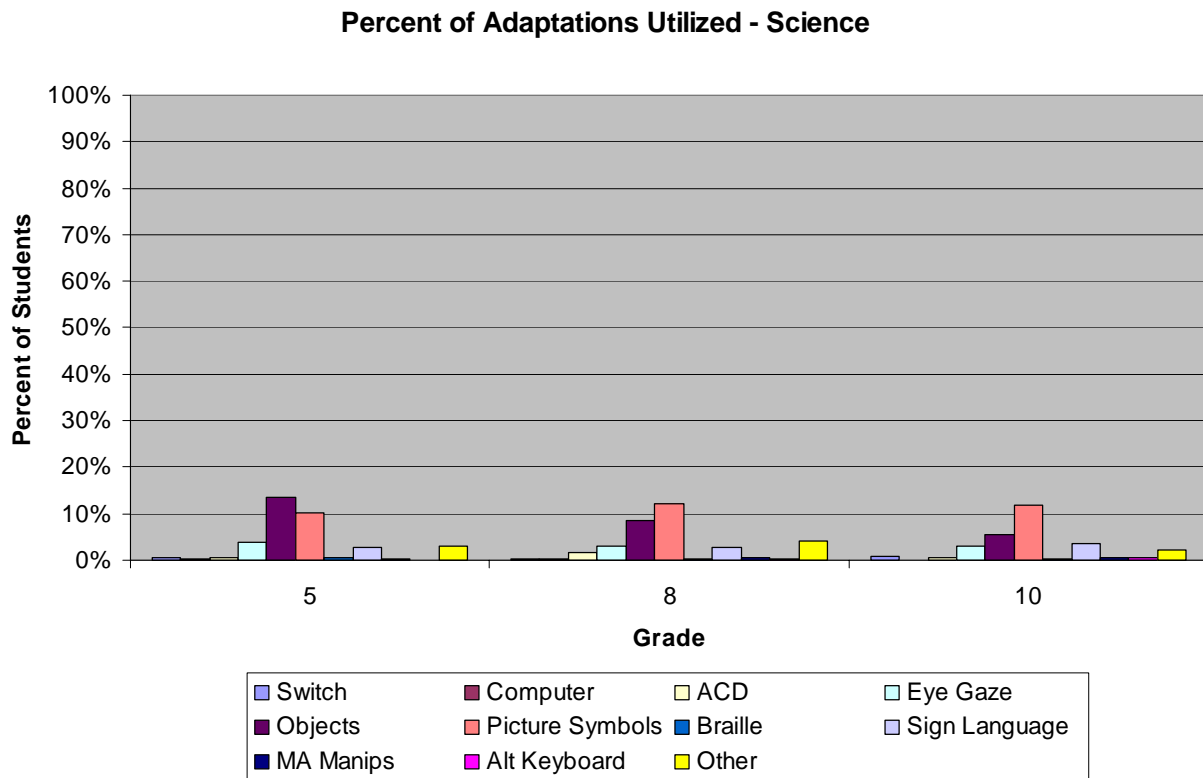
**Figure 4. Percent of Adaptations Utilized- Writing**



**Figure 5. Percent of Adaptations Utilized- Mathematics**

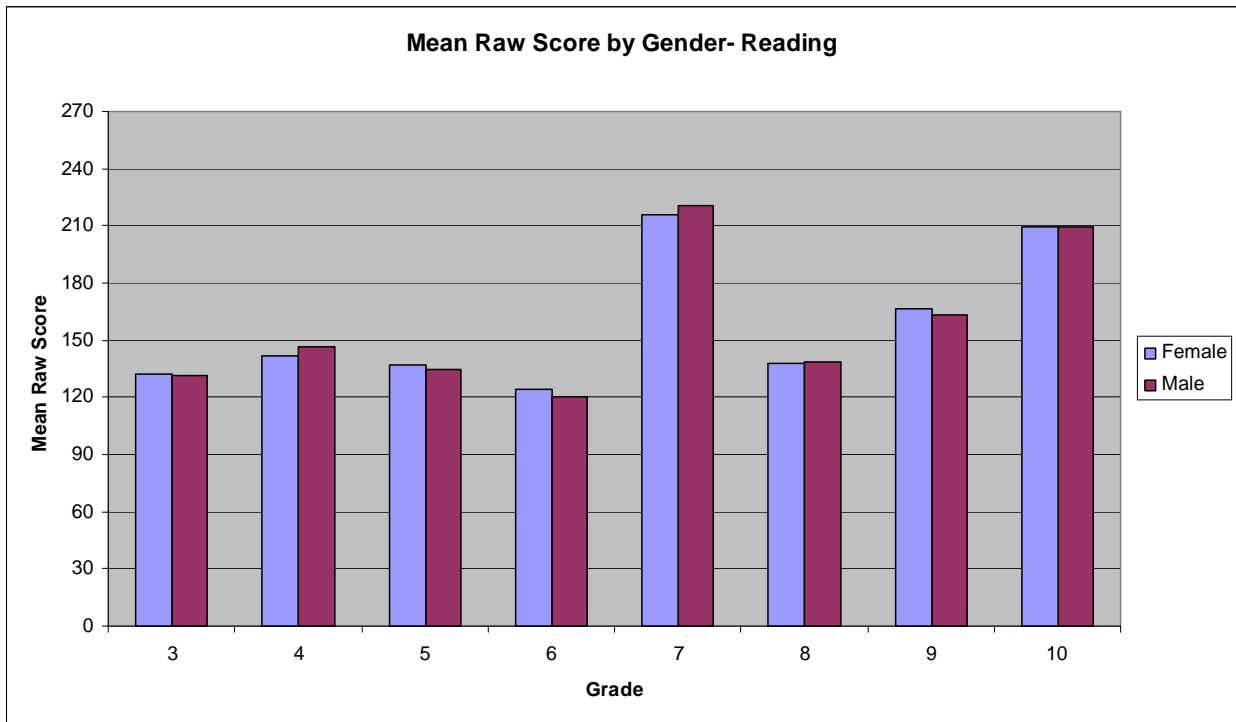


**Figure 6. Percent of Adaptations Utilized- Science**

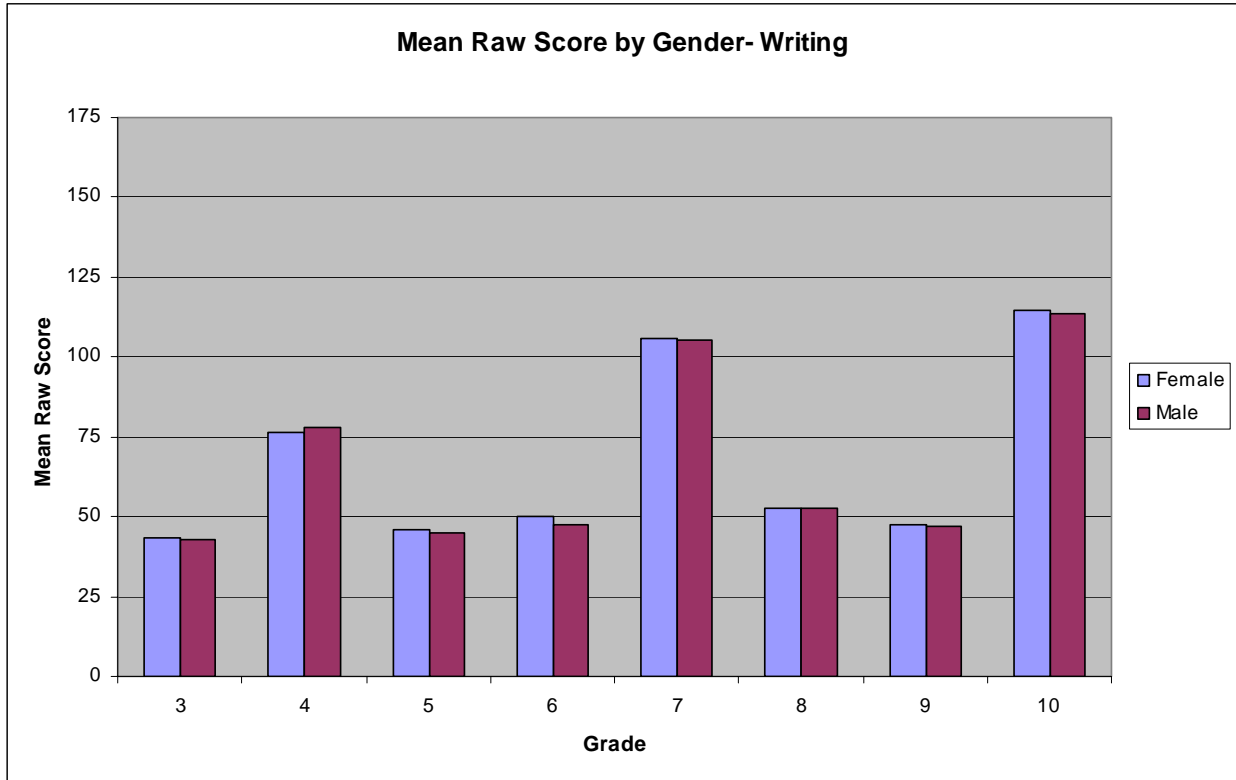




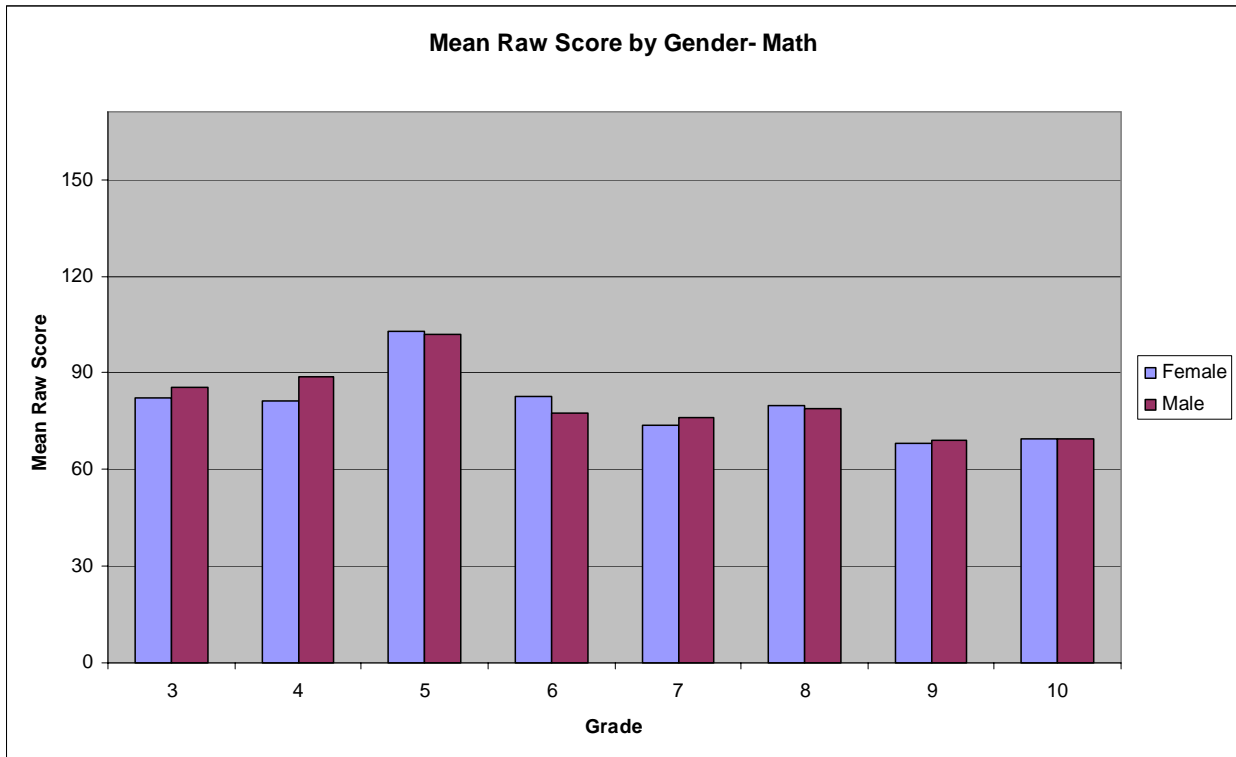
**Figure 7. Mean Raw Score by Gender- Reading**



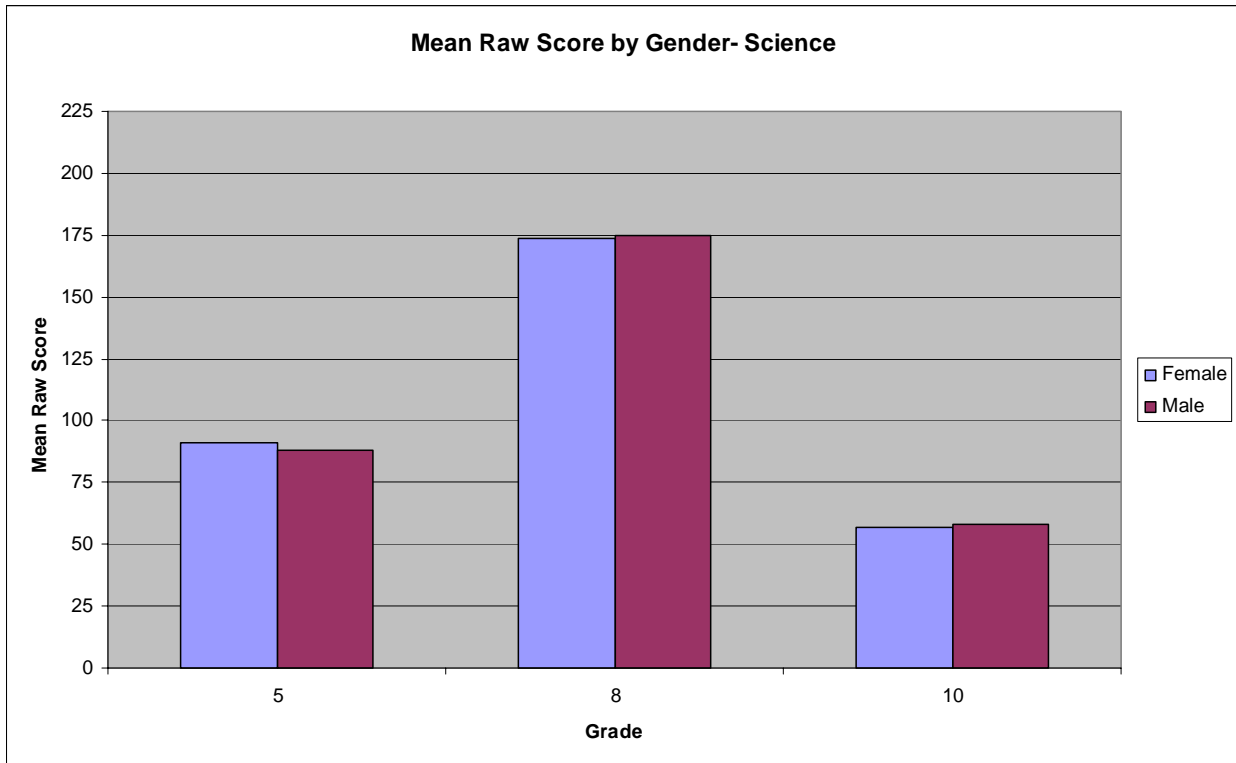
**Figure 8. Mean Raw Score by Gender- Writing**



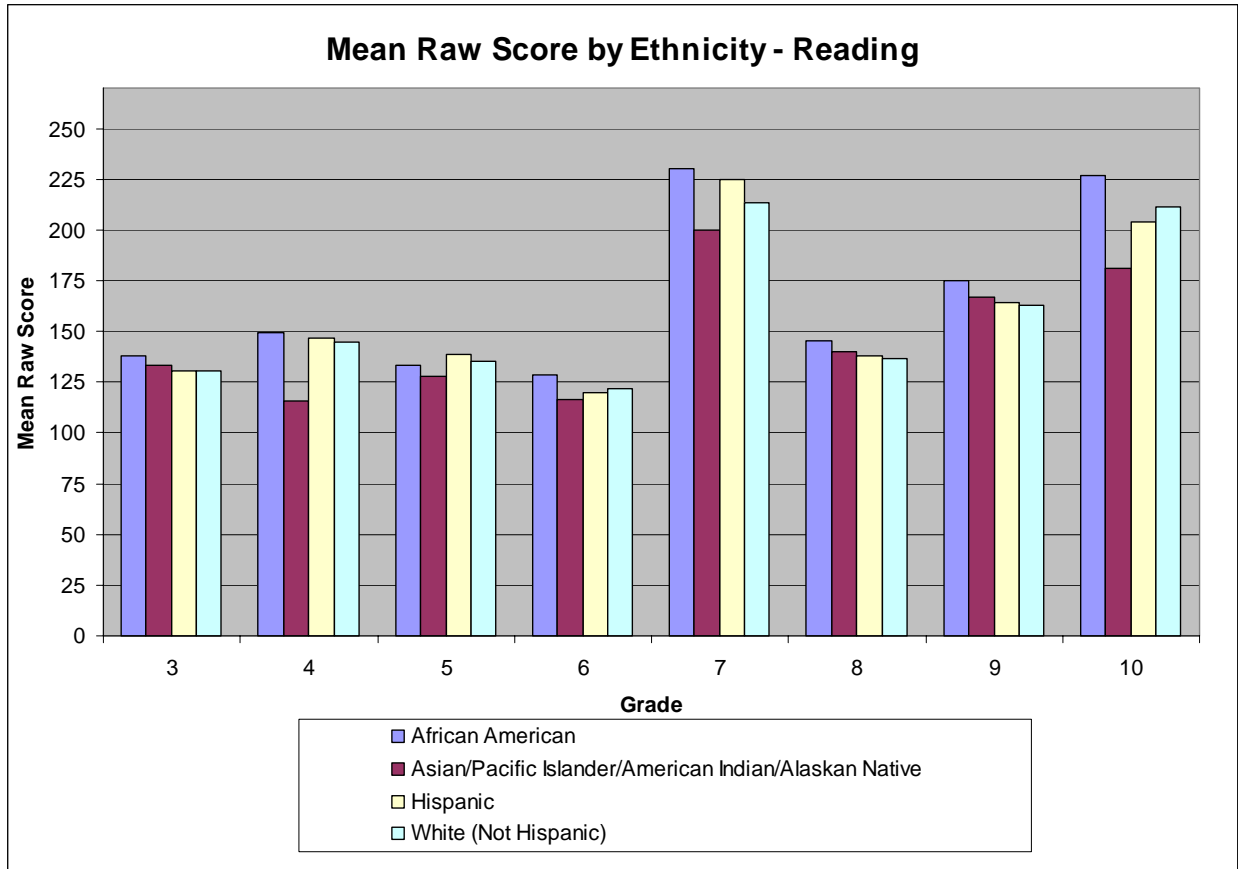
**Figure 9. Mean Raw Score by Gender- Mathematics**



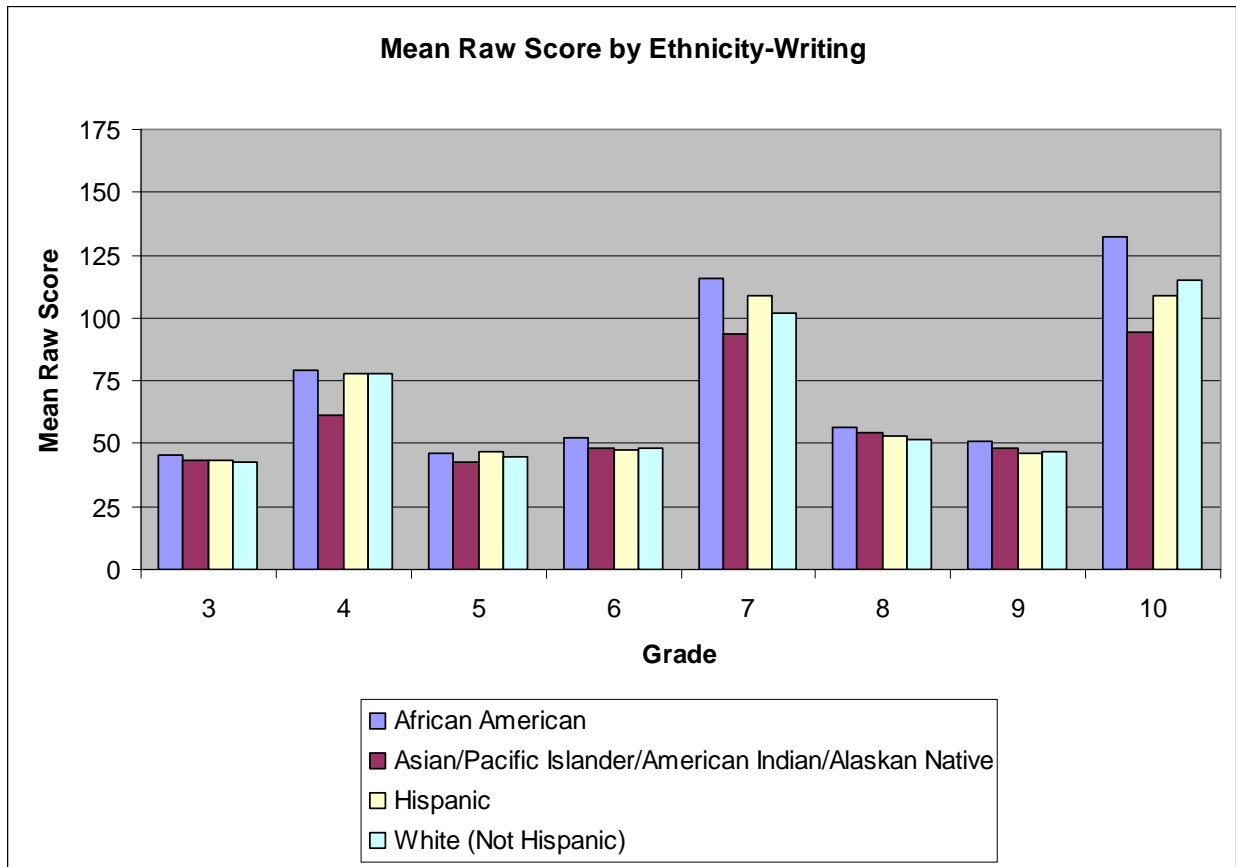
**Figure 10. Mean Raw Score by Gender- Science**



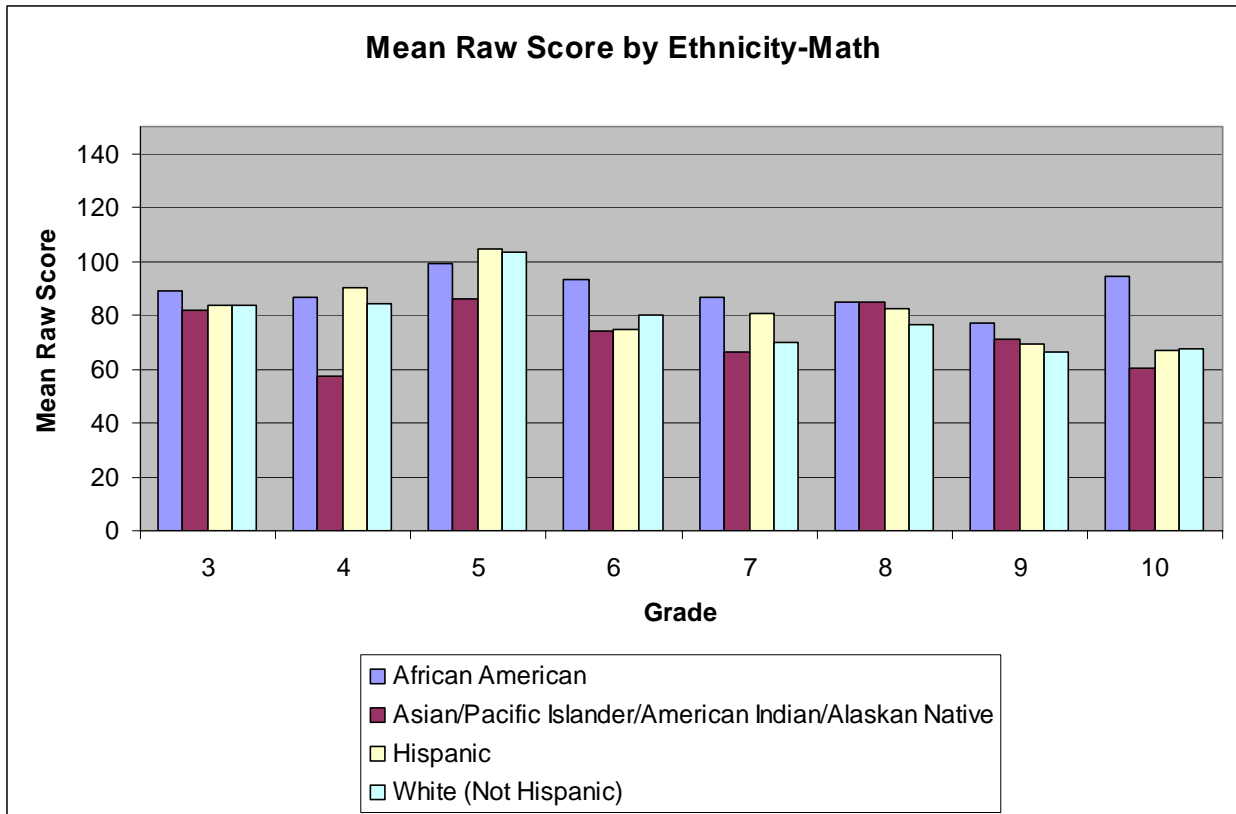
**Figure 11. Mean Raw Score by Ethnicity- Reading**



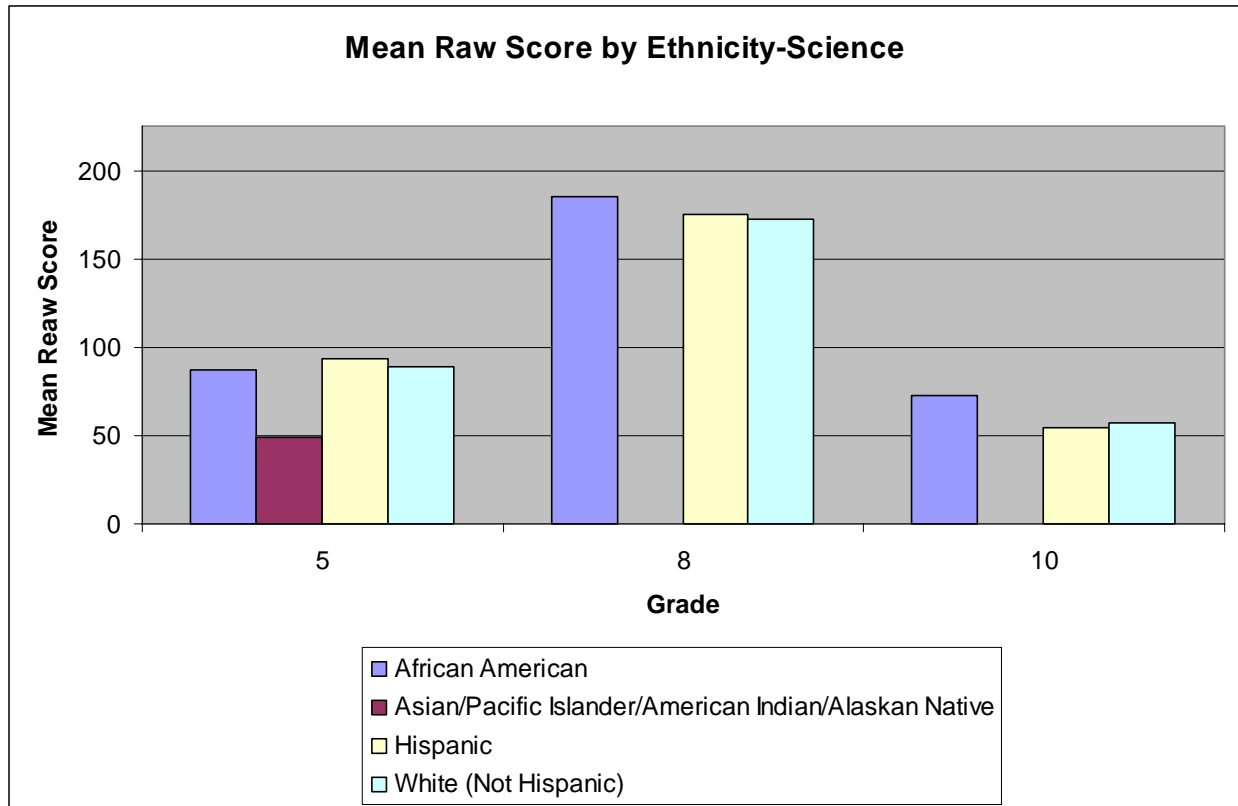
**Figure 12. Mean Raw Score by Ethnicity- Writing**



**Figure 13. Mean Raw Score by Ethnicity- Mathematics**

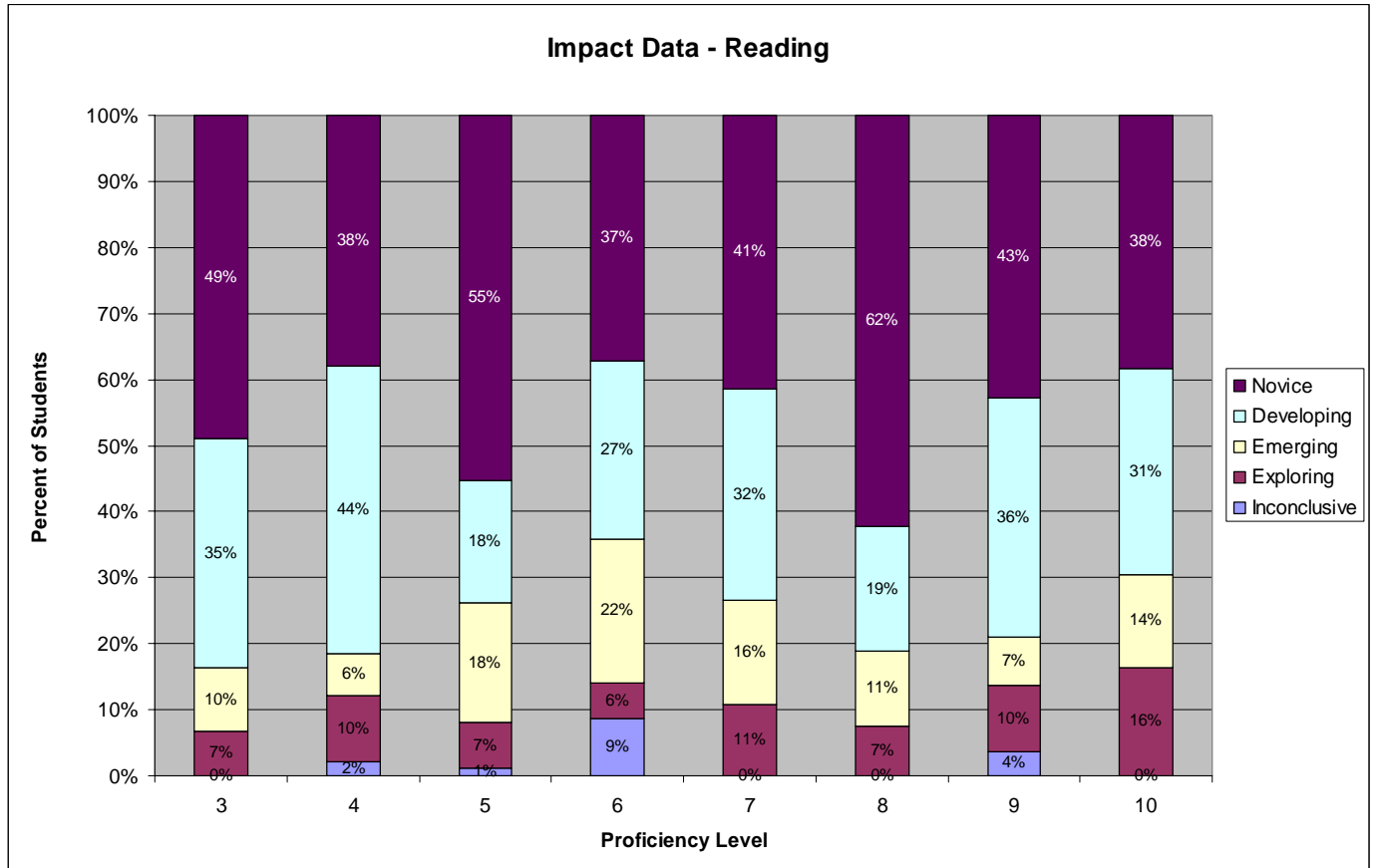


**Figure 14. Mean Raw Score by Ethnicity- Science**

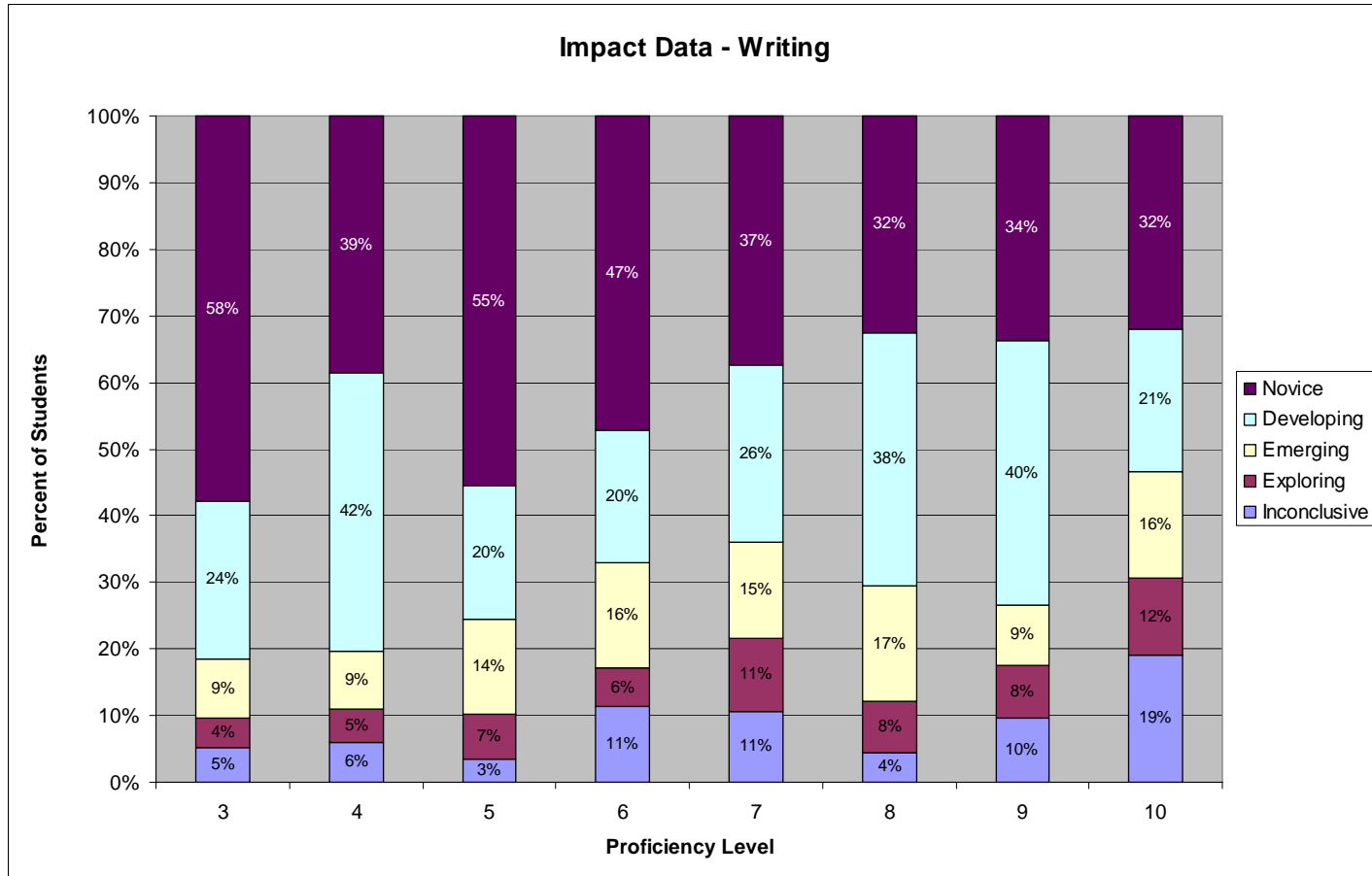




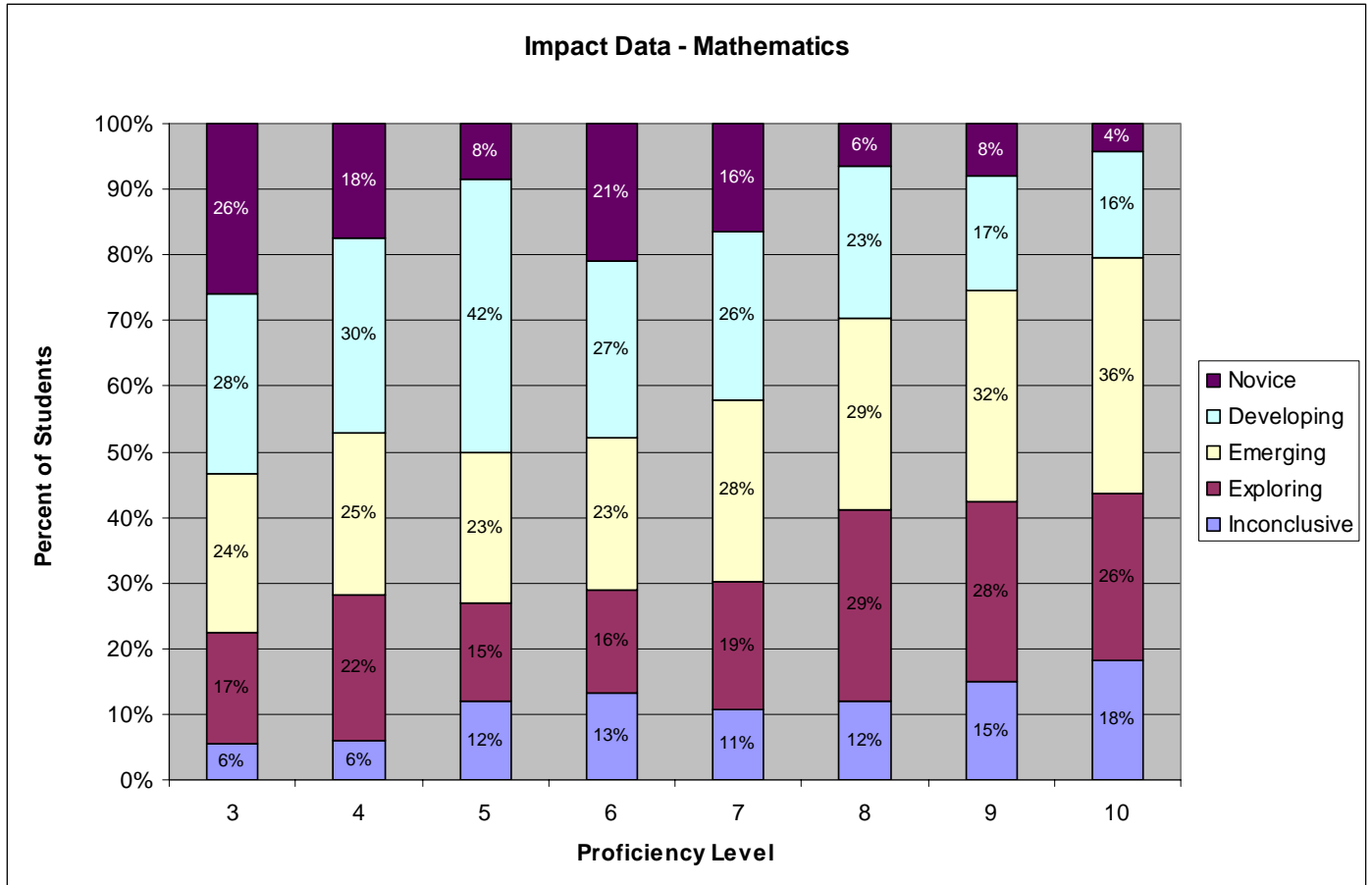
**Figure 15. Impact Data- Reading**



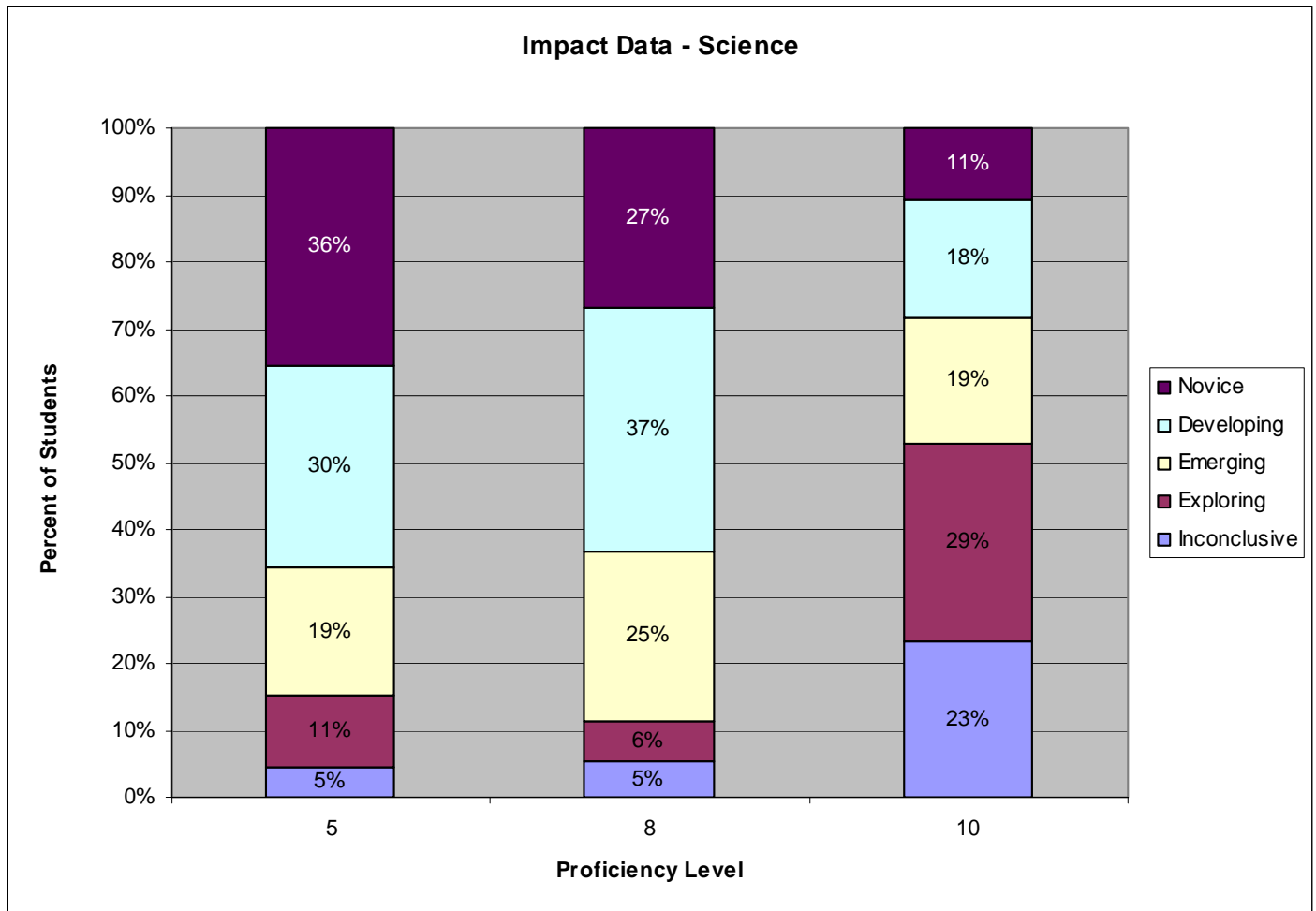
**Figure 16. Impact Data- Writing**



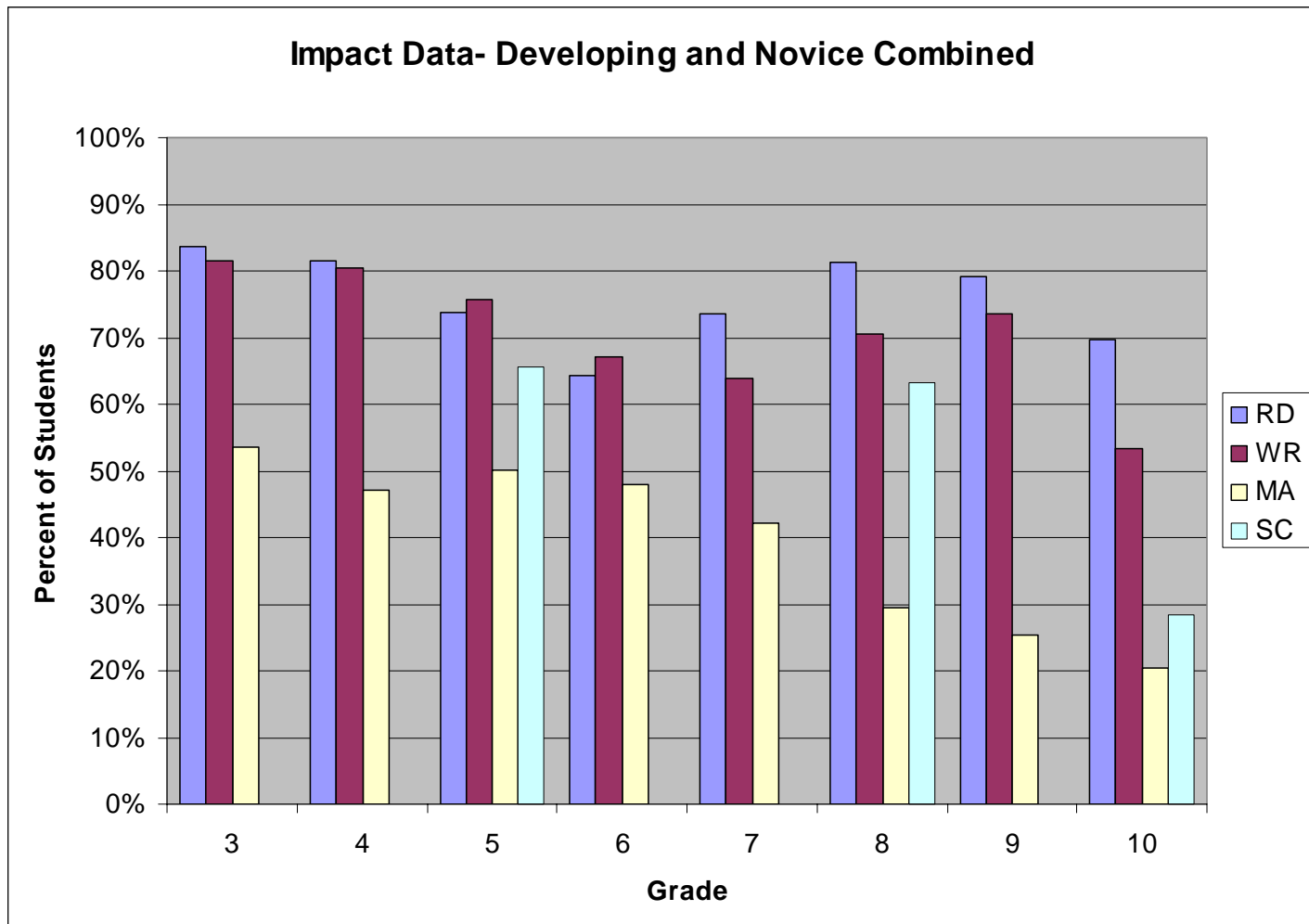
**Figure 17. Impact Data- Mathematics**



**Figure 18. Impact Data- Science**



**Figure 19. Impact Data- Developing and Novice Combined**



## **Appendix A**

### **CSAPA Assessment Frameworks**

**The Colorado Student Assessment Program Alternate (CSAPA)**  
**Reading**  
**Assessment Frameworks**  
Fall 2005

<b>Standard 1</b>		<b>Students read and understand a variety of materials.</b>					
<b>Expanded Benchmark</b>		<b>1.0 Recognize and Make Meaning of Text</b> <i>Students understand that text has meaning and use a variety of strategies to recognize and make meaning of unfamiliar text.</i>					
<b>1.1 Attend to Reading Activity Literacy Materials</b>							
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>
Matches objects to pictures	1.1.2 Demonstrate necessary reading behaviors (e.g. prepare for headphones, turn to listen, look at screen or reader, indicate preference when offered a choice of reading material)	Matches objects to pictures	Matches objects to pictures	1.1.2 Demonstrate necessary reading behaviors (e.g. prepare for headphones, turn to listen, look at screen or reader, indicate preference when offered a choice of reading material)	Matches objects to pictures	Matches objects to pictures	1.1.2 Demonstrate necessary reading behaviors (e.g. prepare for headphones, turn to listen, look at screen or reader, indicate preference when offered a choice of reading material)
Matches pictures/objects to printed/Brailled words in the context of a sentence	1.1.3 Demonstrate understanding of proper positioning of literacy materials	Matches pictures/objects to printed/Brailled words in the context of a sentence	Matches pictures/objects to printed/Brailled words in the context of a sentence	1.1.3 Demonstrate understanding of proper positioning of literacy materials	Matches pictures/objects to printed/Brailled words in the context of a sentence	Matches pictures/objects to printed/Brailled words in the context of a sentence	1.1.3 Demonstrate understanding of proper positioning of literacy materials
Uses strategies to read words in context	1.1.4 Demonstrate understanding of orientation/directionality	Uses strategies to read words in context	Uses strategies to read words in context	1.1.4 Demonstrate understanding of orientation/directionality	Uses strategies to read words in context	Uses strategies to read words in context	1.1.4 Demonstrate understanding of orientation/directionality

	ality of print			of print			of print
	1.1.5 Attend to the reader and literacy related materials in a purposeful manner			1.1.5 Attend to the reader and literacy related materials in a purposeful manner		Explains the meaning of a message in a quote	1.1.5 Attend to the reader and literacy related materials in a purposeful manner
Demonstrates an understanding of prepositions	1.1.6 Demonstrate ability to attend to pictures/symbols/objects pertinent to a story	Demonstrates an understanding of prepositions	Demonstrates an understanding of prepositions	1.1.6 Demonstrate ability to attend to pictures/symbols/objects pertinent to a story	Demonstrates an understanding of prepositions	Demonstrates an understanding of prepositions	1.1.6 Demonstrate ability to attend to pictures/symbols/objects pertinent to a story
Reads to comprehend simple sentences	1.1.7 Demonstrate ability to attend to story from beginning to end	Reads to comprehend simple sentences	Reads to comprehend simple sentences	1.1.7 Demonstrate ability to attend to story from beginning to end	Reads to comprehend simple sentences	Reads to comprehend simple sentences	1.1.7 Demonstrate ability to attend to story from beginning to end
						Explains the meaning of vocabulary words in the context of the story/reading selection	1.1.8 Attends to literacy-related technologies such as computer, tape recorder, and video players



<b>1.2 Demonstrate understanding of symbolic representation</b>							
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>
Demonstrates an understanding of the directionality of print/graphics	1.2.1 Demonstrate understanding that environmental print, pictures, symbols, and objects have meaning	Demonstrates an understanding of the directionality of print/graphics	Demonstrates an understanding of the directionality of print/graphics	1.2.1 Demonstrate understanding that environmental print, pictures, symbols, and objects have meaning	Demonstrates an understanding of the directionality of print/graphics	Demonstrates an understanding of the directionality of print/graphics	1.2.1 Demonstrate understanding that environmental print, pictures, symbols, and objects have meaning
Displays an interest in literary materials	1.2.2 Recognize own name in print	Displays an interest in literary materials	Displays an interest in literary materials	1.2.2 Recognize own name in print	Displays an interest in literary materials	Displays an interest in literary materials	1.2.2 Recognize own name in print
Attends to pictures/objects when presented	1.2.4 Know the letters of the alphabet by name	Attends to pictures/objects when presented	Attends to pictures/objects when presented	1.2.4 Know the letters of the alphabet by name	Attends to pictures/objects when presented	Attends to pictures/objects when presented	1.2.4 Know the letters of the alphabet by name
Attends to story/reading selection from beginning to end	1.2.5 Demonstrate understanding that pictures/objects are represented by words	Attends to story/reading selection from beginning to end	Attends to story/reading selection from beginning to end	1.2.5 Demonstrate understanding that pictures/objects are represented by words	Attends to story/reading selection from beginning to end	Attends to story/reading selection from beginning to end	1.2.5 Demonstrate understanding that pictures/objects are represented by words
						Attends to literacy-related technologies such as computer, tape recorder and video player	
Demonstrates proper positioning/handling of literary materials		Demonstrates proper positioning/handling of literary materials	Demonstrates proper positioning/handling of literary materials		Demonstrates proper positioning/handling of literary materials	Demonstrates proper positioning/handling of literary materials	

Indicates preference when offered a choice of reading materials						Indicates preference when offered a choice of reading materials	
---	--	--	--	--	--	---	--

<b>1.3 Demonstrate understanding of beginning principles of phonics</b>							
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>
Identifies main character(s) in a story/reading selection	1.3.5 Discriminate letter sounds within words and sentences	Identifies main character(s) in a story/reading selection		1.3.5 Discriminate letter sounds within words and sentences		Identifies main character(s) in a story/reading selection	1.3.5 Discriminate letter sounds within words and sentences
Answers what questions about details in a story/reading selection		Answers what questions about details in a story/reading selection	Answers what questions about details in a story/reading selection	1.3.8 Use phonetic skills to decode unfamiliar words and follow written text	Answers what questions about details in a story/reading selection	Answers what questions about details in a story/reading selection	1.3.8 Use phonetic skills to decode unfamiliar words and follow written text
Answers where questions about details in a story/reading selection		Answers where questions about details in a story/reading selection	Answers where questions about details in a story/reading selection		Answers where questions about details in a story/reading selection	Answers where questions about details in a story/reading selection	
Identifies the main idea of a story/reading selection		Identifies the main idea of a story/reading selection	Identifies the main idea of a story/reading selection		Identifies the main idea of a story/reading selection	Identifies the main idea of a story/reading selection	
			Identifies a problem when presented in a story/reading selection		Identifies a problem when presented in a story/reading selection	Identifies a problem when presented in a story/reading selection	
		Identifies a solution when presented in a story/reading selection	Identifies a solution when presented in a story/reading selection		Identifies a solution when presented in a story/reading selection	Identifies a solution when presented in a story/reading selection	

Retells a story/reading selection in chronological order		Retells a story/reading selection in chronological order	Retells a story/reading selection in chronological order		Retells a story/reading selection in chronological order	Retells a story/reading selection in chronological order	
Applies information to make connections from a story/reading selection		Applies information to make connections from a story/reading selection	Applies information to make connections from a story/reading selection		Applies information to make connections from a story/reading selection	Applies information to make connections from a story/reading selection	

<b>1.4 Use a variety of strategies to make meaning of text</b>							
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>
Recognizes own name in print or Braille	1.4.2 Use picture/context cues and other strategies to determine unknown words	Recognizes own name in print or Braille	Recognizes own name in print or Braille	1.4.3 Generalize use of familiar words, pictures/symbols/objects to communicate meaning	Recognizes own name in print or Braille	Recognizes own name in print or Braille	1.4.3 Generalize use of familiar words, pictures/symbols/objects to communicate meaning
Identifies common objects when given function	1.4.3 Generalize use of familiar words, pictures/symbols/objects to communicate meaning	Identifies common objects when given function	Identifies common objects when given function	1.4.4 Recognize high frequency words	Identifies common objects when given function	Identifies common objects when given function	1.4.4 Recognize high frequency words
Recognizes letters of the alphabet when named or signed	1.4.4 Recognize high frequency words	Recognizes letters of the alphabet when named or signed	Recognizes letters of the alphabet when named or signed	1.4.6 Use resources/reference materials (e.g. dictionary, teacher) to gain meaning of new words/pictures/symbols/objects	Recognizes letters of the alphabet when named or signed	Recognizes letters of the alphabet when named or signed	1.4.6 Use resources/reference materials (e.g. dictionary, teacher) to gain meaning of new words/pictures/symbols/objects
Names/signs letters of the alphabet		Names/signs letters of the alphabet	Names/signs letters of the alphabet	1.4.8 Demonstrate understanding of prepositions	Names/signs letters of the alphabet	Names/signs letters of the alphabet	1.4.8 Demonstrate understanding of prepositions
Recognizes simple words including sight words in isolation	1.4.8 Demonstrate understanding of prepositions	Recognizes simple words including sight words in isolation	Recognizes simple words including sight words in isolation	1.4.9 Demonstrate understanding of figurative language and idioms	Recognizes simple words including sight words in isolation	Recognizes simple words including sight words in isolation	1.4.9 Demonstrate understanding of figurative language and idioms

				1.4.10 Demonstrate understanding of message in quotes			1.4.10 Demonstrate understanding of message in quotes

<b>Expanded Benchmark</b>	<b>2.0 Comprehend Reading Passage/Selection</b> <i>Students use a variety of comprehension strategies before, during and after reading.</i>						
<b>2.1 Make connections to reading passages</b>							
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>
	2.1.5 Read text/picture symbols with expression and accuracy in order to comprehend text			2.1.5 Read text/picture symbols with expression and accuracy in order to comprehend text			2.1.5 Read text/picture symbols with expression and accuracy in order to comprehend text
	2.1.6 Make predications, draw conclusions and/or inferences after reading a passage			2.1.6 Make predications, draw conclusions and/or inferences after reading a passage			2.1.6 Make predications, draw conclusions and/or inferences after reading a passage
				2.1.7 Use vocabulary, pictures/symbols/objects from story to relate information about the story			

<b>2.2 Identify elements of literature (character, plot, setting)</b>							
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>
				2.2.1 Communicate understanding of who, what, where, when and why			2.2.1 Communicate understanding of who, what, where, when and why
				2.2.2 Identify main character from a reading passage			2.2.2 Identify main character from a reading passage
	2.2.2 Identify main character from a reading passage			2.2.3 Communicate details about main character			2.2.3 Communicate details about main character
				2.2.5 Sequence main events (e.g. beginning, middle, end)			2.2.5 Sequence main events (e.g. beginning, middle, end)
	2.2.5 Sequence main events (e.g. beginning, middle, end)			2.2.6 Identify the problem/solution in a reading passage			2.2.6 Identify the problem/solution in a reading passage
	2.2.6 Identify the problem/solution in a reading passage			2.2.8 Identify elements of plot, character, setting, etc.			2.2.8 Identify elements of plot, character, setting, etc.
				2.2.10 Identify several supporting details (including main idea) related to reading passage			2.2.10 Identify several supporting details (including main idea) related to reading passage









<b>Standard 6</b>	<b>Students read and recognize literature as a record of human experience</b>						
<b>Expanded Benchmark</b>	<b>4.0 PARTICIPATE IN A LITERATE COMMUNITY</b> <i>Students respond to reading materials and activities with interest and involvement. Students engage in review and evaluation of reading materials and experiences.</i>						
<b>4.1 Understand and apply literary techniques/elements to appreciate and react to literature</b>							
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>
						Answers simple questions about the theme of a story/reading selection	4.1.5 Select and evaluate text on personal criteria/favorite genre
						Answers why questions about a story/reading selection	
						Explains the meaning of figurative forms of language	
						Compares character traits	
						Evaluates literature	

						Identifies the setting of a story/reading selection	
--	--	--	--	--	--	---	--

**The Colorado Student Assessment Program Alternate (CSAPA)  
Writing  
Assessment Frameworks**

<b>Standard 2</b>		<b>Students write and speak for a variety of purposes and audiences.</b>					
<b>Expanded Benchmark</b>		<b>1.0 Generate topics and develop ideas by creating a document for a variety of purposes and audiences for the purpose of publication</b>					
		<b>1.1 Demonstrate an understanding that writing communicates a message</b>					
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>
Attends to other's use of writing materials	<b>1.1 Demonstrate an understanding that writing communicates a message</b>	Attends to other's use of writing materials	Attends to other's use of writing materials	<b>1.1 Demonstrate an understanding that writing communicates a message</b>	Attends to other's use of writing materials	Attends to other's use of writing materials	<b>1.1 Demonstrate an understanding that writing communicates a message</b>
Selects material related to writing	1.1.1 Attends to other's use of writing material	Selects material related to writing	Selects material related to writing	1.1.1 Attends to other's use of writing material	Selects material related to writing	Selects material related to writing	1.1.1 Attends to other's use of writing material
Writes own name on personal work		Writes own name on personal work	Writes own name on personal work		Writes own name on personal work	Writes own name on personal work	
Selects a topic for a written product	1.1.5 Use intentional movement to produce graphic representation (e.g. make marks on page, arrange pictures/symbols to tell story)	Selects a topic for a written product		1.1.5 Use intentional movement to produce graphic representation (e.g. make marks on page, arrange pictures/symbols to tell story)			1.1.5 Use intentional movement to produce graphic representation (e.g. make marks on page, arrange pictures/symbols to tell story)
Uses vocabulary that communicates a message clearly	1.1.6 Orient graphics in legible format (right side up, left to right)	Uses vocabulary that communicates a message clearly	Uses vocabulary that communicates a message clearly	1.1.6 Orient graphics in legible format (right side up, left to right)	Uses vocabulary that communicates a message clearly	Uses vocabulary that communicates a message clearly	1.1.6 Orient graphics in legible format (right side up, left to right)

Recalls supporting details to create a written product	1.1.7 Writes own name on personal work	Recalls supporting details to create a written product	Recalls supporting details to create a written product	1.1.7 Writes own name on personal work	Recalls supporting details to create a written product	Recalls supporting details to create a written product	1.1.7 Writes own name on personal work
	<b>1.2 Organize writing to create a draft document</b>		Organizes information about a topic in a variety of ways	<b>1.2 Organize writing to create a draft document</b>	Organizes information about a topic in a variety of ways	Organizes information about a topic in a variety of ways	<b>1.2 Organize writing to create a draft document</b>
	1.2.1 Select preferred writing instrument			1.2.1 Select preferred writing instrument	Develops ideas and content with relative detail	Develops ideas and content with relative detail	1.2.1 Select preferred writing instrument
	1.2.2 Uses a writing tool to produce a written representation			1.2.2 Uses a writing tool to produce a written representation			1.2.2 Uses a writing tool to produce a written representation
	1.2.3 Use graphic organizer to display ideas			1.2.3 Use graphic organizer to display ideas			1.2.3 Use graphic organizer to display ideas
	1.2.5 Choose topics for writing  1.2.6 Choose key points to include in writing  1.2.7 Generate supporting details and create notes		Organizes a written product by providing a title that summarizes the work	1.2.4 Organize writing so there is an introduction, logical sequence and conclusion  1.2.6 Choose key points to include in writing  1.2.7 Generate supporting details and create notes	Organizes a written product by providing a title that summarizes the work	Organizes a written product by providing a title that summarizes the work	1.2.4 Organize writing so there is an introduction, logical sequence and conclusion  1.2.6 Choose key points to include in writing  1.2.7 Generate supporting details and create notes

	1.2.8 Write in word strings or simple sentence patterns			1.2.8 Write in word strings or simple sentence patterns			1.2.8 Write in word strings or simple sentence patterns
	<b>1.4 Publish written information in a variety of media formats</b>			<b>1.4 Publish written information in a variety of media formats</b>			<b>1.4 Publish written information in a variety of media formats</b>
Writes letters or arranges graphics that are correctly oriented	1.4.2 Choose vocabulary that communicates a message	Writes letters or arranges graphics that are correctly oriented	Writes letters or arranges graphics that are correctly oriented	1.4.2 Choose vocabulary that communicates a message	Writes letters or arranges graphics that are correctly oriented	Writes letters or arranges graphics that are correctly oriented	1.4.2 Choose vocabulary that communicates a message
				1.4.3 Create a story or personal narrative with introduction, body and conclusion			1.4.3 Create a story or personal narrative with introduction, body and conclusion



Standard 3		Students write and speak using conventional grammar, usage sentence structure, punctuation, capitalization and spelling					
Expanded Benchmark		2.0 Use appropriate conventions, mechanics and format to create a readable and legible written product					
Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Uses a writing tool to produce a written representation	<b>2.1 Use systematic conventions to make written product understandable by others</b>	Uses a writing tool to produce a written representation	Uses a writing tool to produce a written representation	<b>2.1 Use systematic conventions to make written product understandable by others</b>	Uses a writing tool to produce a written representation	Uses a writing tool to produce a written representation	<b>2.1 Use systematic conventions to make written product understandable by others</b>
Creates marks that resemble letters	2.1.1 Use correct spelling, punctuation and capitalization to complete a writing task	Creates marks that resemble letters	Creates marks that resemble letters	2.1.1 Use correct spelling, punctuation and capitalization to complete a writing task	Creates marks that resemble letters	Creates marks that resemble letters	2.1.1 Use correct spelling, punctuation and capitalization to complete a writing task
Positions graphics/writing on the page in a purposeful manner	2.1.3 Use a writing tool to produce a written product	Positions graphics/writing on the page in a purposeful manner	Positions graphics/writing on the page in a purposeful manner	2.1.3 Use a writing tool to produce a written product	Positions graphics/writing on the page in a purposeful manner	Positions graphics/writing on the page in a purposeful manner	2.1.3 Use a writing tool to produce a written product
Uses capitalization of the first letter of a sentence, familiar names and/ or the word I	2.1.4 Create marks that resembles letters	Uses capitalization of first letter of a sentence, familiar names and/or the word I when writing	Uses capitalization of first letter of a sentence, familiar names and/or the word I when writing	2.1.4 Create marks that resembles letters	Uses capitalization of first letter of a sentence, familiar names and/or the word I when writing	Uses capitalization of first letter of a sentence, familiar names and/or the word I when writing	2.1.4 Create marks that resembles letters
				2.1.7 Employ standard English usage rules (numbers written out, text organization, etc) during writing tasks			2.1.7 Employ standard English usage rules (numbers written out, text organization, etc) during writing tasks

				2.1.9 Selects a source of information to include in a bibliography			2.1.9 Selects a source of information to include in a bibliography
Uses simple noun and verb sentence structure	<b>2.2 Apply elements of writing through appropriate word usage</b>	Uses simple noun and verb sentence structure	Uses simple noun and verb sentence structure	<b>2.2 Apply elements of writing through appropriate word usage</b>	Uses simple noun and verb sentence structure	Uses simple noun and verb sentence structure	<b>2.2 Apply elements of writing through appropriate word usage</b>
							2.2.1 Use standard English in writing to include subject/verb agreement, pronouns, plurals
				2.2.3 Maintain appropriate tense throughout text			2.2.3 Maintain appropriate tense throughout text
				2.2.4 Know and use correct modifiers in written formats			2.2.4 Know and use correct modifiers in written formats
				2.2.6 Write complete sentences with subject/verb agreement			2.2.6 Write complete sentences with subject/verb agreement

	<b>2.3 Edit a written product using legible handwriting/word processor for publication</b>			<b>2.3 Edit a written product using legible handwriting/word processor for publication</b>			<b>2.3 Edit a written product using legible handwriting/word processor for publication</b>
							2.3.3 Proofread to correct errors in grammar, punctuation and spelling
	2.3.8 Demonstrate understanding that sentences conclude with end punctuation			2.3.8 Demonstrate understanding that sentences conclude with end punctuation			2.3.8 Demonstrate understanding that sentences conclude with end punctuation

# The Colorado Student Assessment Program Alternate (CSAPA) Mathematics Assessment Frameworks

## NUMBER SENSE

**Standard 1: Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.**

**Critical Concept 1: Counts, represents quantities, reads and writes numbers**

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Demonstrates the concept of one	Demonstrates the concept of one	Demonstrates the concept of one					
Knows when groups of objects are more or less	Knows when groups of objects are more or less	Knows when groups of objects are more or less					
Estimates an appropriate number for a quantity up to <b>10</b>	Estimates an appropriate number for a quantity up to <b>10</b>	Estimates an appropriate number for a quantity up to <b>20</b>	Estimates an appropriate number for a quantity up to <b>25</b>	Estimates an appropriate number for a quantity up to <b>30</b>	Estimates an appropriate number for a quantity up to <b>30</b>	Estimates an appropriate number for a quantity up to <b>40</b>	Estimates an appropriate number for a quantity up to <b>40</b>
Counts to 10	Counts to 12	Counts to 20	Counts to 25	Counts to 30	Counts to 35	Counts to 40	Counts to 45
		Counts forward from a given number (up to 20)	Counts forward from a given number (up to 25)	Counts forward from a given number (up to 30)	Counts forward from a given number (up to 35)	Counts forward from a given number (up to 40)	Counts forward from a given number (up to 45)
Recognizes numerals (up to 10)	Recognizes numerals (up to 12)	Recognizes numerals (up to 20)					
Demonstrates an understanding of a numeral and the quantity it represents (up to 10)	Demonstrates an understanding of a numeral and the quantity it represents (up to 12)	Demonstrates an understanding of a numeral and the quantity it represents (up to 20)					

# NUMBER SENSE (continued)

**Standard 1: Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.**

**Critical Concept 1: Counts, represents quantities, reads and writes numbers**

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Writes/creates a single digit number (from 1-5)	Writes/creates a single digit number (from 6-9)	Writes/creates a two digit number (from 12-20)	Writes/creates a two digit number (from 21-25)	Writes/creates a two digit number (from 26-30)	Writes/creates a three digit number (in the 100s)	Writes/creates a three digit number (in the 200s)	Writes/creates a three digit number (in the 300s)
Understands which number is greater than/less than (up to 10)	Understands which number is greater than/less than (up to 12)	Understands which number is greater than/less than (up to 20)	Understands which number is greater than/less than (up to 25)				
		Demonstrates an understanding of ones and tens place value in numbers up to 20	Demonstrates an understanding of ones and tens place value in numbers up to 25	Demonstrates an understanding of ones and tens place value in numbers up to 30	Demonstrates an understanding of ones and tens place value in numbers up to 35	Demonstrates an understanding of ones and tens place value in numbers up to 40	Demonstrates an understanding of ones and tens place value in numbers up to 45
		Reads a number sentence (adding/subtracting numbers up to 20)	Reads a number sentence (adding/subtracting numbers up to 25)	Reads a number sentence (adding/subtracting numbers up to 30)			
					Produces a number sentence (addition/subtraction only with sets up to 35)	Produces a number sentence (any operator and sets up to 40)	Produces a number sentence (any operator and sets up to 45)
			Demonstrate an understanding of a whole unit	Identifies $\frac{1}{2}$	Identifies $\frac{1}{4}$	Identifies $\frac{1}{3}$	Identifies $\frac{3}{4}$
		Skip counts by 2s to 20			Skip counts by 5s to 35		Skip counts by 10s to 40

# ALGEBRAIC METHODS

**Standard 2: Students use algebraic methods to explore, model, and describe patterns and functions involving numbers, shapes, data, and graphs in problem-solving situations and communicate the reasoning used in solving these problems.**

**Critical Concept 2: Identifies, describes, and creates patterns to solve problems**

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Reproduces a repeated event (3 times)	Reproduces a repeated event (3 times)	Reproduces a repeated event (3 times)					
Extend a repeating pattern by one element	Extend a repeating pattern by one element	Extend a repeating pattern by two elements	Extend a repeating pattern by two elements	Extend a repeating pattern by three elements	Extend a repeating pattern by three elements	Extend a repeating pattern by four elements	Extend a repeating pattern by four elements
Finds and supplies 1 missing element in a repeating pattern	Finds and supplies 1 missing element in a repeating pattern	Finds and supplies 1 missing element in a repeating pattern	Finds and supplies 2 missing elements in a repeating pattern	Finds and supplies 2 missing elements in a repeating pattern	Finds and supplies 3 missing elements in a repeating pattern	Finds and supplies 3 missing elements in a repeating pattern	Finds and supplies 3 missing elements in a repeating pattern
Extends a growing geometric pattern by supplying the next element	Extends a growing geometric pattern by supplying the next element	Extends a growing geometric pattern by supplying the next element	Extends a growing geometric pattern by supplying the next element	Extends a growing numeric pattern by supplying the next element	Extends a growing numeric pattern by supplying the next element	Extends a growing numeric pattern by supplying the next element	Extends a growing numeric pattern by supplying the next element
		Finds and supplies a missing element in a growing geometric pattern	Finds and supplies a missing element in a growing geometric pattern	Finds and supplies a missing element in a growing numeric pattern	Finds and supplies a missing element in a growing numeric pattern	Finds and supplies a missing element in a growing numeric pattern	Finds and supplies a missing element in a growing numeric pattern
		Describes a growing geometric pattern	Describes a growing geometric pattern	Describes a growing numeric pattern	Describes a growing numeric pattern	Describes a growing numeric pattern	Describes a growing numeric pattern
				Identifies the relationship between variables	Identifies the relationship between variables	Identifies the relationship between variables	Identifies the relationship between variables
				Given a numerical relationship between two variables, finds the value of one given the other	Given a numerical relationship between two variables, finds the value of one given the other	Given a numerical relationship between two variables, finds the value of one given the other	Given a numerical relationship between two variables, finds the value of one given the other

# DATA & PROBABILITY

**Standard 3: Students use data collection and analysis, statistics, and probability in problem-solving situations and communicate the reasoning used in solving these problems.**

**Critical Concept 3: Displays and analyzes data**

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Displays two categories on a bar graph	Displays three categories on a bar graph	Displays four categories on a bar graph	Displays five categories on a bar graph	Places two data points on a line graph	Places three data points on a line graph	Places four data points on a line graph	Places five data points on a line graph
Determines which category has the most/least	Determines which category has the most/least	Determines which category has the most/least	Determines which category has the most/least				
Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table
Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem
					Understands characteristics of a graph	Understands characteristics of a graph	Understands characteristics of a graph
			Predicts an outcome based on available information	Predicts an outcome based on available information from graph	Predicts an outcome based on available information from graph	Predicts an outcome based on available information from graph	Predicts an outcome based on available information from graph
Displays up to 2 data categories on a table	Displays up to 3 data categories on a table	Displays up to 4 data categories on a table	Collects and records information about chance events	Collects and records data (up to 5 categories on a table)	Collects and records data (up to 5 categories on a table)	Collects and records data (up to 5 categories on a table)	Collects and records data (up to 5 categories on a table)

# GEOMETRIC CONCEPTS

**Standard 4: Students use geometric concepts, properties, and relationships in problem-solving situations and communicate the reasoning used in solving these problems.**

**Critical Concept 4: Identifies, sorts, and matches geometric shapes**

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Sorts 2 objects by shape (circle, square, triangle)	Sorts 3 objects by shape (circle, square, triangle)	Sorts 4 objects by size and shape (circle, square, triangle, rectangle, oval, trapezoid)				Identify angles of a triangle (acute, obtuse, right)	Identify angles of a triangle (acute, obtuse, right)
Identifies 2-dimensional shapes (circle, square, triangle)	Identifies 2-dimensional shapes (circle, square, triangle)	Identifies 2-dimensional shapes (rectangle, oval, trapezoid)	Identifies 2-dimensional shapes (rhombus, pentagon, oval)	Identifies 3-dimensional shapes (cube, sphere, cylinder)	Identifies 3-dimensional shapes (cone, pyramid, prism)	Identifies geometric properties of 3-dimensional shapes	Identifies geometric properties of 3-dimensional shapes
Identifies shapes in nontypical display (circle, square, triangle)	Identifies shapes in nontypical display (circle, square, triangle)	Identifies shapes in nontypical display (rectangle, oval, trapezoid)	Identifies shapes in nontypical display (rhombus, pentagon, oval)				
Identifies shapes in environments (circle, square, triangle)	Identifies shapes in environments (circle, square, triangle)	Identifies shapes in environments (rectangle, oval, trapezoid)	Identifies shapes in environments (rhombus, pentagon, oval)				
				Identifies two dimensional shapes in a three dimensional object (cube, cylinder)	Identifies two dimensional shapes in a three dimensional object (cone, pyramid, prism)	Identifies two dimensional shapes in a three dimensional object	Identifies two dimensional shapes in a three dimensional object
Matches 2 shapes to picture (circle, square, triangle)	Matches 3 shapes to picture (circle, square, triangle)	Matches 4 shapes to picture (rectangle, oval, trapezoid)					
Discriminates shapes (circle, square, triangle) by size (bigger, smaller, the same)	Discriminates shapes (circle, square, triangle) by size (bigger, smaller, the same)	Discriminates shapes (rectangle, oval, trapezoid) by size (bigger, smaller, the same)			Determines if two lines are congruent	Determines if two lines are congruent	Determines if two lines are congruent
			Differentiates between lines and curves	Differentiates between lines and curves	Differentiates between lines and curves		
			Places shapes together to make another shape (circle, square, triangle)	Places shapes together to make another shape (circle, square, triangle, rectangle)	Places shapes together to make another shape (circle, square, triangle, rectangle)	Places shapes together to make another shape (circle, square, triangle, rectangle)	Places shapes together to make another shape (cone, pyramid, cylinder, cube, prism)



# MEASUREMENT

**Standard 5: Students use a variety of tools and techniques to measure, apply the results in problem-solving situations, and communicate the reasoning used in solving these problems.**

**Critical Concept 5: Applies a variety of measurement skills**

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Identifies tools associated with measurement (ruler, measuring cup, spoon, thermometer)	Identifies tools associated with measurement (ruler, measuring cup, spoon, thermometer)	Identifies tools associated with measurement (ruler, measuring cup, scale, thermometer)	Identifies tools associated with measurement (ruler, measuring cup, scale, protractor)				
		Demonstrates an understanding of directionality (right, left, up, down)	Demonstrates an understanding of directionality (right, left, up, down)	Demonstrates an understanding of directionality (right, left, up, down)	Demonstrates an understanding of directionality (north, south, east, west)	Demonstrates an understanding of directionality (north, south, east, west)	Demonstrates an understanding of directionality (north, south, east, west)
Estimates length /height in nonstandard units	Estimates length /height in nonstandard units	Estimates length /height in nonstandard units	Estimates length /height in nonstandard units	Estimates length /height in nonstandard units	Estimates area in nonstandard units	Estimates area in nonstandard units	Estimates area in nonstandard units
Manipulates measuring tool	Measures length with a standard tool (exact inches)	Measures length with a standard tool (exact inches)	Measures length with a standard tool (may include ½ inches)	Measures length with a standard tool (may include ½ inches)	Measures length with a standard tool (may include ½ inches)	Measures length with a standard tool (may include ½ inches)	Measures length with a standard tool (may include ½ inches)
Compares lengths (longer than, shorter than, the same)	Compares lengths (longer than, shorter than, the same)	Compares lengths (longer than, shorter than, the same)	Compares lengths (longer than, shorter than, the same)	Estimates length in inches	Estimates length in inches	Estimates length in feet	Estimates length in feet
Measures an object using nonstandard tools	Measures an object using nonstandard tools	Measures an object using nonstandard tools					
	Uses vocabulary associated with measurement (inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (foot, pound, inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (foot, pound, inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (foot, pound, mile, inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (foot, pound, mile, inch, hour, minute, cup, degree)
				Calculates perimeter	Calculates perimeter	Calculates perimeter	Calculates perimeter
					Calculates area	Calculates area	Calculates area
					Identifies 12 inches equals 1 foot	Converts dimensions from inches to feet	Converts dimensions from inches to feet

# PROBLEM SOLVING SKILLS

**Standard 6: Students link concepts and procedures as they develop and use computational techniques, including estimation, mental arithmetic, paper-and-pencil, calculators, and computers, in problem-solving situations and communicate the reasoning used in solving these problems.**

**Critical Concept 6: Uses calculation strategies to compute problems**

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Understands the concept of none	Understands the concept of none	Understands the concept of none	Understands the concept of none	Adds simple fractions (halves only)	Adds simple fractions (halves and fourths)	Adds simple fractions (halves, thirds, and fourths)	Adds simple fractions (halves, thirds, and fourths)
Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 10 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 12 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 20 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 25 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 30 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 35 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (3 sets up to 40 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (3 sets up to 45 items)
Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction, multiplication)	Chooses correct operation to solve a problem (any operator)	Chooses correct operation to solve a problem (any operator)
Employs strategies to find simple subtraction facts (sets up to 10 items)	Employs strategies to find simple subtraction facts (sets up to 12 items)	Employs strategies to find simple subtraction facts (sets up to 20 items)	Employs strategies to find simple subtraction facts (sets up to 25 items)	Employs strategies to find simple subtraction facts (sets up to 30 items)	Employs strategies to find simple subtraction facts (sets up to 35 items)	Employs strategies to find simple subtraction facts (sets up to 40 items)	Employs strategies to find simple subtraction facts (sets up to 45 items)
					Solves a simple multiplication problem (sets up to 35)	Solves a simple multiplication problem (sets up to 40)	Solves a simple multiplication problem (sets up to 45)
Uses a calculator for whole number calculations (addition/subtraction sets up to 10) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction sets up to 12) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction sets up to 20) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction sets up to 25) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction sets up to 30) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction/multiplication sets up to 35) NOT ASSESSING	Uses a calculator for whole number calculations (any operator sets up to 40) NOT ASSESSING	Uses a calculator for whole number calculations (any operator sets up to 45) NOT ASSESSING
						Solves simple problems involving division (sets up to 40)	Solves simple problems involving division (sets up to 45)

## CSAPA Benchmark DRAFT

Bench mark	Grade 5	Grade 8	Grade 10
<b>Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations.</b>			
1. Make quantitative and qualitative observations.			
1.1. Use senses	<ul style="list-style-type: none"> <li>• <b>Identify</b> different parts of the environment</li> <li>• <b>Recognize</b> that objects have <b>different</b> properties</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> an awareness of the environment</li> <li>• <b>Identify</b> different environmental conditions</li> <li>• <b>Observe</b> a <b>partial</b> sequence of events</li> <li>• <b>Recognize</b> that objects have <b>different</b> properties</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> an <b>ability to investigate</b> the environment</li> <li>• <b>Indicate</b> an <b>understanding</b> of differences in the environmental conditions based on use of senses (e.g. hot/cold; wet/dry; light/dark; light/heavy; large/small; loud/soft; strong smell/weak smell)</li> <li>• <b>Observe</b> (e.g. touch, feel, listen to) a <b>complete</b> sequence of events</li> <li>• <b>Recognize specific properties</b> of an object</li> </ul>
1.1. Use tools	<ul style="list-style-type: none"> <li>• <b>Identify tools used in scientific investigations</b> (e.g. ruler, weighing scale, measuring cup, magnifying lens, computer, binocular etc.)</li> <li>• <b>Understand qualitative</b> descriptive terms (e.g. round, square, flat etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify the function of tools</b> used in Scientific investigations</li> <li>• <b>Select the appropriate</b> tool to gain information (all the tools tested at Grade 5 plus telescope, microscope, stop watch.)</li> <li>• <b>Provide a qualitative</b> description of the properties of an object</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Manipulate</b> measurement tools</li> <li>• <b>Select and use tools in a purposeful manner</b> to gain information about an object (e.g. thermometer for measuring temperature, hand lens to look at a leaf or rock)</li> <li>• <b>Provide a qualitative</b> description of the properties of an object (e.g. rough/smooth; big/little; hot/cold)</li> <li>• Use a measurement tool to <b>provide a quantitative</b> description of the properties of an object (e.g. time, temperature, weight, measurement)</li> </ul>

Bench mark	Grade 5	Grade 8	Grade 10
1.1 Organize observations	<ul style="list-style-type: none"> <li>• <b>Match</b> observations to pictures, diagrams, or graphs</li> <li>• <b>Label observations</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Match</b> observations to pictures, diagrams, or graphs</li> <li>• Make a <b>conclusion</b> from observations</li> <li>• <b>Sequence</b> observations in subcategories</li> <li>• <b>Label observations</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Use</b> observations as data</li> <li>• <b>Record</b> observations</li> <li>• <b>Make a record</b> of observations (picture, diagram, graph)</li> <li>• <b>Make a record</b> of observations over time</li> <li>• <b>Label observations</b></li> <li>• <b>Sequence</b> observations in subcategories</li> <li>• <b>Organize</b> observations to make a <b>prediction</b></li> </ul>
1.1 Communicate observations	<ul style="list-style-type: none"> <li>• <b>Attend</b> to a task in order to make an observation</li> <li>• <b>Communicate</b> the sequence of scientific events</li> <li>• <b>Match</b> data to an <b>observation</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Attend</b> to a task in order to make an observation.</li> <li>• <b>Display information</b> about observations in a variety of ways</li> <li>• <b>Arrange</b> data to <b>communicate</b> sequence of scientific events</li> <li>• <b>Match</b> data to an <b>observation</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Attend</b> to a task in order to make an observation</li> <li>• <b>Provide descriptive</b> information about the observation</li> <li>• <b>Display information</b> about observations in a variety of ways</li> <li>• <b>Determine</b> most <b>appropriate</b> way to display observations/data</li> <li>• <b>Arrange</b> data to <b>communicate</b> sequence of scientific events</li> </ul>
2. Ask questions for information based on observations.			
1.2 Know what a scientific (testable) question is	<ul style="list-style-type: none"> <li>• <b>Collect</b> information</li> <li>• <b>Ask</b> a question about the information</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Collect</b> information</li> <li>• <b>Pose</b> a question relative to the information (possibly not testable)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Collect</b> information to answer a question</li> <li>• <b>Differentiate</b> between a testable and non-testable question</li> <li>• <b>Pose a testable</b> question (e.g. what makes ice melt, heat or cold?)</li> </ul>

Bench mark	Grade 5	Grade 8	Grade 10
1.2 Pose a question around a testable vs. non-testable problem	<ul style="list-style-type: none"> <li>• <b>Ask</b> questions to gain information</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Pose</b> additional questions about an investigation</li> <li>• <b>Identify resources</b> to gain additional scientific information</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Ask</b> questions to gain information (e.g. “Are all leaves the same shape?”)</li> <li>• <b>Pose</b> informational questions (e.g. who, what, why, where, when, how)</li> <li>• <b>Identify resources</b> to gain additional scientific information (e.g. web, encyclopedia, telephone book)</li> </ul>
	3. Make predictions related to observations, experiences, and patterns.		
1.3 Make predictions related to observations, experiences and patterns	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> an <b>understanding</b> of cause and effect in scientific events</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Differentiate</b> between a cause and an effect event</li> <li>• <b>Determine</b> if a prediction is valid</li> <li>• <b>Make an appropriate prediction</b> based on observation/information</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Demonstrate an understanding</b> of cause and effect in scientific events (e.g. when more water is added to a full glass, the extra water will spill out; pushing the level forward on the wheelchair makes the chair move forward)</li> <li>• <b>Determine</b> if the prediction is based upon experience and knowledge</li> <li>• <b>Distinguish</b> between a guess and prediction and <b>explain the reasoning</b></li> <li>• Ask questions to get more information when needed</li> <li>• <b>Make an appropriate prediction</b> based on observation/information</li> </ul>

<b>Bench mark</b>	<b>Grade 5</b>	<b>Grade 8</b>	<b>Grade 10</b>
	4. Collect, organize, and analyze data.		
1.4 Collect, organize and analyze data	<ul style="list-style-type: none"> <li>• <b>Indicate an awareness of collections</b> within the environment</li> <li>• <b>Identify objects</b> to add to collections</li> <li>• <b>Identify data</b> to collect for a problem or situations</li> <li>• <b>Sort objects</b> into categories</li> <li>• <b>Employ safe techniques</b> for investigations</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Indicate an awareness of collections</b> within the environment</li> <li>• <b>Identify objects</b> to add to collections</li> <li>• <b>Determine data</b> to collect for a problem or situations</li> <li>• <b>Gather</b> data</li> <li>• Know ways to <b>organize data</b></li> <li>• <b>Sort objects</b> into categories</li> <li>• <b>Recognize</b> when <b>patterns</b> in data exist</li> <li>• <b>Recognize</b> that <b>variations</b> in data exist</li> <li>• <b>Employ safe techniques</b> for investigations</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Indicate an awareness of collections</b> within the environment (e.g. rocks, leaves, plants, animal families)</li> <li>• <b>Identify appropriate objects</b> to add to collections</li> <li>• <b>Identify ways</b> to collect data (e.g. qualitative and quantitative methods)</li> <li>• <b>Determine appropriate data</b> to collect for a problem or situations</li> <li>• <b>Use a symbol</b> to represent information/data</li> <li>• <b>Gather</b> data</li> <li>• Know ways to <b>organize data</b></li> <li>• <b>Sort objects</b> into categories and subcategories (e.g. living vs. nonliving)</li> <li>• <b>Organize data</b> to <b>show patterns</b> and trends (e.g. order, sequence)</li> <li>• <b>Recognize</b> when <b>patterns</b> in data exist (e.g. indicate attributes or criteria for organizing data)</li> <li>• <b>Recognize</b> when <b>relationships</b> in data exist (e.g. leaves are associated with trees)</li> <li>• <b>Recognize</b> that <b>variations</b> in data exist (e.g. differences in the height/eye color of classmates; variation in leaves)</li> <li>• <b>Explain</b> the <b>patterns</b> and <b>relationships</b> in the data</li> <li>• <b>Employ safe techniques</b> for investigations</li> </ul>

<b>Bench mark</b>	<b>Grade 5</b>	<b>Grade 8</b>	<b>Grade 10</b>
	5. Communicate results of investigations.		
1.5 Communicate results of investigations	<ul style="list-style-type: none"> <li>• <b>Identify</b> different ways of measuring</li> <li>• <b>Describe</b> data source for meaning</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify</b> different ways of measuring</li> <li>• <b>Label units</b> (possibly inappropriate)</li> <li>• <b>Describe</b> data source for meaning</li> <li>• <b>Relate</b> results to predictions</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Use data</b> to construct explanation (graphs, pictures)</li> <li>• <b>Label units</b></li> <li>• <b>Identify</b> different ways of measuring (descriptive)</li> <li>• <b>Describe</b> data source for meaning (e.g. 10 shells, 5 rocks)</li> <li>• <b>Determine</b> if and how findings support or do not support the scientific question/predictions</li> <li>• <b>Explain</b> how unexpected findings lead to a new questions and add to understandings</li> <li>• <b>Explain</b> how the data supports findings</li> <li>• <b>Relate</b> results to predictions</li> <li>• <b>Apply</b> results to another situation</li> </ul>

Bench mark	Grade 5	Grade 8	Grade 10
<b>Standard 2: Physical Science: Students know and understand common properties, forms, and changes in matter and energy.</b>			
1. Demonstrate awareness of physical and chemical properties.			
2.1 Make qualitative observations about physical properties	<ul style="list-style-type: none"> <li>• <b>Use senses</b> to make observations</li> <li>• <b>Use simple descriptors</b> such as color, odor, texture, size, shape, etc. to relate information about properties of living and non-living matter</li> <li>• <b>Describe temperature</b> using labels such as hot/cold/warm/tepid</li> <li>• <b>Describe volume</b> using labels such as more/less/same</li> <li>• <b>Describe mass</b> using labels such as heavy/light</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Use senses</b> to make observations</li> <li>• <b>Use simple descriptors</b> such as color, odor, texture, size, shape, etc. to relate information about properties of living and non-living matter</li> <li>• <b>Describe temperature</b> using labels such as hot/cold/warm/tepid</li> <li>• <b>Describe volume</b> using labels such as more/less/same</li> <li>• <b>Describe mass</b> using labels such as heavy/light</li> <li>• <b>Classify objects</b> based on physical properties (e.g. textures, living vs. non living, type of object)</li> <li>• <b>Classify objects</b> based on states of matter</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Use senses</b> to make observations</li> <li>• <b>Use simple descriptors</b> such as color, odor, texture, size, shape, etc. to relate information about properties of living and non-living matter</li> <li>• <b>Describe temperature</b> using labels such as hot/cold/warm/tepid</li> <li>• <b>Describe volume</b> using labels such as more/less/same</li> <li>• <b>Describe mass</b> using labels such as heavy/light</li> <li>• <b>Identify</b> homogenous mixtures from non homogenous mixtures (e.g. salt water is a homogenous mixture and raisin bran or chocolate chip cookie batter is a heterogeneous mixture)</li> <li>• <b>Identify</b> a mixture as a solution</li> <li>• <b>Classify objects</b> based on physical properties (e.g. textures, living vs. non living, type of object)</li> <li>• <b>Classify objects</b> based on chemical properties (the ability of something to react) (e.g. gasoline’s ability to combust, vinegar’s ability to react with vinegar)</li> <li>• <b>Classify objects</b> based on states of matter (e.g. ice vs. boiling water)</li> <li>• <b>Provide a justification</b> for how objects were classified into groups</li> </ul>



<b>Bench mark</b>	<b>Grade 5</b>	<b>Grade 8</b>	<b>Grade 10</b>
2.1 Make quantitative observations	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> an understanding that counting is saying numbers</li> <li>• <b>Show</b> a quantity</li> <li>• <b>Apply</b> a number label to a quantity</li> <li>• <b>Identify measurement tools</b></li> <li>• <b>Make comparisons</b> between different quantities</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> an understanding that counting is saying numbers</li> <li>• <b>Show</b> a quantity</li> <li>• <b>Apply</b> a number label to a quantity</li> <li>• <b>Demonstrate</b> the relationship between a number symbol and quantity</li> <li>• <b>Make comparisons</b> between different quantities</li> <li>• <b>Use appropriate tools</b> for measurement such as a thermometer, scale, measuring cup</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> an understanding that counting is saying numbers</li> <li>• <b>Show</b> a quantity</li> <li>• <b>Apply</b> a number label to a quantity</li> <li>• <b>Demonstrate</b> the relationship between a number symbol and quantity</li> <li>• <b>Make comparisons</b> between different quantities</li> <li>• <b>Use appropriate tools</b> for measurement such as a thermometer, scale, measuring cup</li> <li>• <b>Know</b> that temperature is described by degrees (e.g. Fahrenheit, Celsius)</li> <li>• <b>Know</b> that volume is described by volume terms (e.g. teaspoon, tablespoon, cup, liter)</li> <li>• <b>Know</b> that there are appropriate units for measuring and describing mass (e.g. pounds and grams)</li> <li>• <b>Demonstrate</b> conservation of mass, volume (e.g. crumpling a paper up, rolling a ball of clay into a snake, rolling a piece of bread into a ball)</li> <li>• <b>Choose</b> appropriate units of measurement</li> </ul>
	2. Make observations associated with energy		
2.2 Make observations associated with energy	<ul style="list-style-type: none"> <li>• <b>Identify</b> non-living objects that need energy to function</li> <li>• <b>Understand</b> that objects can move at different speeds</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify the forms</b> of energy</li> <li>• <b>Identify</b> non-living objects that need energy to function</li> <li>• <b>Describe</b> ways in which non-living objects get energy</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify the forms</b> of energy (e.g. heat, light, sound, mechanical, potential/kinetic)</li> <li>• <b>Identify</b> non-living objects that need energy to function (e.g. cars need gas to go)</li> </ul>

<b>Bench mark</b>	<b>Grade 5</b>	<b>Grade 8</b>	<b>Grade 10</b>
2.2 (Cont.)	<ul style="list-style-type: none"> <li>• <b>Describe</b> transformation of forms of energy in terms of motion (e.g. fast, slow)</li> <li>• <b>Understand</b> that objects move as a result of force</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Understand</b> that objects can move at different speeds</li> <li>• <b>Describe</b> transformation of forms of energy in terms of motion (e.g. fast, slow)</li> <li>• <b>Understand</b> that objects move as a result of force</li> <li>• <b>Understand</b> that objects can move at different speeds based on the amount of force</li> <li>• <b>Understand</b> that objects can move and different speeds and directions based on the amount and type of force</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Describe</b> ways in which non-living objects get energy (e.g. changing the batteries in a CD player)</li> <li>• <b>Understand</b> that objects can move at different speeds</li> <li>• <b>Describe</b> transformation of forms of energy in terms of motion (e.g. fast, slow)</li> <li>• <b>Understand</b> that objects move as a result of force</li> <li>• <b>Understand</b> that objects can move at different speeds based on the amount of force</li> <li>• <b>Understand</b> that objects can move and different speeds and directions based on the amount and type of force</li> <li>• <b>Understand</b> that a change in force will cause a change in speed an/or direction of the object</li> <li>• <b>Describe transformation</b> of forms of energy in terms of temperature. (e.g. the sun shining on a dark object changes light to heat, rubbing things together changes mechanical energy to heat)</li> </ul>
3. Understand interaction between matter and energy.			
2.3 Understand interaction between matter and energy	<b>Content is above grade level</b>	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> that energy can be transferred in different ways</li> <li>• <b>Know</b> when heat is introduced, changes in matter take place</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> that energy can be transferred in different ways (e.g. simple electric circuits)</li> <li>• <b>Know</b> when heat is introduced, changes in matter take place (e.g. solid to liquid; liquid to gas)</li> </ul>

Bench mark	Grade 5	Grade 8	Grade 10
<b>Standard 3: Life science: Students know and understand the characteristics and structures of living things, the processes of life, and how living things interact with each other in the environment.</b>			
1. Understand the characteristics and structures of living things.			
3.1 Understand the characteristics and structures of living things	<ul style="list-style-type: none"> <li>• <b>Identify</b> living matter</li> <li>• <b>Identify</b> nonliving matter</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Distinguish</b> between living vs. nonliving matter</li> <li>• <b>Describe</b> characteristics of living matter</li> <li>• <b>Describe</b> characteristics of nonliving matter</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Distinguish</b> between living vs. nonliving matter (e.g. leaves vs. rocks)</li> <li>• <b>Describe</b> characteristics of living matter (including reproduction, movement, growth, response to environment)</li> <li>• <b>Describe</b> characteristics of nonliving matter (including non-reproduction, non-movement, non-growth, non-response to environment)</li> <li>• <b>Recognize properties</b>/characteristics of <b>plants</b> (e.g. plants make their own food)</li> <li>• <b>Recognizes properties</b>/characteristics of <b>animals</b> (e.g. animals must consume food)</li> </ul>
2. Demonstrate an understanding of the processes of life.			
3.2 Demonstrate an understanding of the processes of life	<ul style="list-style-type: none"> <li>• <b>Identify</b> basic needs of living things</li> <li>• <b>Identify</b> the young/adult stages of some common plants and animals</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify</b> basic needs of living things</li> <li>• <b>Identify</b> how living organisms attain basic needs</li> <li>• <b>Recognize</b> that all living organisms have a life cycle that vary in length</li> <li>• <b>Identify</b> stages of a life cycle</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify</b> basic needs of living things (e.g. air, food, water, shelter, and space)</li> <li>• <b>Identify</b> how living organisms attain basic needs (breathing, eating, drinking, reproducing)</li> <li>• <b>Recognize</b> that all living organisms have a life cycle that vary in length</li> <li>• <b>Identify</b> stages of a life cycle (e.g. seed, seedling, tree)</li> <li>• <b>Recognize</b> that living things respond to their environment (e.g. if a person touches a hot object, he/she quickly removes hand)</li> </ul>

<b>Bench mark</b>	<b>Grade 5</b>	<b>Grade 8</b>	<b>Grade 10</b>
3.3 Understand how living things interact with each other and the environment	<p>3. Understand how living things interact with each other and the environment.</p> <ul style="list-style-type: none"> <li>• <b>Recognize</b> that food sources come from the environment</li> <li>• <b>Describe</b> how organisms are dependent upon the nonliving environment</li> <li>• <b>Recognize</b> that a change in the environment can affect everything living in the environment</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Recognize</b> how organisms are affected by other living and nonliving things in the environment</li> <li>• <b>Recognize</b> that food sources come from the environment</li> <li>• <b>Describe</b> the parts of a food chain</li> <li>• <b>Know</b> the steps of a food chain</li> <li>• <b>Recognize</b> how a change in the environment can affect everything living in the environment</li> <li>• <b>Describe</b> how organisms are dependent upon the nonliving environment</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Recognize</b> how organisms are affected by other living and nonliving things in the environment</li> <li>• <b>Recognize</b> that food sources come from the environment (e.g. bread comes from wheat)</li> <li>• <b>Describe</b> the parts of a food chain</li> <li>• <b>Know</b> the steps of a food chain (e.g. sun, producer, consumer)</li> <li>• <b>Recognize</b> that the food chain is affected by changes to other living and nonliving things in the environment</li> <li>• <b>Describe</b> how organisms are dependent upon each other (living) and nonliving environment (e.g. food chain, ecosystem)</li> <li>• <b>Recognize</b> how a change in the environment can affect everything living in the environment (e.g. drought/fire-when plants die, animals do not have food)</li> <li>• <b>Demonstrate</b> an understanding that when an area becomes overpopulated, natural resources become less available</li> <li>• <b>Demonstrate</b> an understanding that when natural resources in the environment are overused, the environment becomes degraded.</li> <li>• <b>Describe</b> the parts of a food web</li> <li>• <b>Recognize</b> that the food web is affected by other living and nonliving things in the environment</li> </ul>

<b>Bench mark</b>	<b>Grade 5</b>	<b>Grade 8</b>	<b>Grade 10</b>
3.4 Understand the human body is a system	<p>4. Understand the human body is a system</p> <ul style="list-style-type: none"> <li>• <b>Identify/sequence</b> the main stages in the life cycle of a human</li> <li>• <b>Identify</b> the observable parts of the body</li> <li>• <b>Describe</b> the functions of the observable parts of the body</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Recognize</b> that both living and nonliving things can be recycled</li> <li>• <b>Describe</b> the human life cycle, including the concept of aging, sickness, health, change</li> <li>• <b>Identify</b> the observable parts of the body</li> <li>• <b>Describe</b> the functions of observable parts of the parts of the body</li> <li>• <b>Identify</b> the main, internal parts of the body</li> <li>• <b>Describe functions</b> of internal parts of the body</li> <li>• <b>Recognize</b> that certain parts of the body make up a subsystem</li> <li>• <b>Identify</b> how environmental conditions and personal decisions can affect parts of the body (e.g. allergies, smoking, food quality)</li> <li>• <b>Identify</b> the stages of human aging/maturation</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Recognize</b> that both living and nonliving things can be recycled</li> <li>• <b>Describe</b> the human life cycle, including the concept of aging, sickness, health, change</li> <li>• <b>Identify</b> the observable parts of the body (e.g. eyes, mouth, legs)</li> <li>• <b>Describe</b> the functions of observable parts of the parts of the body (e.g. see, breath in air, eat)</li> <li>• <b>Identify</b> the main, internal parts of the body (e.g. lungs, heart, bones)</li> <li>• <b>Describe functions</b> of internal parts of the body (e.g. provide oxygen, pump blood)</li> <li>• <b>Recognize</b> that certain parts of the body make up a subsystem (e.g. blood, veins, arteries, heart make up the circulatory system)</li> <li>• <b>Describe the functions</b> of subsystems (digestive, respiration) and how they interrelate</li> <li>• <b>Understand</b> how environmental conditions and personal decisions can affect parts of the body (e.g. allergies, smoking, food quality)</li> <li>• <b>Identify</b> when a system is not functioning properly (e.g. when an individual cannot see or hear)</li> </ul>

<b>Bench mark</b>	<b>Grade 5</b>	<b>Grade 8</b>	<b>Grade 10</b>
3.4 (Cont.)	See previous page	See previous page	<ul style="list-style-type: none"> <li>• <b>Recognize</b> how adaptations (natural and artificial) can support living things when a system does not function properly (e.g. persons who require wheelchairs, ventilators)</li> <li>• <b>Explain</b> the stages of human aging/maturation (birth, infancy, early childhood, adolescence, adulthood, death)</li> </ul>

Benchmark	Grade 5	Grade 8	Grade 10
<b>Standard 4: Earth and Space Science: Students know and understand the processes and interaction of Earth's systems and the structure and dynamics of Earth and other objects in space.</b>			
1. Interact with the weather			
4.1 Interact with the weather	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> an awareness of changes in weather/temperature</li> <li>• <b>Use</b> simple qualitative labels to indicate weather properties</li> <li>• <b>Identify</b> types of weather</li> <li>• <b>Identify</b> materials/clothing/recreation/transportation appropriate to the weather</li> <li>• <b>Identify</b> seasons</li> <li>• <b>Identify</b> types of weather related to a season</li> <li>• <b>Distinguish</b> between catastrophic events</li> <li>• Make daily <b>qualitative observations</b> about the weather</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> an awareness of changes in weather/temperature</li> <li>• <b>Use</b> simple qualitative labels to indicate weather properties</li> <li>• <b>Identify</b> types of weather</li> <li>• <b>Identify</b> materials/clothing/recreation/transportation appropriate to the weather</li> <li>• <b>Indicate</b> an understanding of the seasons</li> <li>• <b>Identify</b> seasons</li> <li>• <b>Identify</b> types of weather related to a season</li> <li>• <b>Distinguish</b> between catastrophic events</li> <li>• Make daily <b>qualitative observations</b> about the weather</li> <li>• <b>Use</b> a simple tool (e.g. thermometer, weather vane, rain gauge) to make quantitative observations about the weather</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Demonstrate</b> an awareness of changes in weather/temperature</li> <li>• <b>Identify</b> types of weather</li> <li>• <b>Use</b> simple qualitative labels to indicate weather properties (e.g. hot, cold, wet)</li> <li>• <b>Identify</b> materials/clothing/recreation/transportation appropriate to the weather</li> <li>• <b>Indicate</b> an understanding of the seasons</li> <li>• <b>Label</b> seasons</li> <li>• <b>Identify</b> types of weather related to a season</li> <li>• <b>Identify</b> features and weather patterns associated with catastrophic events (e.g. blizzard, tornado, flood)</li> <li>• <b>Distinguish</b> between catastrophic events (e.g. tornado vs. hurricane, erosion vs. flood)</li> <li>• Make daily <b>qualitative observations</b> about the weather (e.g. clouds, temperature, wind, snow)</li> <li>• <b>Graph</b> qualitative observations about weather</li> <li>• <b>Using</b> a simple tool (e.g. thermometer, weather vane, rain gauge) to make quantitative observations about the weather</li> <li>• <b>Graph</b> quantitative information about weather</li> </ul>

<b>Bench mark</b>	<b>Grade 5</b>	<b>Grade 8</b>	<b>Grade 10</b>
4.1 (Cont.)	See previous page	See previous page	<ul style="list-style-type: none"> <li>• Use resources and information to predict subsequent day’s weather based on weather patterns</li> </ul>
	2. Recognize Earths features		
4.2 Recognize Earth’s features	<ul style="list-style-type: none"> <li>• Use <b>appropriate qualitative labels</b> to describe properties of earth’s materials (wet, hard, rough, dry, smooth)</li> <li>• <b>Distinguish between</b> earth materials (soil, water, sand, rock)</li> <li>• <b>Identify</b> distinctive land forms (water, rivers, lake, beaches, mountains, valleys)</li> <li>• <b>Identify</b> natural events (erosion, floods, blizzards, volcanoes)</li> </ul>	<ul style="list-style-type: none"> <li>• Use <b>appropriate qualitative labels</b> to describe properties of earth’s materials (wet, hard, rough, dry, smooth)</li> <li>• <b>Distinguish between</b> earth materials (soil, water, sand, rock)</li> <li>• <b>Identify</b> distinctive land forms (water, rivers, lake, beaches, mountains, valleys)</li> <li>• <b>Recognize</b> differences in land forms and different surfaces (mountains, valleys, rivers)</li> <li>• <b>Match earths materials</b> to land forms (e.g. sand to beaches, rocks to mountains, water to lakes and rivers)</li> <li>• <b>Identify</b> natural events (erosion, floods, blizzards, volcanoes)</li> </ul>	<ul style="list-style-type: none"> <li>• Use <b>appropriate qualitative labels</b> to describe properties of earth’s materials (wet, hard, rough, dry, smooth)</li> <li>• <b>Distinguish between</b> earth materials (soil, water, sand, rock)</li> <li>• <b>Identify</b> distinctive land forms (water, rivers, lake, beaches, mountains, valleys)</li> <li>• <b>Recognize</b> differences in land forms and different surfaces (mountains, valleys, rivers)</li> <li>• <b>Recognize</b> differences in rocks (e.g. color, texture, composition)</li> <li>• <b>Match earths materials</b> to land forms (e.g. sand to beaches, rocks to mountains, water to lakes and rivers)</li> <li>• <b>Identify</b> natural events (erosion, floods, blizzards, volcanoes)</li> <li>• <b>Recognize</b> that the surface of the Earth changes by differences processes and/or natural events</li> <li>• <b>Recognize</b> that fossils provide evidence of Earth’s history</li> </ul>



Bench mark	Grade 5	Grade 8	Grade 10
4.3 Identify fundamental properties and uses of water	3. Identify fundamental properties and uses of water		
	<ul style="list-style-type: none"> <li>• <b>Identify</b> sources of water (e.g. water fountain, toilet, sink)</li> <li>• <b>Identify</b> the uses of water (e.g. bathing, drinking, cooking, toilet flushing, washing clothes, growing plants, recreation)</li> <li>• <b>Identify</b> natural sources of water (e.g. ground water, rivers, lakes, springs, oceans)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify</b> sources of water (e.g. water fountain, toilet, sink)</li> <li>• <b>Identify</b> the uses of water (e.g. bathing, drinking, cooking, toilet flushing, washing clothes, growing plants, recreation)</li> <li>• <b>Associate</b> snow, ice, hail, etc. with water</li> <li>• <b>Identify</b> natural sources of water (e.g. ground water, rivers, lakes, springs, oceans)</li> <li>• <b>Recognize</b> ways to conserve water</li> <li>• <b>Recognize</b> that water flows downward</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify</b> sources of water (e.g. water fountain, toilet, sink)</li> <li>• <b>Identify</b> the uses of water (e.g. bathing, drinking, cooking, toilet flushing, washing clothes, growing plants, recreation)</li> <li>• <b>Associate</b> snow, ice, hail, etc. with water</li> <li>• <b>Recognizes</b> states of water (solid, liquid, gas)</li> <li>• <b>Identify</b> natural sources of water (e.g. ground water, rivers, lakes, springs, oceans)</li> <li>• <b>Recognize</b> ways to conserve water</li> <li>• <b>Recognize</b> that water flows downward</li> <li>• <b>Recognize</b> that water has a cycle (e.g. precipitation, evaporation, condensation)</li> </ul>

Bench mark	Grade 5	Grade 8	Grade 10
4.4 Recognize objects in space and interaction with Earth's systems	<p>4. Recognize objects in space and interaction with Earth's systems</p> <ul style="list-style-type: none"> <li>• <b>Label</b> objects in the sky that can be viewed unaided (e.g. birds, sun, moon, stars, clouds, plane)</li> <li>• <b>Identify</b> sun, moon, stars</li> <li>• <b>Associate</b> sun with daylight and stars with twilight/evening</li> <li>• <b>Identify</b> the moon's appearance using quantitative labels (full moon, half moon, quarter moon)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Label</b> objects in the sky that can be viewed unaided (e.g. birds, sun, moon, stars, clouds, plane)</li> <li>• <b>Identify</b> sun, moon, stars</li> <li>• <b>Associate</b> sun with daylight and stars with twilight/evening</li> <li>• <b>Identify</b> the sun as a source of heat and light</li> <li>• <b>Describe</b> the effects of sun's light and heat on living things (e.g. skin will sunburn, plants will grow)</li> <li>• <b>Recognize</b> that objects in the sky have patterns of movement (e.g. the sun appears to move across the sky)</li> <li>• <b>Identify</b> the moon's appearance using quantitative labels (full moon, half moon, quarter moon)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Label</b> objects in the sky that can be viewed unaided (e.g. birds, sun, moon, stars, clouds, plane)</li> <li>• <b>Identify</b> sun, moon, stars</li> <li>• <b>Associate</b> sun with daylight and stars with twilight/evening</li> <li>• <b>Identify</b> the sun as a source of heat and light</li> <li>• <b>Describe</b> the effects of sun's light and heat on living things (e.g. skin will sunburn, plants will grow)</li> <li>• <b>Recognizes</b> that earth's rotation causes the sun to appear differently throughout the day (e.g. sunrise, high noon, sunset)</li> <li>• <b>Recognize</b> that objects in the sky have patterns of movement (e.g. the sun appears to move across the sky)</li> <li>• <b>Identify</b> the moon's appearance using quantitative labels (full moon, half moon, quarter moon)</li> <li>• <b>Distinguish</b> between fiction and fact regarding space exploration (e.g. Star-Wars vs. factual space exploration)</li> <li>• <b>Recognize</b> how aerospace design impacts space travel (e.g. where you can go on an airplane vs. where you can go on a space shuttle)</li> <li>• <b>Identify</b> ways in which basic needs can be met in space (e.g. air, water, heat)</li> </ul>

Benchmark	Grade 5	Grade 8	Grade 10
<b>Standard 5: Students know and understand interrelationships among science, technology, and human activity and how they can affect the world.</b>			
1. Understand the impact of science and technology			
5.1 Understand the impact of science and technology	<ul style="list-style-type: none"> <li>• <b>Discriminate</b> between human and natural made objects</li> <li>• <b>Recognize</b> examples of practical technology (e.g. computers, printers, telephone, electronic games, electric wheelchairs)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Discriminate</b> between human and natural made objects</li> <li>• <b>Understand</b> that technology is human made</li> <li>• <b>Recognize</b> examples of practical technology (e.g. computers, printers, telephone, electronic games, electric wheelchairs)</li> <li>• <b>Recognize and identify</b> benefits as well as risks of technological advances (e.g. Cars allow people to travel from one place to another. However, the exhaust from a car causes air pollution.)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Discriminate</b> between human and natural made objects</li> <li>• <b>Understand</b> that technology is human made</li> <li>• <b>Recognize</b> examples of practical technology (e.g. computers, printers, telephone, electronic games, electric wheelchairs)</li> <li>• <b>Identify</b> ways that a problem/need can be solved/met through the use of technology</li> <li>• <b>Identify</b> ways in which science and technology are related (e.g. electricity to turn on computer, thermometer to measure temperature)</li> <li>• <b>Recognize</b> science provides knowledge base while technology applies that knowledge (e.g. Parts of the human ear pick up sound waves. Hearing aids were developed to assist people who do not hear well.)</li> <li>• <b>Identify</b> contributions of science and technology to quality of life (e.g. Devices, such as a wheelchairs, have changed over time)</li> <li>• <b>Recognize and identify</b> benefits as well as risks of technological advances (e.g. Cars allow people to travel from one place to another. However, the exhaust from a car causes air pollution.)</li> </ul>

Benchmark	Grade 5	Grade 8	Grade 10
	2. Understand that humans affect their world through technology and science		
5.2 Understand that humans affect their world through technology and science	<ul style="list-style-type: none"> <li>• <b>Identify</b> scientific/technological inventions</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify</b> scientific/technological inventions</li> <li>• <b>Identify</b> careers related to the science/technology fields</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify</b> careers related to the science/technology fields</li> <li>• <b>Describe</b> how different careers affect the world through science and technology (e.g. doctor takes care of body, mechanics fixes cars, meteorologists helps people to prepare for the weather)</li> <li>• <b>Recognize</b> an invention</li> <li>• <b>Identify</b> scientific/technological inventions</li> <li>• <b>Describe</b> and <b>create</b> a technological intervention that would improve personal quality of life</li> <li>• <b>Make</b> and <b>communicate</b> a simple connection among scientific disciplines (e.g., Plants grow in soil that comes from rocks. There are many chemicals that make up the human body.)</li> </ul>
<b>Standard 6: Students understand that science involves a particular way of knowing and understanding common connections among scientific disciplines.</b>			
	1. Understand how to recognize and control variables in an experiment.		
6.1 Understand how to recognize and control variables in an experiment	<b>Content is above grade level</b>	<ul style="list-style-type: none"> <li>• <b>Recognize</b> when conditions are the same or different for a test or task (e.g. one person running barefoot vs. one running with shoes on a track)</li> <li>• <b>Sequence the steps</b> of a simple experiment</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Recognize</b> when conditions are the same or different for a test or task (e.g. one person running barefoot vs. one running with shoes on a track)</li> <li>• <b>Identify</b> what a “fair” test is (e.g. picking up objects with/without thumb mobility, start race at different times, etc.)</li> <li>• <b>Set up</b> a simple experiment (e.g. change just one thing at a time)</li> </ul>

Bench mark	Grade 5	Grade 8	Grade 10
	2. Know what can be answered scientifically.		
6.2 Know what can be answered scientifically	Content is above grade level	<ul style="list-style-type: none"> <li>• <b>Recognize</b> that the human body is made up of different systems that work together (e.g. digestive, circulatory, respiratory, nervous)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Identify</b> what is science and what is not (opinion vs. evidence)</li> <li>• Identify which questions can be answered through an experiment</li> <li>• <b>Describe</b> how the structure of an object is related to its use or function (e.g. fingers can pick up things)</li> <li>• <b>Recognize</b> that the human body is made up of different systems that work together (e.g. digestive, circulatory, respiratory, nervous)</li> </ul>
	3. Use a model to understand scientific phenomena.		
6.3 Use a model to understand scientific phenomena	Content is above grade level	<ul style="list-style-type: none"> <li>• <b>Identify</b> a model</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Understand</b> that a physical object represents a model</li> <li>• <b>Identify</b> a model</li> <li>• <b>Use</b> a simple model to explain scientific principles (e.g. food chains { mouse, cat, fox }, model of heart beating, simple circuit to make light bulb light, stream bed)</li> <li>• <b>Understand</b> that a mathematical equation can represent a model</li> <li>• <b>Understand</b> that a computer graphic can represent a model</li> </ul>

## **Appendix B**

### **Item Presentation Protocol – MA (3 – 10) and SC (10)**

## MA and SC 10

**Colorado Student Assessment Program Alternate (CSAPA)  
Level of Independence Protocol**

<b>4 INDEPENDENT</b>	<b>3 PARTIAL INDEPENDENCE</b>	<b>2 LIMITED INDEPENDENCE</b>	<b>1 NO RESPONSE</b>
<b>Performs task independently</b>	<b>Performs task with partial independence and requires partial physical, verbal or gestural prompt</b>	<b>Performs task with limited independence and requires full physical, verbal or gestural prompt</b>	<b>Mark this only when the student is unresponsive even after Level 2.</b>
<b>Critical Question:</b> Is the student engaged and able to independently complete this task correctly or incorrectly?	<b>Critical Question:</b> Is the addition of information to personalize and/or contextualize the item enough for the student to be engaged and able to complete this task correctly or incorrectly?	<b>Critical Question:</b> Is the student able to replicate the task correctly or incorrectly if they are shown the answer or procedure?	
The student is fully engaged and performs the task independently and does not require assistance, or at most requires refocusing.  The item prompt may be simplified when repeating an item. An unfamiliar term may be replaced with a synonym that is a more familiar term, as long as the change does not interfere with the indicator being assessed. For example, if the item prompt uses the word "chips," as in "This chart shows different counting chips," the teacher might say "This chart shows different counters." Be sure to only replace terms with their synonyms, and do not elaborate or define them.	The student becomes engaged and performs the task with general prompting such as elaborating on context to increase engagement or familiarization.  General prompts provide students general information to help perform the task but do not provide the student with the answer or eliminate item distractors/answer choices. For example, if the item context refers to appropriate clothing in the winter season, the teacher might ask the student what he/she wore on a day that it snowed.  The student becomes engaged and is able to perform the task without being shown/told the answer.	The student performs the task with full, specific physical, verbal or gestural prompts, such as: <ul style="list-style-type: none"> <li>- elaborating upon and/or modeling correct response</li> <li>- providing a forced choice</li> <li>- providing physical guidance</li> <li>- using models or templates (dot to dot word forms, word stamps)</li> </ul> Full physical, verbal or gestural prompts provide the student with the answer.  The student is able to perform the task only after being shown/told what the answer is	
<b>Protocol:</b> Follow the item prompt on the Examiner's Page, using the student's usual mode of expressive communication. ( <i>Expressive communication includes writing, speaking, eye gaze, signing, use of communication devices, pointing to, touching.</i> )  If the student does not respond to the directive, give the directive again. Either: <ul style="list-style-type: none"> <li>- repeat the same item prompt, or</li> <li>- simplify unfamiliar terminology, with synonyms only, in the item prompt using more familiar terms which provide the student the opportunity to demonstrate skill/understanding.</li> </ul>	<b>Protocol:</b> If the student is not engaged after redirecting and simplification in Level 4 (independent), provide the student with additional information to encourage engagement in the task, or ask questions which lead the student to think further about the task.  If the student is unresponsive, prompt the student to make a choice/complete the task; or provide partial physical prompt (guidance at the elbow to begin response but make sure the student makes the choice).	<b>Protocol:</b> If the student is not engaged or is unresponsive after Level 3, direct the student to the correct answer by elaborating upon and/or modeling correct response, such as using a: <ul style="list-style-type: none"> <li>- verbal prompt (tell the student the answer);</li> <li>- gestural prompt (point to the answer); or</li> <li>- physical prompt (hand-over-hand with both student and teacher making the choice).</li> </ul> Note: the student is engaged with this level of support.	
<ul style="list-style-type: none"> <li>➤ <b>Mark Level 4</b></li> <li>➤ <b>Mark Student Response</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Mark Level 3</b></li> <li>➤ <b>Mark Student Response</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Mark Level 2</b></li> <li>➤ <b>Mark Student Response</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Mark Level 1</b></li> <li>➤ <b>Mark "No Response"</b></li> </ul>

## Colorado Student Assessment Program Alternate (CSAPA) Item Presentation Protocol

**START:** Gain student attention.

**LEVEL 4:** Follow the item prompt on the Examiner's Page, using the student's usual mode of expressive communication. (*Expressive communication includes writing, speaking, eye gaze, signing, use of communication devices, pointing to, touching.*) If the student does not respond to the directive, give the directive again either:

- use the same item prompt, or
- simplify unfamiliar terminology used in the item prompt using synonyms which provide the student opportunity to demonstrate skill/understanding.

**Mark:** If the student is able to respond/complete the task (correct or incorrect answer), mark both codes:

- Level of Independence is Level 4, and
- Student Response is marked.

**Go On:** If the student is unable to respond/complete the task, move to Level 3.

**LEVEL 3:** If the student is not engaged after Level 4 redirecting and simplification of terms, provide the student with additional information to encourage engagement in the task, or ask questions which encourage the student to think further about the task. If the student is unresponsive, prompt the student to engage in and respond to the item/complete the task.

**Mark:** If the student responds/completes the task (correct or incorrect answer), mark both codes:

- Level of Independence is Level 3, and
- Student Response is marked.

**Go On:** If the student is unable to respond/complete the task, move to Level 2.

**LEVEL 2:** If the student is not engaged or unresponsive after Level 3, direct the student to the answer by elaborating upon and/or modeling correct response, such as using a:

- verbal prompt (tell the student the answer, provide a forced choice);
- gestural prompt (point to the answer); or
- physical prompt (use hand over hand with both student and teacher making the choice).

**Mark:** If the student is engaged during Full verbal, gestural or physical prompt (Level 2), mark both codes:

- Level of Independence is Level 2, and
- Student Response is marked.

**Go On:** If the student is NOT engaged during Level 2 move to Level 1.

**LEVEL 1:** Mark this only when the student is unresponsive even after Level 2. Mark both codes:

- Level of Independence is Level 1, and
- Student Response is marked as a NO RESPONSE.



**Appendix C**

**CSAPA Level of Independence Rubric – RD and WR (3 – 10) and SC (5 & 8)**

<b>CSAPA Level of Performance Rubric for WR, RD, and SC 5 and 8 - 2007</b>				
<b>Level 5 no assistance provided</b>	<b>Level 4 repeat of cues</b>	<b>Level 3 general prompts</b>	<b>Level 2 specific prompts</b>	<b>Level 1 no response</b>
<p>The student performs the indicator without assistance.</p> <p><b>The student responds correctly</b> to the item when presented as it is written in the protocol with the necessary materials for the student to access the activity.</p>	<p>The student performs the indicator with a repetition of cues or refocusing.</p> <p><b>If student did not respond independently or responded Incorrectly</b> to initial presentation of items when given adequate wait time, the <b>teacher repeats the cues as written in the protocol and/or refocuses the attention of the student.</b></p>	<p>The student performs the indicator with general prompts.</p> <p><b>If student did not respond or responded Incorrectly</b> to additional cues when given adequate wait time, <b>the teacher provides additional information or prompts about the expected response from the student, such as:</b></p> <ul style="list-style-type: none"> <li>• Elaborating or providing additional clarifying information on directions or expected response, or</li> <li>• Demonstrating a like response, such as "This is a picture of a dog. Show me the picture of the cat."</li> </ul>	<p>The student performs the indicator with specific prompts.</p> <p><b>If the student did not respond or responded incorrectly</b> to general prompts when given adequate wait time, <b>the teacher provides specific prompts to direct student's correct response, such as:</b></p> <ul style="list-style-type: none"> <li>• providing specific directions,</li> <li>• asking specific yes/no questions,</li> <li>• modeling exact response,</li> <li>• providing a forced choice,</li> <li>• providing physical guidance, or</li> <li>• using models or templates for writing such as name or word stamps, dot-to-dot word forms etc.</li> </ul>	<p>The student does not perform the indicator with any level of instructional support.</p> <p><b>The student does not respond</b> with specific prompts or refuses participation.</p> <ul style="list-style-type: none"> <li>• There is no evidence that the student attempts to engage in the activity even when hand-over-hand guidance is provided.</li> <li>• The student does not complete enough of the item to score the related indicator.</li> </ul>