New York State
Alternate Assessment (NYSAA)

Technical Manual 2006-07

Technical Report Submitted to:

NEW YORK STATE EDUCATION DEPARTMENT
OFFICE OF STANDARDS, ASSESSMENT, AND REPORTING

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Chapter 1: Introduction and Overview

1.1 Purpose of Assessment

The Individuals with Disabilities Education Act (IDEA 1997) requires that students with disabilities be included in each state's system of accountability, and that students with disabilities have access to the general curriculum. The Federal Reauthorization of the Elementary and Secondary Education Act, known as the No Child Left Behind Act (NCLB), also speaks to the inclusion of all children in a state's accountability system by requiring states to report student achievement for all students as well as for groups of students on a disaggregated basis. These federal laws reflect an ongoing concern about equity: All students should be academically challenged and taught to high standards. It is also necessary that all students be involved in the educational accountability system.

IDEA and NCLB clearly outline that all students, regardless of disability, participate in a statewide assessment system and be held accountable to the state standards. The New York State Alternate Assessment (NYSAA) was developed to meet the requirements of the federal mandates in NCLB and IDEA to provide a technically sound method to observe and record student achievement, to represent the breadth and depth of statewide content, to promote access to the general curriculum, to provide critical information for Committees on Special Education (CSE) to use when writing individualized education programs (IEPs), and to meet criteria for alignment, access, burden, bias, sensitivity, and age appropriateness for student with severe cognitive disabilities. In response to a 2005-2006 review of the New York State Testing Program by the United States Department of Education, NYSAA was restructured; effective 2006-2007 (see Appendix A).

NYSAA measures the achievement of students with severe cognitive disabilities relative to the New York State learning standards, at alternate achievement levels using a datafolio approach (as described in the next section). To assure that this population of students has access to the general education curriculum, the State Education Department (The Department) aligned alternate grade level indicators (AGLIs—discussed in the following section) with the core curriculum in English language arts (ELA), mathematics, science, and social studies for the administration of NYSAA. The content area matter assessed by NYSAA is clearly linked to grade level content. Though the content is reduced in scope and complexity, students with severe cognitive disabilities are held to the high expectations of the New York State learning standards.

NYSAA is in part designed to raise expectations for students' academic achievement. Experience has shown that students with severe cognitive disabilities, when given appropriate instruction and access to the general education curriculum, demonstrate unanticipated progress in their knowledge, skills, and understanding in academic content areas. Access to the general education curriculum was not necessarily part of the instructional program of these students previously. In a recent survey of Lead Special Education Teachers (LSETs), 62.3% agreed that the AGLIs assessed within NYSAA made the grade level core curriculums more accessible and that they would be utilized in planning daily instruction (see Appendix B). The process for assessing the academic achievement of students with severe cognitive disabilities eligible for NYSAA is outlined through structured guidelines and steps in the administration manual (accessible at http://www.emsc.nysed.gov/osa/nysaa/sam.htm). The process for datafolio development (see Chapter 2) maintains the procedural validity for assessing students with severe

cognitive disabilities, while being flexible enough to meet each individual student's learning needs and modalities.

1.2 Test Use and Decisions Based on Assessment

New York State conducts a statewide testing program on an annual basis for all students in grades 3 through 8 and high school. NYSAA ensures that students with severe cognitive disabilities are included in the State Assessment Program and that their results are included in all Adequate Yearly Progress (AYP) determinations.

Assessment based on AGLIs is accomplished via datafolios. A datafolio is a collection of evidence of an individual student's academic performance, compiled by that student's instructional team, and scored by qualified scorers. By gathering these data, LSETs can provide parents/families/guardians, educators, the CSE, and the instructional team with an understanding of the student's knowledge, skills, and understanding as they relate to the New York State learning standards. The CSE can use the datafolio to understand the student's achievement relative to the learning standards and inform development of the student's IEP. Datafolios are scored during a standardized scoring period each spring. NYSAA student reports are generally available in the fall following the administration.

Performance levels, based on alternate academic achievement standards, were developed through a rigorous standard setting process in summer 2007. Alternate Performance Level Descriptors (APLDs) that describe the knowledge, skills, and understanding that a student may demonstrate within each grade and content area, were drafted based on stakeholder input and edited and refined by panelists during the standard setting process. (The APLDs are provided in Appendix C.) APLDs along with the

datafolios themselves provide information to parents/families/guardians and the CSE on modifications or adjustments that may need to be made to the student's instructional program.

1.3 Target Population

The target population for NYSAA is extremely specific, and participation is limited to students with severe cognitive disabilities. The eligibility and participation criteria provide a definition for a student with a severe disability following section 100.1 of the Regulations of the Commissioner of Education. This information is provided on The Department's website for reference and is also included in the NYSAA Administration Manual developed each year.

"Students with severe disabilities" refers to students who have limited cognitive abilities combined with behavioral and/or physical limitations and who require highly specialized education and/or social, psychological, and medical services in order to maximize their full potential for useful and meaningful participation in society and for self-fulfillment. Students with severe disabilities may experience severe speech, language, and/or perceptual-cognitive impairments and challenging behaviors that interfere with learning and socialization opportunities. These students may also have extremely fragile physiological conditions and may require personal care, physical/verbal supports, and assistive technology devices.

The process of determining eligibility begins with the CSE. The CSE determines on an individual basis whether the student will participate in:

- the State's general assessment with or without accommodations;
- the State's alternate assessment with or without accommodations; or

- a combination of the State's general assessment for some content areas and the State's alternate assessment for other content areas.

The CSE ensures that decisions regarding participation in the State testing program are *not* based on:

- category of disability,
- language differences,
- excessive or extended absences, or
- cultural or environmental factors.

The CSE also ensures that each student has a personalized system of communication that addresses his or her needs regarding disability, culture, and native language so the student can demonstrate his or her present level of performance.

Tests and other assessment procedures are conducted according to the requirements of section 200.4(b)(6) of the Regulations of the Commissioner of Education and section 300.320(a)(6) of the Code of Federal Regulations.

Only students with severe cognitive disabilities are eligible for NYSAA. The CSE determines whether or not a student with a severe cognitive disability is eligible to take NYSAA based on the following criteria:

- the student has a severe cognitive disability and significant deficits in communication/language and significant deficits in adaptive behavior; **and**
- the student requires a highly specialized educational program that facilitates the acquisition, application, and transfer of skills across natural environments (home, school, community, and/or workplace); **and**

- the student requires educational support systems, such as assistive technology, personal care services, health/medical services, or behavioral intervention.

While the New York State testing program provides full access to all students, in grades 3–8 and high school, one percent (1%) of students with severe cognitive disabilities is counted as proficient for purposes of accountability.

In accordance with 34 CFR 200.13 Adequate Yearly Progress in General, there is a 1% cap applied to the number of proficient and advanced scores based on the alternate assessment that may be included in AYP calculations at both the state and district levels.

1.4 Test Accommodations

The CSE can determine that a student will participate in the Alternate Assessment with accommodations. Guidelines are provided within the NYSAA Administration Manual as follows.

The CSE determines which test accommodations are required based on the student's documented needs. Test accommodations:

- are consistent with the student's IEP;
- are designed to allow the student to demonstrate his or her knowledge, skills, and understanding with greater independence;
- do not change the level of the assessment, the construct of the assessment, or the criteria of the assessment task; and
- are provided to the student during instruction and not just for assessment.

For more information on test accommodations, refer to *Test Access and Accommodations for Students with Disabilities: Policy and Tools to Guide Decision-*

Making and Implementation (May 2006) manual at http://www.vesid.nysed.gov/specialed/publications/policy/testaccess/policyguide.htm. Frequently asked questions about test accommodations and NYSAA can be found at http://www.emsc.nysed.gov/osa/nysaa/home.shtml.

Chapter 2: Test Design and Development

2.1 Framework of Test Program

The New York State (NYS) learning standards provide the framework for all NYS testing programs. The grade level core curriculums expand the priorities of the NYS learning standards into grade level expectations. Each testing program has a test blueprint that outlines the priorities to be assessed based on the grade level core curriculums. The redesign in response to USDOE's *2005-2006 review of the New York State Testing Program* (discussed in Chapter 1) required that NYSAA and the general education testing program needed alignment to grade level core curriculums. The general education test blueprints (see Appendix D) were used as the basis for the development of the alternate assessment test blueprints, which in turn would drive the alternate assessment content. There is one alternative assessment blueprint for each of the four content areas assessed (see Appendix E).

In fall 2006, The Department assembled stakeholders to review the core curriculum and general education assessment blueprints for English language arts, mathematics, science, and social studies. These groups were to determine academic content priorities for NYSAA based on the core curriculum, assessment blueprints, and, most importantly, applicability for students with severe cognitive disabilities. The process was designed to ensure alignment with general education grade level content and promote higher expectations for students taking NYSAA.

The stakeholder discussions focused on the actual depth and breadth of the alternate assessment requirements. Throughout, psychometricians from The Department and

Measured Progress provided direction for maintaining a valid and reliable assessment. The resultant work by the stakeholder groups expanded the core curriculum grade level expectations to Alternate Grade Level Indicators (AGLIs) for students with severe cognitive disabilities. The AGLIs now provide an entry point to the grade level content of the core curriculum so that a student's level can be gauged in terms of the core curriculum established for all students by the New York State Board of Regents.

2.2 Test Format

NYSAA is a collection of student work in the form of a datafolio. The NYSAA test blueprints outline for teachers the content to be assessed at each grade and content combination. Two components are required for each grade. Within the required components, two "choice" components give the teacher flexibility to assess the student based on specific academic content that was part of the student's instructional program. This flexibility allows individualization while maintaining the content consistency of the alternate assessment. Consistency is further assured across grade levels and content areas by adherence to strict administration requirements for datafolios.

The following is an example of the required and choice components from the test blueprint for English language arts.

Table 2-1: REQUIRED COMPONENT Two English Language Arts Key Ideas Must be Assessed at Each Grade Level. Required Key Ideas Vary by Grade as Marked by an X in the Chart Below

English Language Arts Key Idea	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
Reading	X	X	X	X	X	X	X
Writing		X		X		X	X
Listening	X		X		X		
Speaking*							
Note: Speaking is not assessed on the general education State assessments.							

Table 2-2: CHOICE COMPONENT For Each Required Key Idea, There are Two Possible Standards From Which to Draw. Allowable Choices of Standard Vary by Grade as Marked by an X in the Chart Below. Choose 1 Standard for Each Key Idea From Standards Marked With an X.

Standards	Key Idea	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
1	Reading			X	X	X	X	X
2	Reading	X	X	X	X	X		
3	Reading						X	X
4	Reading	X	X					
1	Writing		X		X		X	X
2	Writing		X		X			
3	Writing						X	X
4	Writing							
1	Listening			X		X		
2	Listening	X		X		X		
3	Listening							
4	Listening	X						

A datafolio is the resulting body of evidence across required and choice components of a student's academic performance, as compiled by the student's instructional team, and scored by qualified scorers. Student performance is rated by the student's instructional team according to the student's levels of *accuracy* and *independence* in performing each assessment task. This is done on three separate dates within the administration period. To verify this documentation, each datafolio must include the following: Student work products; Data Collection Sheets; photographs, video tape, and/or audio tape recordings for two of the three dates of documented performance. Teachers complete the required forms and submit all documentation and evidence in a three-ring binder or fastened folder for regional scoring. Detailed information about the content of and procedures for developing the datafolio are presented in the NYSAA Administration Manual. Appendix F provides the required set of documentation forms that must accompany datafolios.

2.3 Alternate Grade Level Indicators (AGLIs) Mapped to NYS Learning Standards and Core Curriculum by Grade

The Alternate Grade Level Indicators (AGLIs) are aligned to the NYS Learning Standards and reflect high expectations for students with severe cognitive disabilities. This alignment is graphically illustrated in Figure 2.1.

Stakeholder meetings were held during summer and early fall of 2006 in order to gather input on aligning grade level expectations with the alternate grade level indicators.

The NYS Board of Regents has approved a set of learning standards to guide instruction and assessment. The learning standards serve as the basis of the core curriculum in English language arts, mathematics, science, and social studies. The curriculum of each content area is divided into components as follows:

- English language arts: key ideas and standards;
- Mathematics: strands and bands;
- Science: standards and key ideas; and
- Social Studies: standards and units.

Each component in a content area lists grade level expectations for student performance. These expectations are called *grade level performance indicators* or *content understandings*.

Grade level expectations are further distilled into essences. Essences are the "big ideas" of the grade level expectations for a grade. Assessment is based on the essences for each component of each content area. AGLIs are aligned to the essences in terms of three different levels of *complexity*.

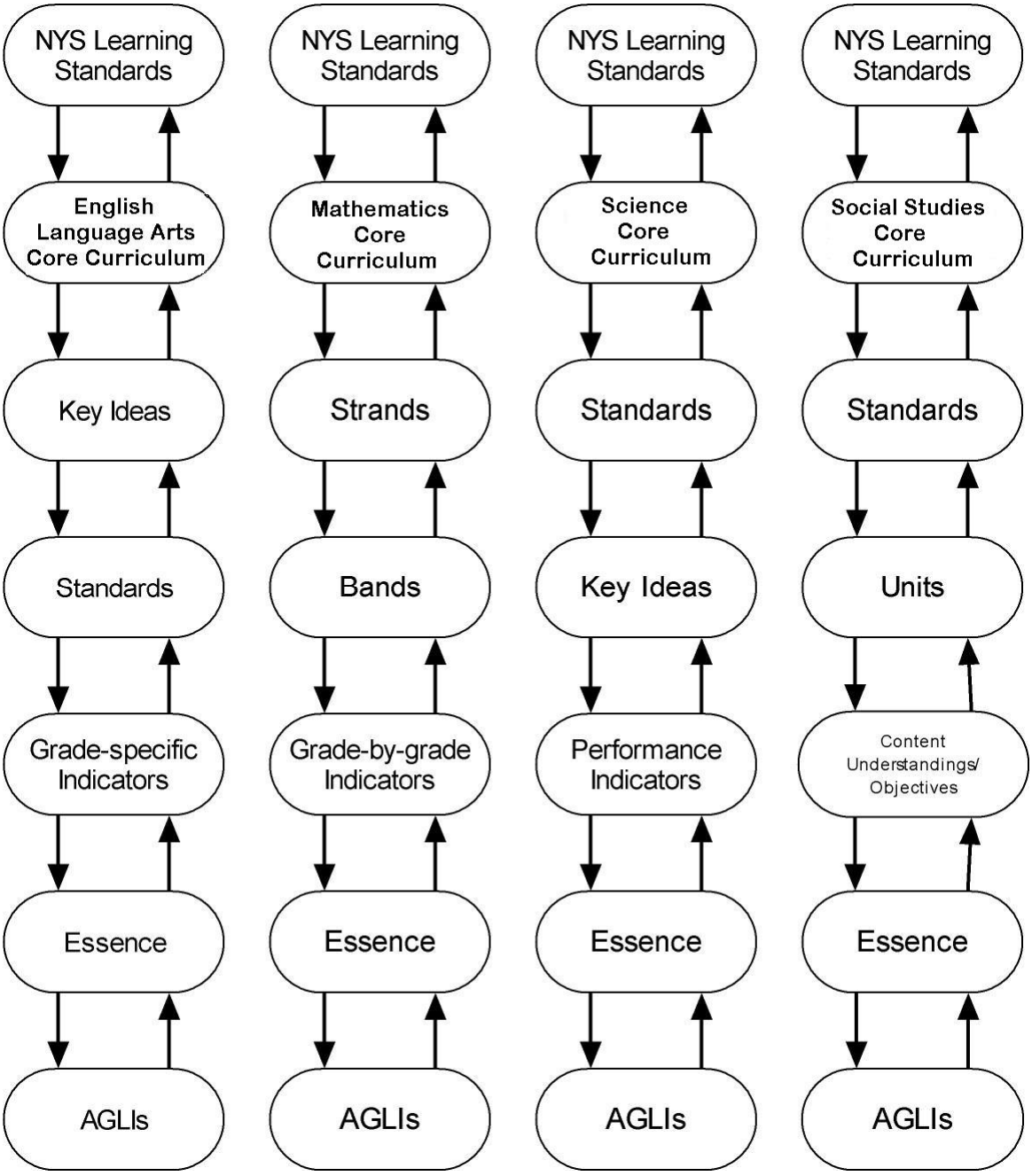

Figure 2-1. Mapping of AGLIs to the NYS Learning Standards

2.4 AGLI Selection Criteria and Process

The stakeholder groups that met in summer and fall 2006 were named the NYSAA Revision Workgroup (NRWG). The list of participating stakeholders is included as Appendix G.

The NRWG process was consistent across each of the four content areas. The purpose of the NRWG group was to reduce in complexity the general education grade level expectations. For each content area, four steps were followed with the specific outcome of determining academic priorities and essences:

Step 1-Review the Core Curriculum for English language arts, mathematics, science, and social studies:

Each participant was provided with a copy of the Core Curriculum specific to a content area and directed to familiarize themselves with the document.

Step 2-Review the assessment blueprint for English language arts, mathematics, science, and social studies:

In order to make data driven decisions, content group participants reviewed the general education assessment blueprints in their area, which included the percentage of test questions for key ideas in English language arts, strands in mathematics, and standards in science and social studies.

Step 3-Prioritize the academic key ideas for English language arts, strands for mathematics, and standards for science and social studies:

Based on the general education assessment blueprints, the content groups identified important standards in English language arts, bands in mathematics, key ideas in science, and units in social studies, and came to consensus on the academic priorities in their content area. These priorities were developed into the NYSAA test blueprints.

Step 4-Under each key idea, strand, and standard identified, review each of the grade level expectations and distill the essence of each grade level expectation:

Using the Core Curriculum for each content area, the groups reviewed the grade level expectations and reduced them in level of complexity based on identifying the most important knowledge, skills, abilities, and emphases.

The recommendations of each content group, along with their justification and reasoning, were presented as an initial proposed matrix to The Department for approval. The specific recommendations for each content area were as follows:

English Language Arts:

- Alignment with 2005 English language arts Core Curriculum key components
    - Considered the development process of the learning standards of the core curriculum
    - Considered the literacy competencies that related to each standard
    - Considered maintaining some overlap of emphasis to support learning across grades
- Alignment of emphasis of English language arts to Science and Social Studies for cross-curricular support to learning
- Determined emphasis on standard 4 (at grades 3 and 4) as an important instructional and assessment skill in order to guide self-expression learning.
- Determined emphasis at the High School level was based on the test blueprint emphasis of reading and writing. For curricular continuation, the standards identified as priority were standards 1 and 3.

Mathematics:

- At the high school level, the selected course will be Integrated Algebra, since this is a precursor to the other high school level courses of Geometry and Algebra 2/Trigonometry.

- In the design of datafolios, evidence collected will be balanced for all grade levels to facilitate administration, data collection, scoring, and reporting. Two content strands per grade level will be assessed, and within each content strand, two bands.
- At grade three, there is an equitable distribution for the four content strands; Measurement is the content area chosen because it is a critical skill to prepare for Science.
- Where there was an equal choice among several bands, the bands were selected based on the greatest potential for making the curriculum materials or content accessible for students with severe cognitive disabilities through the use of manipulatives, assistive technology or modified texts, for example.

Science:

- At the elementary and intermediate levels, the heaviest percentages of test questions outlined in the general assessment blueprints are in standards 1 and 4. As such, these were the first level of priorities chosen.
- At the secondary level, the test blueprints indicated assessments on both the Living Environment curriculum and the Physical Setting/Earth Science curriculum. Within the Living Environment blueprint, the greatest percentage of the assessment is on standard 4, thus this was considered as the first level of priorities chosen. Within the Physical Setting/Earth Science blueprint, the key ideas of 1 and 2 within standard 4 were shown to be the priority for the general assessment, as such the group felt these were priorities for the alternate assessment.
- Within these standards, the key ideas were chosen based on input regarding general education instruction and on having the greatest potential for making the curriculum

materials or content accessible for students with severe cognitive disabilities through the use of manipulatives, assistive technology or modified texts, for examples.

- In the design of datafolios, evidence collected will be balanced for all grade levels to facilitate administration, data collection, scoring, and reporting. Two content standards for the elementary and intermediate levels will be assessed. Within each content standard, two key ideas will be assessed. For the secondary levels, standard 4 from the Living Environment and standard 4 from the Physical Setting/Earth Science will be assessed. Within each standard, two key ideas will be assessed.

Social Studies:

- At the elementary and intermediate levels, the standards were chosen by the group based on the test blueprint. First, they ruled out the standards that had extremely low numbers. Then they reviewed the core curriculum and determined the best content congruence for the remaining standards. The third determining factor was the developmental applicability to the classroom for students with severe cognitive disabilities. It was determined that standard 1 (US and NY History) and standard 5 (Civics, Citizenship, and Government) were the two most appropriate standards.
- At the secondary level, the test blueprints indicated assessments on both United States History and Government and Global History and Geography. Within the United States History and Government blueprint, the greatest percentage of the assessment is on standard 1, thus this was considered as the first level of priorities chosen. Within the Global History and Geography blueprint, the percentage of assessment questions was evenly spread. Turning next to a consideration of general education classroom curriculum emphasis and developmental applicability in the classroom for students with severe cognitive disabilities, standard 2 was chosen as the priority.

- Within these standards, the units were chosen based on input regarding general education instruction and on having the greatest potential for making the curriculum materials or content accessible for students with severe cognitive disabilities through the use of manipulatives, assistive technology or modified texts, for example.
- In the design of datafolios, evidence collected will be balanced for all grade levels to facilitate administration, data collection, scoring, and reporting. Two content standards will be assessed, and within each content standard, one unit will be chosen from a choice of two.

2.5 Task Development

As part of the redesign process, assessment tasks were developed for the AGLIs. The stakeholder groups in each content area provided input on assessment tasks aligned to the AGLIs. An assessment task describes an observable student action related to the specific knowledge, skills, and understanding that are aligned to the AGLI and, in turn, to the core curriculum. See the next section for further information on task development; see the 2006-07 NYSAA Administration Manual and Frameworks for information provided to teachers regarding assessment task requirements.

2.6 AGLI and Task Review Process

After the initial determinations of the test blueprint priorities and essences of the grade level expectations by the stakeholder groups, three additional steps were completed by the Curriculum and Assessment Specialists and the Special Education Specialist from Measured Progress working together, with The Department's assessment and curriculum and instruction experts editing and approving the drafted work. The three steps are described below:

Step 5-Document the rationale for determining the standard and band and obtain group feedback on the developed essence points:

The data driven rationales and essence bullet points from each group were consolidated for each content group and reviewed by The Department's assessment and curriculum and instruction experts. The review confirmed the determined outcomes and provided feedback, edits, and suggestions prior to the next step being completed.

Step 6-Develop three Levels of Complexity for the essence bullets:

The *levels of complexity* represent the access points most appropriate for students to access the Core Curriculum. Access points were developed as a continuum based on ideas at low, medium, and high levels of complexity.

Step 7-Develop assessment tasks aligned to the AGLIs:

Assessment tasks were developed for each of the choice components as examples of what teachers could do that would allow a student to demonstrate his or her knowledge, skills, and understanding of the AGLI. Sample Tasks and suggested types of evidence were developed for an AGLI within each of the three complexity levels.

For English language arts and mathematics, an additional stakeholder group session was held to obtain input, suggestions for edits, and further development of both AGLIs and assessment tasks. For science and social studies, electronic drafts were sent to the stakeholders for their feedback. The work completed during the summer and fall of 2006 completely redesigned the original assessment into the NYSAA Frameworks. It is the NYSAA Frameworks that were used for the 2006-2007 administration.

2.7 Alternate Performance Level Descriptors (APLDs)

Standard setting was conducted in June 2007 to establish cut scores for each alternate performance level in English language arts and mathematics grades 3-8 and high school, science grades 4, 8, and high school, and social studies grades 5, 8, and high school. The standard setting process also included panelist reviews of the draft Alternate Performance Level Descriptors (APLDs).

The process of developing the APLDs began in early spring 2007. Measured Progress reviewed the performance level descriptors from the general education testing program and developed an initial draft of the APLDs for The Department's review. The focus during drafting was to remain consistent with the language used in the general education performance level descriptors for each of the four performance levels. The initial drafts were reviewed and refined further by The Department. Next a workgroup consisting of members of the Advisory Committee were brought together to provide further input on the draft APLDs. The focus for this group was to review the draft APLDs and provide global edits and content specific information by reviewing the required and choice components for each grade, then, using grade level expectations, essences, and alternate grade level indicators, developing academic content language for each of the four performance levels for each grade and content specific APLD. The draft APLDs were refined by Measured Progress based on the workgroup input. These APLDs were the ones used by the standard setting groups. The APLDs provided panelists with an idea or picture of the knowledge, skills, and understandings related to the core curriculum that a student at each of the four performance levels might demonstrate to be kept in mind during the standard setting process. A final activity during standard setting was for each

group to provide suggestions for edits to the APLDs. The Department utilized the input to refine the APLDs for reporting. The APLDs are included in the NYSAA reports for districts, schools, parents, and educators to better understand each performance level (see Appendix C).

Chapter 3: Scoring Methods

3.1 Scoring of Operational Tests

The scoring of NYSAA datafolios occurs during the spring following the close of the administration period. Scoring is a decentralized process carried out at regional scoring institutes. The Department provides a scoring window within which the institutes conduct their scoring sessions. The purpose of the scoring institute is to provide a forum in which educators individually score NYSAA student datafolios. Each scoring institute is overseen by a Score Site Coordinator (SSC) and an Alternate Assessment Training Network Specialist (AATN). These individuals are thoroughly trained and participate in a qualifying process conducted by The Department and Measured Progress. They are each given a duplicate set of training materials that are to be used during turn-key training at their own scoring institutes. They are required to follow the model of the training process demonstrated by The Department and Measured Progress.

There are a variety of processes involved in the scoring institute. The basic outline for the review of student datafolios can be simplified as three major steps. Scorers review student datafolios, confirm that the connection to grade level content is satisfied, and confirm the percentages and ratings for accuracy and independence documented by the LSET for each AGLI assessed. Scorers use the *Steps for Scoring 2006-07 NYSAA Datafolios* and the *Decision Rules for Scoring 2006-07 NYSAA Datafolios* as the two main reference sheets while scoring each datafolio (included as Appendices H and I).

A scorer records on a worksheet the AGLI code, connection to grade level content questions, ratings for accuracy and independence, and scorer comments. Part of this

worksheet will be returned to the school district with the datafolio for review by the LSET and administrators.

Once a datafolio has been reviewed completely, the scorer is directed to transcribe the AGLI codes, connection to grade level content questions, ratings, and other information onto a scannable score document. The score document is scanned by the Regional Information Center (RIC) and Big Five City Scan Centers (the city school districts of Buffalo, New York City, Rochester, Syracuse, and Yonkers).

3.2 Scoring Rubric

The Scoring Rubric is the initial guide that drives the scoring model used to score NYSAA datafolios. The Scoring Rubric is provided within the Administration Manual along with guidance on the process that LSETs must follow in order to meet the scoring requirements. The Rubric is broken into two parts. The first part outlines the content and grade level required components. The second part is the rating summary. The rating is based on the connection to grade level content and student performance. The connection to grade level content is explained on the scoring rubric (shown below) as "AGLIs are the expansion of the academic content for students with severe cognitive disabilities. The assessment task must connect to the AGLI AND the verifying evidence must demonstrate the task. If these connections are not clear, the AGLI will not be scored." The performance dimension relies on a rating for level of accuracy and level of independence related to the students demonstration of skills based on the AGLI and assessment task documented. The rubric is presented below:

Table 3-1: 2006-07 NYSAA Scoring Rubric

For each content area at each grade, two AGLIs must be assessed on three dates within the administration period. Charted below are the two Required Components for each grade and content area. (Reference the NYSAA Frameworks in Appendix E.)

Content	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
English Language Arts	• Key Idea Reading • Key Idea Listening	• Key Idea Reading • Key Idea Writing	• Key Idea Reading • Key Idea Listening	• Key Idea Reading • Key Idea Writing	• Key Idea Reading • Key Idea Listening	• Key Idea Reading • Key Idea Writing	• Key Idea Reading • Key Idea Writing
Mathematics	• Strand Number Sense & Operations • Strand Measurement	• Strand Number Sense & Operations • Strand Measurement	• Strand Number Sense & Operations • Strand Geometry	• Strand Number Sense & Operations • Strand Algebra	• Strand Number Sense & Operations • Strand Statistics & Probability	• Strand Geometry • Strand Algebra	• Strand Algebra • Strand Statistics & Probability
Science		• Standard 1 Scientific Inquiry • Standard 4 Living Environment & Physical Setting/ Earth Science				• Standard 1 Scientific Inquiry • Standard 4 Living Environment & Physical Setting/ Earth Science	• Standard 4 Living Environment • Standard 4 Physical Setting/ Earth Science
Social Studies			• Standard 1 US and NYS History • Standard 5 Civics, Citizenship and Government			• Standard 1 US and NYS History • Standard 5 Civics, Citizenship and Government	• Standard 1 US History • Standard 2 Global History

CONNECTION TO GRADE LEVEL CONTENT + PERFORMANCE = RATING

Connection to Grade Level Content = AGLIs are the expansion of the academic content for students with severe cognitive disabilities. The assessment task must connect to the AGLI AND the verifying evidence must demonstrate the task. If these connections are not clear, the AGLI will not be scored.

Performance = Level of Accuracy + Level of Independence

RATING	4	3	2	1	No Score (NS)
Level of Accuracy	The student demonstrates skills based on AGLIs with an average of 80-100% accuracy.	The student demonstrates skills based on AGLIs with an average of 60-79% accuracy.	The student demonstrates skills based on AGLIs with an average of 30-59% accuracy.	The student demonstrates skills based on AGLIs with an average of 0-29% accuracy.	Required evidence of student performance was not submitted OR Scorer was unable to determine a score based on the submitted evidence.
Level of Independence	The student seldom requires cues or prompts when demonstrating skills based on the documented AGLIs. (80-100% Independence)	The student requires limited cues or prompts to demonstrate skills based on the documented AGLIs. (60-79% Independence)	The student requires extensive cues or prompts to demonstrate skills based on the documented AGLIs. (30-59% Independence)	The student requires constant cues or prompts to demonstrate skills based on the documented AGLIs. (0-29% Independence)	Required evidence of student performance was not submitted OR Scorer was unable to determine a score based on the submitted evidence.

3.3 Scoring Process and Reliability Monitoring Review (RMR)

Scoring Process

In the scoring process, scorers, who are all New York State teachers, are directed to objectively review and document the ratings for student performance data contained in the datafolio. It is explained that the data provides an opportunity for students to demonstrate their knowledge, skills, and understanding of the grade level content. Scoring procedures are consistent from one grade level to the next. The same procedures and decision rules apply to all grade levels and content areas, which is critical to the procedural validity of this test.

Scorer training includes a video presentation, a series of practice samples, and final scorer qualification. (These are described in further detail in the next section).

The actual scoring process entails reviewing the datafolio compiled by the LSET. The review is meant to ensure that all requirements are met. The scorer records the rubric rating for each AGLI assessed. If the connection to grade level content is satisfied, it is given a rating of 4, 3, 2, or 1. If the connection to grade level content is not met, a rating of No Score (NS) is recorded. After the scoring institute, the scorer ratings are converted to the alternate assessment performance levels, which appear on student and school reports.

In order for scorers to complete their review of the datafolios, a set of standardized tools is provided at each scoring institute. These tools include the NYSAA Administration Manual and Frameworks, The Department Approved Supplemental Tasks for each content area, AGLI Summary Sheets, scoring procedures, and scoring decision rules. Student performance ratings are documented on a Scorer Worksheet with a Menu

of Comments and a scannable score document. The Menu of Comments on the back of the last page of the Scorer Worksheet includes information that a scorer is to record when an AGLI has a No Score recorded and to provide additional constructive feedback to an LSET about the datafolio.

There are twelve steps involved in the scoring process. The step-by-step procedures outlined in the *Steps for Scoring 2006-07 NYSAA Datafolios* are implemented statewide and ensure scoring reliability across all score sites. Below is a quick review of the steps:

Table 3-2: QUICK REVIEW

Step		Step	
1	Student grade, scorer ID, scoring institute code and demographic sticker	**6c**	If VE is DCS, it contains minimum of three dates
2	Table Contents, P/F/G Survey and Informed Consent	**7a**	Required elements clearly documented on VE
3a	Two DSSs present, one for each Required Component of content area	**7b**	If VE is DCS required supporting evidence is present and valid
3b	Demographic and Components complete on DSS	**8**	Confirm levels of accuracy and independence and corresponding rating
4a	Confirm AGLI code from appropriate grade (if ProFile proceed to Step 5)	**9**	Score 2nd AGLI
4b	Confirm AGLI text documented matches AGLI code	**10**	Complete scorer comments
5a	Task connects to AGLI	**11**	Score remaining content areas
5b	Both pieces of VE connect to task	**12**	Transcribe AGLI codes, questions and ratings to scannable score document
6a	Dates on DSS and confirmed by VE are within administration period January 2–March 9, 2007		
6b	Dates on VE correspond to the last 2 dates on DSS		

The scoring procedures document includes the quick reference table (shown above) at the top of the first page to assist scorers in quickly locating information. The procedures are broken into two major sections, preparing to score and reviewing and scoring a datafolio. Each step asks a question for the scorer to answer or directs the scorer to confirm a certain requirement. The steps are presented in a Yes/No format to assist the scorer in moving from one step to another. If a scorer encounters a No or an issue outside the directions provided in the scoring procedures, they are to consult with their table

leader and refer to the *Decision Rules for Scoring 2006-07 NYSAA Datafolios* document for further guidance.

The scoring decision rules have their own segment in the training video. The decision rules serve as guidance when a scorer encounters an issue that is outside the direction provided in the scoring procedures document. The decision rules are organized by topic beginning with Information Missing or Incomplete, Verifying Evidence, Alternate Grade Level Indicators, Assessment Tasks, and Dates. There are forty-five decision rules that were developed based on actual datafolio issues found during a benchmarking review of datafolios in progress. In the training video, each scoring decision rule is presented by number as found in the decision rules chart, an example is provided highlighting the point of the decision rule, and a description is provided regarding how the rules are to be applied consistently statewide at each scoring institute.

Reliability Monitoring Review (RMR):

The purpose of the Reliability Monitoring Review (RMR) is to ensure scoring consistency and reliability across scoring institutes.

At the end of the scoring institute, twenty percent (20%) of the scored datafolios from each scoring site are randomly collected by the Score Site Coordinator for RMR. Measured Progress conducts a scoring institute where the random 20% of NYSAA datafolios are scored by highly experienced and qualified scorers. RMR scorers complete the same NYSAA training and qualification process that is used statewide.

RMR scores are compared to the original scores from the regional scoring institutes. The original score remains the score of record; the RMR score does not change or affect the original score in any way. The 2006-07 RMR results are presented in Chapter 5.

3.4 Scorer Qualification and Training

A standardized statewide process for scorer training and qualification is observed. Each Board of Cooperative Educational Services and Big Five City School District conducts at least one two-day scoring institute during the scoring period. For 2006-07, the scoring period was April 9–May 11, 2007. The same process, procedures, and decision rules were applied and implemented statewide.

The video presentation portion of the training includes an introductory overview of the New York State Alternate Assessment and the students who typically participate in the alternate assessment. The video then outlines the scoring tools and the step-by-step process for reviewing the datafolios and documenting student scores. The next section outlines in detail each decision rule and procedure if inconsistencies arise while reviewing a datafolio.

After the introduction, scorers practice scoring—first as a group, then in pairs, and finally individually. Each practice is reviewed to ensure that scorers are following the process and decision rules accurately. The final section in the video details the next steps in scorer training steps and explains how student scores are reported.

After the video, scorers participate in an activity that reinforces what they have learned about the scoring procedures and decision rules. Then they are given an opportunity for final questions. Training ends with scorers completing three calibrated qualifiers. The qualifiers are actual student datafolios in a content area. The qualifiers were identified by a group of stakeholders during a benchmarking process. Each scorer must earn a score of eighty percent or higher to become qualified. Scorers who do not qualify on the first sample receive additional training and must complete an additional

qualification sample. If the scorer does not qualify on the second attempt, they are reassigned to another role in the scoring institute.

3.5 Quality Control Process

The quality control process at each scoring institute is handled by the SSC, floor managers (usually AATNs), and table leaders. The SSC is mainly responsible for planning and managing the regional scoring institute(s). Each BOCES or Big Five City School District designates at least one individual to assume the role of SSC. SSC responsibilities include:

- ensuring that the scoring procedures, decision rules, and other scoring related guidelines are implemented consistently per The Department's prescribed model;
- ensuring the security of all datafolios during transit, storage, and scoring;
- gathering NYSAA student registration information from the Regional Information Centers (RIC) and Big City Scan Centers to assist in the planning of the scoring institute;
- planning, coordinating, and conducting the scoring institute for each BOCES and Big Five City School District;
- coordinating the selection of sample datafolios as requested by The Department for evaluation;
- ensuring that scoring documentation is completed and provided to the RIC and Big City Scan Centers; and
- returning datafolios following scoring.

AATNs are designated by each BOCES and Big Five City School District to conduct information sessions and NYSAA training and to assist with scoring. For NYSAA scoring, AATNs

- assist SSCs in the planning of the scoring institute as needed;
- conduct training sessions and facilitate qualification sessions for table leaders and scorers;
- act as floor managers during the scoring process;
- resolve table leader questions using scoring guidelines and resources;
- participate in the Read Behind process; and
- provide feedback to SSCs and The Department about the scoring process, procedures, and documentation.

Table leaders are integral to making sure that the processes and procedures outlined by The Department in the scoring training are followed at each scoring station at each scoring institute. There is one table leader for every five scorers. For NYSAA, scoring table leaders must:

- be experienced scorers familiar with the 2006-07 NYSAA;
- complete scoring training including the qualification process prior to the start of the scoring institute;
- manage scoring at their assigned scoring station;
- resolve scorer questions using scoring guidelines and resources;
- review all corrections and all No Scores (NS) documented by scorers;
- conduct quality control checks of scored datafolios;
- manage the Read Behind process;

- separate copies of the Scorer Worksheet as designated by the SSC;
- return scored datafolios to the appropriate box; and
- provide feedback to the SSC and The Department about scoring process, procedures, and documentation.

The table leaders are responsible for three main quality control checks. Their first responsibility is to resolve scorer questions and confirm No Score ratings. When a scorer questions the connection to grade level content, or has a question about scoring a datafolio which may result in a No Score, it must be reviewed with the table leader. If the issue cannot be readily resolved by the table leader using the scoring procedures and scoring decision rules, it must be brought by the table leader to the floor manager. If the issue cannot be readily resolved by the floor manager, the SSC will make the final decision.

The second responsibility of a table leader is to complete a standardized quality control check. A quality control check is conducted by the table leader once a datafolio has been scored and returned by a scorer. The Scorer Worksheet is cross-checked against the scannable score document. Any corrections made to the ratings by the LSET are double-checked and comments are confirmed as being appropriate.

The third responsibility of a table leader is to participate in the Read Behind process. The Read Behind process occurs throughout the scoring institute. This process ensures the integrity of scoring across scoring stations. Table leaders select the 1st, 3rd, and then every 7th datafolio from each scorer for Read Behind. The scannable score document is pulled and held by the table leader and a red dot is placed on the datafolio. This indicates that it has been selected for Read Behind. The first scorer scores the datafolio, completes

the Scorer Worksheet, and returns the datafolio to the table leader. The table leader turns the Scorer Worksheet over, places it into the front pocket of the datafolio, and then routes the scored datafolio to a second scorer at a different scoring station. The second scorer scores the datafolio, completes the Scorer Worksheet, and returns the datafolio to the original table leader. The table leader compares the two worksheets. If no discrepancy exists, the table leader at the first scoring station fills in his or her Scorer Identification Number and completes the scannable score document. A quality control check is completed, a blue dot is affixed to the datafolio, and the datafolio is returned to the box. The second Scorer Worksheet is destroyed. If a discrepancy between the scores is found, the table leader highlights the discrepant areas and forwards the datafolio to the floor manager for resolution. The floor manager reviews the discrepant areas, enters his or her Scorer Identification Number and completes the scannable score document. The floor manager returns the datafolio to the table leader at the first scoring station. After a datafolio has been through the Read Behind process, the table leader completes a quality control check. The table leader then works with the scorer to review the discrepancy and provide any support that is needed. If the scorer continues to have discrepant scores, the table leader is then directed to consult the floor manager and/or the SSC to discuss additional training or reassignment.

As an additional quality control check to confirm that the scoring institutes are following all of the processes and procedures as prescribed by The Department, a score site observation visit is conducted on a sample of scoring institutes. Each year, The Department designates a set of sites to be monitored during their scoring institutes. The observation visits are conducted by the Regional Lead Trainers (RLTs) assigned to the

particular region. SSCs are notified if they are selected by The Department for observation. Observers cannot participate or assist in any part of the scoring institute. They cannot interact or provide technical assistance during the observation. An observation report and environmental checklist are completed during the visit and submitted to The Department along with a narrative report. A sample observation report and environmental checklist can be found in Appendix J.

Chapter 4: Descriptive Analysis for Operational Test

The percentage of students earning scores at each level of Accuracy and Independence are presented by grade, subject, AGLI, and level of complexity in Tables 4-1a through 4-1g. The percentage of students with scores at levels 3 and 4 for Accuracy and Independence tended to be higher at higher levels of complexity. There were some exceptions at complexity level 3; however, caution should be used with the interpretation of these statistics due to the relatively small number of students at this level of complexity. Furthermore, in general, the percentage of students with scores at levels 3 and 4 were higher for Accuracy than Independence.

Table 4-1a. Percentage of Students at Each Level of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 3.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy					Independence				
					4	3	2	1	NS	4	3	2	1	NS
3	English Language Arts	Reading	1	1391	64.4	17.5	9.2	5.4	3.5	60.6	14.4	10.8	10.7	3.5
			2	536	63.2	22.6	9.5	1.7	3.0	59.6	17.4	12.0	8.0	3.0
			3	86	67.4	18.6	7.0	3.5	3.5	64.0	22.1	5.8	4.7	3.5
			All	2013	64.2	18.9	9.2	4.3	3.4	60.5	15.6	10.9	9.7	3.3
		Listening	1	1059	63.4	14.9	8.3	9.7	3.8	59.1	13.5	8.6	15.0	3.8
			2	803	58.0	20.4	14.4	4.3	3.0	57.5	15.5	16.0	8.1	2.9
			3	151	64.9	18.5	9.9	4.6	2.0	53.0	21.2	15.2	8.6	2.0
			All	2013	61.4	17.3	10.9	7.1	3.3	58.0	14.9	12.1	11.8	3.3
	Mathematics	Number Sense & Operations	1	1568	61.6	16.5	10.5	9.0	2.4	56.6	13.9	10.4	16.7	2.4
			2	306	64.3	20.7	8.5	3.6	3.0	67.5	13.4	10.5	5.6	3.0
			3	146	72.6	19.2	5.5	1.4	1.4	76.7	14.4	3.4	4.1	1.4
			All	2020	62.8	17.3	9.9	7.6	2.4	59.7	13.9	9.9	14.1	2.4
		Measurement	1	1681	60.6	14.7	11.6	10.5	2.6	57.6	13.0	10.7	16.0	2.6
			2	157	60.7	21.9	9.0	6.5	1.9	60.7	21.9	8.4	7.1	1.9
			3	177	62.7	23.2	10.2	2.8	1.1	64.4	20.9	9.0	4.5	1.1
			All	2015	60.8	16.0	11.3	9.5	2.4	58.4	14.4	10.4	14.3	2.4

Table 4-1b. Percentage of Students at Each Level of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 4.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy					Independence				
					4	3	2	1	NS	4	3	2	1	NS
4	English Language Arts	Reading	1	1387	69.7	14.0	9.0	4.8	2.5	62.1	13.1	10.6	11.6	2.5
			2	450	65.0	15.4	13.6	4.0	2.0	56.4	20.5	13.6	7.6	2.0
			3	145	66.9	14.5	13.1	3.5	2.1	66.2	12.4	14.5	4.8	2.1
			All	1983	68.5	14.3	10.3	4.6	2.4	61.1	14.7	11.6	10.2	2.4
		Writing	1	1769	65.7	13.7	10.4	7.7	2.5	56.5	15.6	11.7	13.9	2.4
			2	164	71.3	14.0	10.4	1.8	2.4	56.7	14.6	14.6	11.6	2.4
			3	47	57.5	25.5	10.6	0.0	6.4	51.1	23.4	14.9	4.3	6.4
			All	1980	66.0	14.0	10.4	7.1	2.6	56.3	15.7	12.0	13.5	2.5
	Mathematics	Number Sense & Operations	1	1635	65.5	14.4	8.8	9.1	2.3	60.9	13.5	9.2	14.0	2.4
			2	322	67.7	20.1	6.9	2.8	2.5	70.5	13.8	8.5	4.7	2.5
			3	24	50.0	29.2	16.7	4.2	0.0	62.5	33.3	4.2	0.0	0.0
			All	1982	65.7	15.5	8.6	8.0	2.3	62.5	13.8	9.0	12.3	2.4
		Measurement	1	1645	61.7	15.8	9.9	9.3	3.3	57.9	13.9	10.5	14.3	3.3
			2	199	56.8	23.1	10.1	9.1	1.0	58.3	17.1	14.1	9.6	1.0
			3	136	70.2	16.4	8.2	3.7	1.5	64.2	17.2	11.9	5.2	1.5
			All	1980	61.8	16.6	9.8	8.9	3.0	58.4	14.5	11.0	13.2	3.0
	Science	Scientific Inquiry	1	1175	68.6	14.3	8.4	5.6	3.1	60.8	13.5	9.7	12.9	3.2
			2	685	70.8	16.2	7.2	2.6	3.2	66.5	14.9	10.4	5.0	3.2
			3	114	77.7	19.6	0.9	0.0	1.8	61.6	21.4	9.8	5.4	1.8
			All	1975	69.9	15.3	7.5	4.3	3.1	62.8	14.4	10.0	9.7	3.1
		Living Environment or Physical Setting/Earth Science	1	1560	70.1	12.8	7.7	6.9	2.5	62.7	13.6	8.2	12.9	2.6
			2	262	67.7	16.5	10.8	3.5	1.5	65.8	12.3	13.9	6.2	1.9
			3	151	70.9	13.9	10.6	3.3	1.3	65.6	16.6	8.6	8.0	1.3
			All	1973	69.8	13.4	8.3	6.2	2.3	63.4	13.7	9.0	11.6	2.4

Table 4-1c. Percentage of Students at Each Level of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 5.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy					Independence				
					4	3	2	1	NS	4	3	2	1	NS
5	English Language Arts	Reading	1	1580	66.0	15.5	8.7	6.7	3.2	58.0	14.6	12.3	11.9	3.2
			2	485	71.9	14.7	8.1	3.1	2.3	65.7	13.4	10.7	7.9	2.3
			3	114	62.3	19.3	10.5	1.8	6.1	64.0	14.0	7.0	8.8	6.1
			All	2180	67.1	15.5	8.6	5.6	3.2	60.1	14.3	11.7	10.8	3.2
		Listening	1	1504	69.3	13.3	7.4	6.7	3.3	63.2	12.0	8.7	13.0	3.3
			2	381	67.6	15.6	11.1	4.0	1.9	63.6	11.6	15.6	7.4	1.9
			3	293	61.5	19.9	9.6	3.4	5.5	55.7	20.3	13.4	5.2	5.5
			All	2178	67.9	14.6	8.4	5.8	3.3	62.2	13.0	10.5	10.9	3.3
	Mathematics	Number Sense & Operations	1	1989	66.6	14.4	8.8	7.7	2.5	61.6	11.7	10.3	13.8	2.6
			2	166	65.5	19.4	12.7	1.8	0.6	57.6	18.8	17.6	5.5	0.6
			3	26	53.9	30.8	15.4	0.0	0.0	65.4	15.4	19.2	0.0	0.0
			All	2182	66.3	15.0	9.2	7.2	2.3	61.4	12.3	11.0	13.0	2.4
		Geometry	1	1865	70.1	13.3	7.0	6.6	3.0	64.6	12.3	8.7	11.4	3.0
			2	265	72.0	15.9	7.6	2.7	1.9	72.7	11.0	12.1	2.3	1.9
			3	49	46.9	36.7	4.1	6.1	6.1	59.2	14.3	14.3	6.1	6.1
			All	2179	69.8	14.1	7.0	6.1	2.9	65.5	12.2	9.2	10.2	2.9
	Social Studies	US and NYS History	1	1913	71.0	10.6	7.1	8.4	2.9	62.0	11.7	8.5	14.8	2.9
			2	180	67.8	13.9	10.6	6.7	1.1	60.6	14.4	15.0	8.9	1.1
			3	74	71.2	16.4	5.5	4.1	2.7	58.9	12.3	17.8	8.2	2.7
			All	2171	70.8	11.1	7.4	8.1	2.7	61.8	12.0	9.3	14.2	2.8
		Civics, Citizenship and Government	1	1841	69.0	14.2	7.7	6.3	2.9	62.8	11.7	9.9	12.8	2.9
			2	262	63.2	17.2	12.6	3.5	3.5	60.5	11.5	18.0	6.5	3.5
			3	66	68.2	19.7	6.1	3.0	3.0	68.2	15.2	9.1	4.6	3.0
			All	2170	68.2	14.7	8.2	5.9	3.0	62.7	11.8	10.8	11.7	3.0

Table 4-1d. Percentage of Students at Each Level of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 6.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy					Independence				
					4	3	2	1	NS	4	3	2	1	NS
6	English Language Arts	Reading	1	1557	67.7	13.6	9.3	5.2	4.3	56.6	14.3	11.9	12.9	4.3
			2	325	63.7	17.5	12.9	4.3	1.5	58.2	18.2	15.7	6.5	1.5
			3	368	58.7	27.3	9.6	3.0	1.4	64.2	18.6	10.1	5.5	1.6
			All	2251	65.7	16.4	9.9	4.7	3.4	58.1	15.6	12.2	10.7	3.5
		Writing	1	1766	63.2	16.7	10.7	6.6	2.9	50.8	17.1	13.1	16.1	3.0
			2	194	64.3	19.2	8.8	4.2	3.6	61.1	11.9	13.0	10.4	3.6
			3	290	64.5	23.8	9.0	1.0	1.7	58.6	20.7	12.8	6.2	1.7
			All	2250	63.4	17.8	10.3	5.7	2.8	52.7	17.1	13.0	14.3	2.9
	Mathematics	Number Sense & Operations	1	2062	64.6	15.7	9.7	7.2	2.8	56.8	15.2	11.9	13.4	2.8
			2	106	66.7	23.8	3.8	2.9	2.9	71.4	12.4	10.5	2.9	2.9
			3	84	52.4	26.2	13.1	4.8	3.6	57.1	20.2	14.3	4.8	3.6
			All	2253	64.2	16.4	9.6	6.9	2.9	57.4	15.2	11.9	12.6	2.9
		Algebra	1	1964	61.6	17.1	9.6	9.2	2.5	53.9	13.8	14.0	15.9	2.5
			2	199	65.8	19.6	8.5	3.5	2.5	60.8	17.6	11.1	7.5	3.0
			3	84	62.2	23.2	9.8	2.4	2.4	59.8	28.1	4.9	4.9	2.4
			All	2247	62.0	17.5	9.5	8.5	2.5	54.7	14.6	13.4	14.7	2.6

Table 4-1e. Percentage of Students at Each Level of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 7.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy					Independence				
					4	3	2	1	NS	4	3	2	1	NS
7	English Language Arts	Reading	1	1772	70.3	12.9	8.4	5.0	3.3	56.1	14.8	12.9	13.0	3.3
			2	606	64.8	21.1	9.0	2.5	2.7	53.6	23.2	10.0	10.6	2.7
			3	69	49.3	18.8	18.8	11.6	1.5	62.3	17.4	11.6	7.3	1.5
			All	2447	68.4	15.1	8.9	4.6	3.1	55.6	16.9	12.1	12.2	3.1
		Listening	1	1615	62.3	17.4	9.1	7.7	3.5	58.5	13.4	11.3	13.2	3.6
			2	683	72.3	11.6	8.5	3.8	3.8	58.2	15.4	10.3	12.2	4.0
			3	146	63.9	22.9	8.3	2.1	2.8	60.4	18.1	15.3	2.8	3.5
			All	2444	65.2	16.1	8.9	6.3	3.5	58.5	14.3	11.3	12.3	3.7
	Mathematics	Number Sense & Operations	1	1813	64.3	15.3	7.5	8.9	4.0	51.3	12.6	11.7	20.5	4.0
			2	247	68.7	15.5	8.9	2.4	4.5	72.0	15.5	4.5	3.7	4.5
			3	392	65.4	22.1	7.2	3.3	2.1	67.7	15.6	7.2	7.2	2.3
			All	2452	64.9	16.4	7.6	7.3	3.7	56.0	13.3	10.2	16.7	3.8
		Statistics & Probability	1	1598	72.6	10.6	6.7	6.4	3.7	53.4	12.6	11.8	18.3	3.9
			2	695	62.7	19.9	11.0	3.3	3.0	54.8	20.1	12.6	9.4	3.2
			3	154	71.4	14.3	9.1	2.6	2.6	57.1	22.1	10.4	7.1	3.3
			All	2447	69.7	13.5	8.1	5.3	3.5	54.0	15.3	11.9	15.1	3.7

Table 4-1f. Percentage of Students at Each Level of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 8.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy					Independence				
					4	3	2	1	NS	4	3	2	1	NS
8	English Language Arts	Reading	1	1989	68.4	17.6	8.2	3.8	2.1	58.4	17.0	12.0	10.5	2.1
			2	259	52.1	28.2	16.2	1.5	1.9	54.8	16.6	17.0	9.7	1.9
			3	147	54.4	32.0	9.5	2.0	2.0	60.5	21.8	12.2	3.4	2.0
			All	2396	65.7	19.6	9.1	3.4	2.1	58.1	17.2	12.6	10.0	2.1
		Writing	1	2085	66.4	16.2	10.2	4.8	2.5	56.7	17.5	11.9	11.4	2.5
			2	146	58.2	25.3	8.2	5.5	2.7	51.4	26.0	13.7	6.2	2.7
			3	163	60.5	26.5	7.4	3.1	2.5	58.0	22.8	11.7	4.9	2.5
			All	2394	65.5	17.4	9.9	4.7	2.5	56.5	18.4	12.0	10.7	2.5
	Mathematics	Geometry	1	2114	66.2	17.4	8.4	5.1	3.0	61.3	14.9	9.9	10.8	3.1
			2	184	64.1	20.7	9.2	4.4	1.6	61.4	20.7	8.7	7.6	1.6
			3	98	58.2	25.5	11.2	1.0	4.1	68.4	14.3	6.1	7.1	4.1
			All	2396	65.7	17.9	8.6	4.9	3.0	61.6	15.3	9.6	10.4	3.1
		Algebra	1	1431	64.3	15.5	8.2	9.2	2.8	61.4	12.4	9.9	13.5	2.8
			2	817	60.3	23.5	11.2	3.1	2.0	66.1	16.5	9.1	6.4	2.0
			3	144	62.5	19.4	9.7	2.8	5.6	63.2	19.4	5.6	5.6	6.3
			All	2392	62.9	18.5	9.3	6.7	2.7	63.1	14.2	9.4	10.6	2.7
	Science	Scientific Inquiry	1	1898	66.6	15.9	9.3	5.4	2.8	58.6	14.9	10.5	13.0	2.9
			2	319	65.2	20.4	7.2	2.8	4.4	60.2	18.2	11.9	5.3	4.4
			3	172	70.2	18.7	7.0	2.3	1.8	63.7	18.1	10.5	5.9	1.8
			All	2389	66.6	16.7	8.9	4.8	2.9	59.2	15.6	10.7	11.5	3.0
		Living Environment or Physical Setting/Earth Science	1	1848	67.5	15.3	8.6	5.9	2.7	62.5	13.5	10.5	10.8	2.7
			2	468	56.5	27.2	10.1	3.2	3.0	62.7	19.1	11.6	3.6	3.0
			3	72	65.3	20.8	6.9	1.4	5.6	69.4	16.7	8.3	0.0	5.6
			All	2388	65.3	17.8	8.8	5.3	2.8	62.8	14.7	10.6	9.1	2.8

Table 4-1f. Percentage of Students at Each Level of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 8 (cont'd).

Grade	Subject	AGLI	Level of Complexity	N	Accuracy					Independence				
					4	3	2	1	NS	4	3	2	1	NS
8	Social Studies	US and NYS History	1	2166	65.7	13.8	9.6	7.5	3.3	55.4	13.7	13.2	14.4	3.4
			2	142	46.1	30.5	14.2	5.7	3.6	55.3	19.2	14.2	7.8	3.6
			3	82	67.1	20.7	4.9	2.4	4.9	65.9	11.0	8.5	9.8	4.9
			All	2391	64.6	15.1	9.7	7.2	3.4	55.7	13.9	13.1	13.8	3.5
		Civics, Citizenship and Government	1	1993	74.0	13.3	6.2	3.7	2.8	64.0	11.9	10.7	10.6	2.8
			2	194	62.2	19.7	14.5	3.6	0.0	55.4	19.7	10.9	14.0	0.0
			3	200	52.0	27.0	12.5	5.5	3.0	66.0	18.5	10.0	2.5	3.0
			All	2387	71.2	15.0	7.4	3.9	2.6	63.5	13.1	10.6	10.2	2.6

Table 4-1g. Percentage of Students at Each Level of Accuracy and Independence by Subject, AGLI, and Level of Complexity—High School.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy					Independence				
					4	3	2	1	NS	4	3	2	1	NS
High School	English Language Arts	Reading	1	2303	65.5	17.0	8.1	5.2	4.3	56.0	15.5	11.3	12.9	4.3
			2	1242	58.6	24.6	11.8	2.4	2.6	61.3	17.0	12.5	6.6	2.6
			3	157	68.8	17.8	5.1	3.8	4.5	61.2	11.5	12.7	10.2	4.5
			All	3704	63.3	19.6	9.2	4.2	3.7	58.0	15.8	11.8	10.7	3.8
		Writing	1	2855	64.0	18.5	8.8	5.7	3.0	56.6	15.0	12.7	12.7	3.0
			2	687	58.2	22.7	11.5	4.1	3.5	53.4	24.8	13.0	5.4	3.5
			3	158	69.0	17.7	8.9	2.5	1.9	64.6	15.2	10.8	7.6	1.9
			All	3700	63.2	19.3	9.3	5.3	3.0	56.3	16.8	12.7	11.2	3.0
	Mathematics	Algebra	1	2796	61.7	16.2	9.9	8.1	4.1	57.1	13.2	10.7	15.0	4.1
			2	552	59.3	26.0	7.5	4.9	2.4	66.2	20.0	8.7	2.7	2.4
			3	344	53.9	24.6	10.7	6.5	4.4	62.4	15.4	12.7	5.0	4.4
			All	3695	60.6	18.4	9.6	7.5	3.9	58.9	14.4	10.6	12.2	3.9
		Statistics & Probability	1	2626	67.5	16.2	7.0	6.4	2.9	54.6	14.4	12.4	15.7	2.9
			2	837	60.5	20.8	9.0	5.0	4.7	57.4	18.6	13.1	6.4	4.7
			3	228	64.2	20.8	8.4	2.7	4.0	63.3	17.7	10.2	4.9	4.0
			All	3691	65.7	17.5	7.6	5.9	3.4	55.8	15.6	12.4	12.9	3.4
	Science	Living Environment	1	2925	66.5	16.1	7.6	6.3	3.5	60.5	13.6	9.5	12.8	3.6
			2	614	57.4	22.7	11.6	4.1	4.3	58.5	20.6	12.6	4.1	4.3
			3	153	67.3	20.9	8.5	2.6	0.7	64.7	16.3	16.3	2.0	0.7
			All	3697	65.0	17.4	8.3	5.8	3.6	60.4	14.9	10.3	10.9	3.6
		Physical Setting/Earth Science	1	2781	69.5	12.2	8.5	6.2	3.6	61.1	14.0	10.2	11.1	3.6
			2	637	58.1	24.3	12.4	2.5	2.7	55.7	18.8	17.1	5.7	2.7
			3	278	65.0	23.8	6.5	3.6	1.1	66.8	20.2	6.5	5.4	1.1
			All	3696	67.2	15.1	9.1	5.3	3.3	60.6	15.3	11.1	9.7	3.3
	Social Studies	US History	1	2594	67.3	13.2	8.1	7.9	3.5	60.2	12.8	9.3	14.2	3.5
			2	727	66.8	14.9	8.5	6.8	3.0	65.3	16.1	9.2	6.3	3.0
			3	380	53.7	26.1	15.2	2.9	2.1	61.4	17.8	9.6	8.5	2.7
			All	3702	65.8	14.8	8.9	7.2	3.3	61.3	14.0	9.3	12.1	3.3

Table 4-1g. Percentage of Students at Each Level of Accuracy and Independence by Subject, AGLI, and Level of Complexity—High School (cont'd).

Grade	Subject	AGLI	Level of Complexity	N	Accuracy					Independence				
					4	3	2	1	NS	4	3	2	1	NS
High School	Social Studies	Global History	1	2509	67.8	13.4	6.8	8.4	3.6	59.1	12.6	9.0	15.8	3.6
			2	1113	62.3	15.6	13.2	5.9	3.0	61.8	16.5	11.5	7.2	3.0
			3	75	83.6	5.5	8.2	0.0	2.7	82.2	6.9	5.5	2.7	2.7
			All	3697	66.5	13.9	8.8	7.5	3.4	60.4	13.7	9.7	12.9	3.4

Means and standard deviation of Accuracy and Independence are presented by grade, subject, AGLI, and level of complexity in Tables 4-2a through 4-2g. In general, means did not differ substantially across grades or subjects. Means on Accuracy ranged from 10.2 to 11.7 and means on Independence ranged from 9.7 to 11.4. Means tended to be higher at higher levels of complexity. Furthermore, scores tended to be higher on Accuracy than Independence.

Table 4-2a. Means (and Standard Deviations) of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 3.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
3	English Language Arts	Reading	1	1391	10.99(1.89)	10.45(2.50)
			2	536	11.18(1.42)	10.60(2.30)
			3	86	11.17(1.67)	11.00(1.90)
			All	2014	11.05(1.77)	10.52(2.40)
		Listening	1	1059	10.76(2.18)	10.27(2.70)
			2	803	10.88(1.77)	10.50(2.30)
			3	151	11.14(1.54)	10.38(2.30)
			All	2013	10.84(1.98)	10.37(2.50)
	Mathematics	Number Sense & Operations	1	1568	10.82(2.01)	10.05(2.90)
			2	306	11.11(1.71)	10.84(2.20)
			3	146	11.44(1.30)	11.34(1.60)
			All	2020	10.91(1.93)	10.27(2.80)
		Measurement	1	1681	10.74(2.13)	10.17(2.80)
			2	157	10.88(1.93)	10.89(1.90)
			3	177	11.23(1.31)	11.02(1.80)
			All	2015	10.79(2.06)	10.30(2.70)

Table 4-2b. Means (and Standard Deviations) of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 4.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
4	English Language Arts	Reading	1	1387	11.10(1.84)	10.49(2.60)
			2	450	11.03(1.75)	10.56(2.30)
			3	145	11.06(1.77)	10.83(2.10)
			All	1983	11.08(1.81)	10.54(2.50)
		Writing	1	1769	10.95(1.95)	10.25(2.70)
			2	164	11.32(1.36)	10.35(2.50)
			3	47	11.20(1.29)	10.70(1.90)
			All	1980	10.99(1.90)	10.27(2.60)
	Mathematics	Number Sense & Operations	1	1635	10.90(2.05)	10.38(2.70)
			2	322	11.26(1.50)	11.06(2.00)
			3	24	10.96(1.37)	11.42(1.00)
			All	1982	10.96(1.97)	10.51(2.60)
		Measurement	1	1645	10.76(2.19)	10.21(2.80)
			2	199	10.89(1.83)	10.53(2.40)
			3	136	11.20(1.73)	11.03(1.90)
			All	1980	10.80(2.13)	10.30(2.70)
	Science	Scientific Inquiry	1	1175	11.10(1.79)	10.38(2.70)
			2	685	11.25(1.64)	10.90(2.10)
			3	114	11.68(0.70)	10.80(2.10)
			All	1975	11.18(1.70)	10.59(2.50)
		Living Environment or Physical Setting/Earth Science	1	1560	11.14(1.78)	10.47(2.70)
			2	262	11.20(1.53)	10.84(2.00)
			3	151	11.33(1.36)	11.05(1.80)
			All	1973	11.16(1.72)	10.57(2.50)

Table 4-2c. Means (and Standard Deviations) of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 5.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
5	English Language Arts	Reading	1	1580	11.03(1.80)	10.41(2.50)
			2	485	11.28(1.52)	10.68(2.40)
			3	114	10.88(2.10)	10.75(2.20)
			All	2180	11.08(1.76)	10.49(2.50)
		Listening	1	1504	11.11(1.76)	10.53(2.50)
			2	381	11.16(1.55)	10.77(2.10)
			3	293	11.01(1.76)	10.71(2.00)
			All	2178	11.10(1.72)	10.59(2.40)
	Mathematics	Number Sense & Operations	1	1989	10.97(2.00)	10.36(2.70)
			2	166	11.35(1.09)	10.73(2.00)
			3	26	11.12(1.21)	10.88(1.80)
			All	2182	11.00(1.94)	10.39(2.70)
		Geometry	1	1865	11.10(1.85)	10.59(2.50)
			2	265	11.30(1.46)	11.20(1.60)
			3	49	10.55(2.35)	10.47(2.50)
			All	2179	11.11(1.82)	10.66(2.40)
	Social Studies	US and NYS History	1	1913	11.07(1.93)	10.37(2.70)
			2	180	11.16(1.55)	10.56(2.30)
			3	74	11.18(1.72)	10.48(2.30)
			All	2171	11.08(1.89)	10.39(2.70)
		Civics, Citizenship and Government	1	1841	11.09(1.78)	10.41(2.70)
			2	262	11.00(1.81)	10.63(2.20)
			3	66	11.26(1.55)	10.95(1.80)
			All	2170	11.09(1.78)	10.45(2.60)

Table 4-2d. Means (and Standard Deviations) of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 6.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
6	English Language Arts	Reading	1	1557	11.05(1.86)	10.26(2.70)
			2	325	11.01(1.72)	10.52(2.40)
			3	368	11.06(1.55)	10.90(2.00)
			All	2251	11.05(1.79)	10.40(2.50)
		Writing	1	1766	10.91(1.95)	9.88(2.90)
			2	194	11.13(1.66)	10.51(2.50)
			3	290	11.33(1.24)	10.75(2.00)
			All	2250	10.98(1.85)	10.05(2.80)
	Mathematics	Number Sense & Operations	1	2062	10.90(2.03)	10.21(2.80)
			2	106	11.25(1.45)	11.08(1.90)
			3	84	10.82(1.88)	10.83(1.80)
			All	2253	10.92(2.00)	10.27(2.70)
		Algebra	1	1964	10.81(2.09)	9.99(2.90)
			2	199	11.25(1.41)	10.60(2.40)
			3	84	11.24(1.33)	11.18(1.50)
			All	2247	10.86(2.02)	10.09(2.80)

Table 4-2e. Means (and Standard Deviations) of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 7.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
7	English Language Arts	Reading	1	1772	11.12(1.81)	10.17(2.70)
			2	606	11.14(1.58)	10.36(2.50)
			3	69	10.24(2.45)	10.82(2.20)
			All	2447	11.10(1.79)	10.23(2.70)
		Listening	1	1615	10.91(1.91)	10.33(2.60)
			2	683	11.20(1.68)	10.39(2.60)
			3	146	11.07(1.75)	10.89(1.80)
			All	2444	11.00(1.84)	10.38(2.60)
	Mathematics	Number Sense & Operations	1	1813	10.79(2.23)	9.66(3.20)
			2	247	11.21(1.53)	11.23(1.70)
			3	392	11.13(1.73)	10.83(2.30)
			All	2452	10.89(2.10)	10.00(3.00)
		Statistics & Probability	1	1598	11.11(1.89)	9.75(3.10)
			2	695	11.08(1.66)	10.41(2.40)
			3	154	11.16(1.80)	10.60(2.40)
			All	2447	11.11(1.82)	9.99(2.90)

Table 4-2f. Means (and Standard Deviations) of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 8.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
8	English Language Arts	Reading	1	1989	11.18(1.64)	10.39(2.60)
			2	259	10.94(1.53)	10.53(2.20)
			3	147	10.97(1.69)	10.85(1.90)
			All	2396	11.14(1.64)	10.43(2.50)
		Writing	1	2085	11.05(1.81)	10.30(2.70)
			2	146	10.90(1.86)	10.57(1.90)
			3	163	11.10(1.62)	10.69(2.10)
			All	2394	11.04(1.80)	10.35(2.60)
	Mathematics	Geometry	1	2114	11.06(1.81)	10.46(2.60)
			2	184	11.23(1.35)	10.89(2.10)
			3	98	11.10(1.54)	10.96(2.00)
			All	2396	11.07(1.77)	10.51(2.60)
		Algebra	1	1431	10.84(2.10)	10.31(2.80)
			2	817	11.00(1.75)	10.84(2.20)
			3	144	11.01(1.75)	10.88(2.00)
			All	2392	10.91(1.97)	10.52(2.60)
	Science	Scientific Inquiry	1	1898	11.07(1.78)	10.27(2.70)
			2	319	11.13(1.63)	10.64(2.20)
			3	172	11.33(1.34)	10.84(2.00)
			All	2389	11.10(1.73)	10.36(2.60)
		Living Environment or Physical Setting/Earth Science	1	1848	11.09(1.78)	10.49(2.60)
			2	468	11.07(1.49)	10.94(1.90)
			3	72	11.11(1.71)	11.18(1.70)
			All	2388	11.09(1.73)	10.60(2.50)
	Social Studies	US and NYS History	1	2166	10.94(2.01)	10.08(2.80)
			2	142	10.58(1.95)	10.40(2.40)
			3	82	11.20(1.91)	10.56(2.70)
			All	2391	10.93(2.01)	10.11(2.80)

Table 4-2f. Means (and Standard Deviations) of Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 8 (cont'd).

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
8	Social Studies	Civics, Citizenship and Government	1	1993	11.33(1.52)	10.53(2.50)
			2	194	11.14(1.46)	10.42(2.50)
			3	200	10.79(1.87)	10.95(1.90)
			All	2387	11.27(1.55)	10.56(2.50)

Table 4-2g. Means (and Standard Deviations) of Accuracy and Independence by Subject, AGLI, and Level of Complexity—High School.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
High School	English Language Arts	Reading	1	2303	10.99(1.94)	10.14(2.90)
			2	1242	10.97(1.65)	10.71(2.20)
			3	157	11.06(2.01)	10.45(2.60)
			All	3704	10.99(1.85)	10.34(2.60)
		Writing	1	2855	11.00(1.85)	10.15(2.80)
			2	687	10.80(1.96)	10.59(2.10)
			3	158	11.28(1.30)	10.73(2.20)
			All	3700	10.97(1.85)	10.26(2.70)
	Mathematics	Algebra	1	2796	10.78(2.11)	10.09(2.90)
			2	552	10.93(1.82)	11.01(1.80)
			3	344	10.59(2.21)	10.72(2.20)
			All	3695	10.78(2.08)	10.29(2.70)
		Statistics & Probability	1	2626	11.04(1.89)	9.96(3.00)
			2	837	10.89(1.92)	10.55(2.30)
			3	228	11.15(1.54)	10.98(1.80)
			All	3691	11.01(1.88)	10.16(2.80)
	Science	Living Environment	1	2925	11.02(1.85)	10.32(2.70)
			2	614	10.84(1.85)	10.74(2.00)
			3	153	11.24(1.43)	10.91(1.90)
			All	3697	11.00(1.84)	10.42(2.60)
		Physical Setting/Earth Science	1	2781	11.07(1.85)	10.41(2.70)
			2	637	11.08(1.45)	10.57(2.10)
			3	278	11.25(1.41)	11.11(1.80)
			All	3696	11.08(1.76)	10.49(2.50)
	Social Studies	US History	1	2594	10.96(1.98)	10.30(2.70)
			2	727	11.06(1.77)	10.84(2.10)
			3	380	10.88(1.69)	10.68(2.10)
			All	3702	10.97(1.91)	10.45(2.60)

Table 4-2g. Means (and Standard Deviations) of Accuracy and Independence by Subject, AGLI, and Level of Complexity—High School (cont'd).

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
High School	Social Studies	Global History	1	2509	11.02(1.92)	10.21(2.80)
			2	1113	10.94(1.83)	10.82(2.00)
			3	75	11.60(1.00)	11.38(1.70)
			All	3697	11.00(1.88)	10.42(2.60)

Correlations between composite scores and component scores (i.e., Accuracy and Independence) are presented in Tables 4-3a through 4-3g. These correlations are similar to discrimination statistics, in that one would expect that a student who scores well on one part of an assessment scores well on the whole assessment.

Correlations between composite scores and Accuracy ranged from 0.36 to 0.86. Correlations between composite scores and Independence ranged from 0.33 to 0.88. Inflation in these values could have occurred because the component scores are included in the composite scores. On the other hand, the fact that 85% to 90% of students across grades and subject areas earned scores in the top third of the score scale might have depressed the values. Regardless, the observed correlations are evidence that the components discriminated among low and high performers.

Table 4-3a. Correlations Between Composite Score and Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 3.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
3	English Language Arts	Reading	1	1391	0.69	0.77
			2	536	0.66	0.83
			3	86	0.74	0.84
			All	2014	0.69	0.79
		Listening	1	1059	0.72	0.80
			2	803	0.73	0.81
			3	151	0.57	0.80
			All	2013	0.71	0.80
	Mathematics	Number Sense & Operations	1	1568	0.65	0.81
			2	306	0.72	0.80
			3	146	0.69	0.79
			All	2020	0.66	0.81
		Measurement	1	1681	0.70	0.81
			2	157	0.78	0.78
			3	177	0.71	0.80
			All	2015	0.70	0.81

Table 4-3b. Correlations Between Composite Score and Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 4.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
4	English Language Arts	Reading	1	1387	0.65	0.77
			2	450	0.69	0.84
			3	145	0.78	0.88
			All	1983	0.67	0.79
		Writing	1	1769	0.63	0.76
			2	164	0.65	0.83
			3	47	0.70	0.80
			All	1980	0.63	0.76
	Mathematics	Number Sense & Operations	1	1635	0.64	0.76
			2	322	0.72	0.77
			3	24	0.36	0.33
			All	1982	0.65	0.76
		Measurement	1	1645	0.65	0.79
			2	199	0.71	0.79
			3	136	0.74	0.74
			All	1980	0.66	0.79
	Science	Scientific Inquiry	1	1175	0.65	0.79
			2	685	0.71	0.82
			3	114	0.51	0.76
			All	1975	0.66	0.80
		Living Environment or Physical Setting/Earth Science	1	1560	0.60	0.79
			2	262	0.58	0.81
			3	151	0.63	0.79
			All	1973	0.60	0.79

Table 4-3c. Correlations Between Composite Score and Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 5.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
5	English Language Arts	Reading	1	1580	0.61	0.73
			2	485	0.57	0.73
			3	114	0.75	0.77
			All	2180	0.61	0.73
		Listening	1	1504	0.61	0.75
			2	381	0.61	0.68
			3	293	0.78	0.84
			All	2178	0.63	0.75
	Mathematics	Number Sense & Operations	1	1989	0.64	0.77
			2	166	0.47	0.67
			3	26	0.78	0.85
			All	2182	0.63	0.77
		Geometry	1	1865	0.61	0.78
			2	265	0.71	0.72
			3	49	0.85	0.88
			All	2179	0.62	0.78
	Social Studies	US and NYS History	1	1913	0.64	0.80
			2	180	0.59	0.73
			3	74	0.50	0.75
			All	2171	0.63	0.79
		Civics, Citizenship and Government	1	1841	0.62	0.80
			2	262	0.63	0.75
			3	66	0.62	0.79
			All	2170	0.62	0.80

Table 4-3d. Correlations Between Composite Score and Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 6.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
6	English Language Arts	Reading	1	1557	0.66	0.80
			2	325	0.64	0.78
			3	368	0.63	0.78
			All	2251	0.65	0.80
		Writing	1	1766	0.62	0.76
			2	194	0.59	0.71
			3	290	0.66	0.81
			All	2250	0.62	0.77
	Mathematics	Number Sense & Operations	1	2062	0.67	0.78
			2	106	0.67	0.72
			3	84	0.79	0.87
			All	2253	0.67	0.78
		Algebra	1	1964	0.66	0.79
			2	199	0.48	0.71
			3	84	0.54	0.72
			All	2247	0.65	0.79

Table 4-3e. Correlations Between Composite Score and Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 7.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
7	English Language Arts	Reading	1	1772	0.60	0.77
			2	606	0.58	0.72
			3	69	0.62	0.72
			All	2447	0.60	0.76
		Listening	1	1615	0.65	0.79
			2	683	0.56	0.75
			3	146	0.78	0.77
			All	2444	0.63	0.77
	Mathematics	Number Sense & Operations	1	1813	0.64	0.81
			2	247	0.58	0.69
			3	392	0.61	0.76
			All	2452	0.64	0.81
		Statistics & Probability	1	1598	0.61	0.79
			2	695	0.58	0.77
			3	154	0.56	0.69
			All	2447	0.59	0.79

Table 4-3f. Correlations Between Composite Score and Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 8.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
8	English Language Arts	Reading	1	1989	0.59	0.78
			2	259	0.55	0.71
			3	147	0.61	0.82
			All	2396	0.59	0.78
		Writing	1	2085	0.61	0.80
			2	146	0.57	0.76
			3	163	0.70	0.74
			All	2394	0.61	0.79
	Mathematics	Geometry	1	2114	0.65	0.78
			2	184	0.47	0.69
			3	98	0.80	0.78
			All	2396	0.64	0.78
		Algebra	1	1431	0.60	0.76
			2	817	0.62	0.78
			3	144	0.71	0.77
			All	2392	0.61	0.77
	Science	Scientific Inquiry	1	1898	0.61	0.81
			2	319	0.62	0.71
			3	172	0.54	0.76
			All	2389	0.61	0.80
		Living Environment or Physical Setting/Earth Science	1	1848	0.59	0.79
			2	468	0.70	0.74
			3	72	0.76	0.87
			All	2388	0.60	0.79

Table 4-3f. Correlations Between Composite Score and Accuracy and Independence by Subject, AGLI, and Level of Complexity—Grade 8 (cont'd).

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
8	Social Studies	US and NYS History	1	2166	0.62	0.78
			2	142	0.53	0.67
			3	82	0.86	0.84
			All	2391	0.62	0.77
		Civics, Citizenship and Government	1	1993	0.58	0.76
			2	194	0.54	0.82
			3	200	0.69	0.74
			All	2387	0.58	0.76

Table 4-3g. Correlations Between Composite Score and Accuracy and Independence by Subject, AGLI, and Level of Complexity—High School.

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
High School	English Language Arts	Reading	1	2303	0.63	0.82
			2	1242	0.63	0.75
			3	157	0.69	0.82
			All	3704	0.63	0.80
		Writing	1	2855	0.56	0.75
			2	687	0.68	0.69
			3	158	0.63	0.62
			All	3700	0.58	0.74
	Mathematics	Algebra	1	2796	0.62	0.79
			2	552	0.68	0.78
			3	344	0.72	0.79
			All	3695	0.63	0.79
		Statistics & Probability	1	2626	0.55	0.80
			2	837	0.65	0.76
			3	228	0.60	0.68
			All	3691	0.57	0.79
	Science	Living Environment	1	2925	0.63	0.82
			2	614	0.66	0.76
			3	153	0.58	0.74
			All	3697	0.63	0.81
		Physical Setting/Earth Science	1	2781	0.59	0.79
			2	637	0.63	0.76
			3	278	0.58	0.65
			All	3696	0.59	0.78

Table 4-3g. Correlations Between Composite Score and Accuracy and Independence by Subject, AGLI, and Level of Complexity—High School (cont'd).

Grade	Subject	AGLI	Level of Complexity	N	Accuracy	Independence
High School	Social Studies	US History	1	2594	0.63	0.78
			2	727	0.59	0.72
			3	380	0.64	0.75
			All	3702	0.62	0.77
		Global History	1	2509	0.63	0.82
			2	1113	0.66	0.73
			3	75	0.49	0.88
			All	3697	0.63	0.80

Chapter 5: Test Reliability

5.1 Reliability

For the New York State Alternate Assessment (NYSAA), each student datafolio for a specified subject at a given grade level receives an Accuracy score and an Independence score, and each of these measurements is taken at three time points within the administration period. This results in six subscores that are summed to yield a student's total score, referred to here as a test score. A complete evaluation of an assessment must address the way in which the subscore units that make up the test score function together and complement one another. Any measurement includes some amount of measurement error. No academic assessment can measure student performance with perfect accuracy; some students will receive scores that underestimate their true ability, and other students will receive scores that overestimate their true ability. Assessments containing subscore units that produce consistent scores are considered reliable.

Reliability can be defined as the degree of consistency associated with test scores. In other words, if it were possible to obtain two scores on all students with equivalent test forms, or with repeated administration of the same assessment, then the correlation between the sets of scores would be a measure of reliability. Since only one NYSAA score per student was obtained, the correlation coefficient known as Cronbach's (1951)[1] was used to measure consistency among test parts. Cronbach's α formula is:

$$\alpha \equiv \frac{n}{n-1}\left[1-\frac{\sum_{i=1}^{n}\sigma^2\left(Y_i\right)}{\sigma_x^2}\right]$$

where *i* indexes the different units whose scores sum to give the test score,

[1] Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16(3)*, 297-334

n is the number of these subscore units,

$\sigma^2(Y_i)$ represents subscore variance

σ_x^2 represents the total test score variance.

If the correlation is high (in practice, toward the high end of the typical Cronbach's α range of 0.50 to 0.99), the parts of the test are likely measuring very similar knowledge or skills. Thus, a high Cronbach's α coefficient is evidence that the subscore units complement one another and suggest that the assessment is reliable. Because the NYSAA results in six subscores for each student that sum to their test score, these six subscores are used in Cronbach's α coefficient to assess the reliability of the 2006-07 NYSAA. Table 5-1 presents Cronbach's α coefficient for each content area and grade.

Table 5-1. 2006-07 NYSAA Cronbach's α Reliability Coefficients by Grade and Subject Area.

Grade	Subject	Reliability (α)
3	Mathematics	0.86
	English Language Arts	0.87
4	Mathematics	0.86
	English Language Arts	0.87
	Science	0.85
5	Mathematics	0.83
	English Language Arts	0.85
	Social Studies	0.85
6	Mathematics	0.86
	English Language Arts	0.88
7	Mathematics	0.84
	English Language Arts	0.87
8	Mathematics	0.85
	English Language Arts	0.85
	Science	0.85
	Social Studies	0.84
High School	Mathematics	0.86
	English Language Arts	0.86
	Science	0.85
	Social Studies	0.85

For mathematics, the reliability coefficient ranged from 0.83 to 0.86; for English language arts, 0.85 to 0.88. For the grade 4, 8, and high school science examinations, the values were all 0.85. For the grade 5, 8, and high school social studies examinations, the values were

0.85, 0.84, and 0.85, respectively. Because each subscore ranged from 1 to 4, and there were only 6 subscores summed to obtain the total test score, the estimated reliability coefficients were, as expected, somewhat lower than would be found with the typical assessment instruments that are used with a general assessment, whose reliability coefficients tend to be near 0.90. Considering that the NYSAA instruments are necessarily shorter than those of general assessments, the above reliability coefficients are probably comparable to the typical 0.90 values associated with general assessments.

5.2 Reliability of Performance Level Classifications

All test scores contain measurement error; thus, classifications based on test scores are also subject to measurement error. After the 2006-07 NYSAA performance levels were specified and students were classified into those levels, empirical analyses were conducted to determine the statistical accuracy and consistency of the classifications (i.e., performance levels I through IV).

Accuracy and Consistency

Accuracy refers to the extent to which decisions based on test scores match decisions that would have been made if the scores did not contain any measurement error. Accuracy must be estimated, because errorless test scores do not exist.

Consistency measures the extent to which classification decisions based on test scores match the decisions based on scores from a second, parallel form of the same test. Consistency can be evaluated directly from actual responses to test items if two complete and parallel forms of the test are given to the same group of students. In operational assessment programs, however, such a design is usually impractical. Instead, techniques, such as one due to Livingston and

Lewis (1995)[2], have been developed to estimate both the accuracy and consistency of classification decisions based on a single administration of a test. The Livingston and Lewis technique was used for the 2006-07 NYSAA because it is easily adaptable to examinations of all kinds of formats, including mixed-format tests.

Calculating Accuracy

The accuracy and consistency estimates reported below make use of "true scores" in the classical test theory sense. A true score is the score that would be obtained if a test had no measurement error. Of course, true scores cannot be observed and so must be estimated. In the Livingston and Lewis method, estimated true scores are used to classify students into their "true" achievement level.

For the 2006-07 NYSAA, after various technical adjustments were made (described in Livingston and Lewis, 1995[2]), a 4 x 4 contingency table of accuracy was created for each content area and grade, where cell [i,j] represented the estimated proportion of students whose true score fell into achievement level i (where i = 1 to 4) and observed score into achievement level j (where j = 1 to 4). The sum of the diagonal entries, i.e., the proportion of students whose true and observed achievement levels matched one another, signified overall accuracy.

Calculating Consistency

To estimate consistency, true scores were used to estimate the joint distribution of classifications on two independent, parallel test forms. Following statistical adjustments (per Livingston and Lewis, 1995[2]), a new 4 × 4 contingency table was created for each content area and grade and populated by the proportion of students who would be classified into each combination of achievement levels according to the two (hypothetical) parallel test forms. Cell [i,j] of this table represented the estimated proportion of students whose observed score on the

[2] Livingston, S. A., & C. Lewis (1995). Estimating the consistency and accuracy of classifications based on test scores. *Journal of Educational Measurement*, 32, 179-197.

first form would fall into achievement level i (where i = 1 to 4), and whose observed score on the second form would fall into achievement level j(where j = 1 to 4). The sum of the diagonal entries, i.e., the proportion of students classified by the two forms into exactly the same achievement level, signified overall consistency.

Calculating Kappa

Another way to measure consistency is to use Cohen's (1960)[3] coefficient κ (kappa), which assesses the proportion of consistent classifications after removing the proportion of consistent classifications that would be expected by chance. It is calculated using the following formula:

$$\kappa = \frac{\text{(Observed agreement) - (Chance agreement)}}{\text{1 - (Chance agreement)}} = \frac{\sum_i C_{ii} - \sum_i C_{i.}C_{.i}}{1 - \sum_i C_{i.}C_{.i}},$$

where:

Ci. is the proportion of students whose observed achievement level would be Level i (where i=1 – 4) on the first hypothetical parallel form of the test;
C.i is the proportion of students whose observed achievement level would be Level i (where i=1 – 4) on the second hypothetical parallel form of the test;
Cii is the proportion of students whose observed achievement level would be Level i (where i=1 – 4) on both hypothetical parallel forms of the test.

Because κ is corrected for chance, its values are lower than are other consistency estimates.

Results of Accuracy and Consistency Analyses

The overall accuracy and consistency indices, and kappa as well, may be found in the first table (labeled "a") within each pair of tables corresponding to the grade-contents presented below.

[3] Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20, 37-46.

In some testing situations, the greatest concern may be decisions around level thresholds. For example, if a college gave credit to students who achieved an Advanced Placement test score of 4 or 5, but not to scores of 1, 2, or 3, one might be interested in the accuracy of the dichotomous decision below-4 versus 4-or-above. The second in the pair of grade-content tables (labeled "b") displays accuracy and consistency estimates at each cutpoint as well as false positive and false negative decision rates. (False positives are the proportion of students whose observed scores were above the cut and true scores below the cut. False negatives are the proportion of students whose observed scores were below the cut and true scores above the cut.)

The above indices are derived from Livingston and Lewis' (1995)[2] method of estimating the accuracy and consistency of classifications. It should be noted that Livingston and Lewis discuss two versions of the accuracy and consistency tables. A standard version performs calculations for forms parallel to the form taken. An "adjusted" version adjusts the results of one form to match the observed score distribution obtained in the data. The tables below use the standard version for two reasons: 1) this "unadjusted" version can be considered a smoothing of the data, thereby decreasing the variability of the results; and 2) for results dealing with the consistency of two parallel forms, the unadjusted tables are symmetric, indicating that the two parallel forms have the same statistical properties. This second reason is consistent with the notion of forms that are parallel, i.e., it is more intuitive and interpretable for two parallel forms to have the same statistical distribution as one another.

Table DAC-1a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Mathematics, Grade 3

Accuracy	0.864
Consistency	0.821
Kappa (k)	0.584

Table DAC-1b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Mathematics, Grade 3

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.984	0.007	0.009	0.978
II: III	0.959	0.021	0.020	0.943
III: IV	0.904	0.064	0.032	0.874

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-2a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Mathematics, Grade 4

Accuracy	0.853
Consistency	0.808
Kappa (k)	0.553

Table DAC-2b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Mathematics, Grade 4

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.989	0.005	0.007	0.984
II: III	0.956	0.023	0.021	0.939
III: IV	0.908	0.059	0.033	0.878

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-3a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Mathematics, Grade 5

Accuracy	0.890
Consistency	0.855
Kappa (k)	0.532

Table DAC-3b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Mathematics, Grade 5

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.995	0.002	0.004	0.992
II: III	0.972	0.013	0.015	0.960
III: IV	0.923	0.045	0.032	0.897

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-4a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Mathematics, Grade 6

Accuracy	0.861
Consistency	0.819
Kappa (k)	0.566

Table DAC-4b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Mathematics, Grade 6

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.988	0.005	0.007	0.983
II: III	0.958	0.022	0.020	0.942
III: IV	0.915	0.055	0.031	0.886

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-5a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Mathematics, Grade 7

Accuracy	0.850
Consistency	0.801
Kappa (k)	0.581

Table DAC-5b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Mathematics, Grade 7

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.993	0.002	0.006	0.989
II: III	0.955	0.024	0.021	0.938
III: IV	0.902	0.065	0.033	0.870

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-6a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Mathematics, Grade 8

Accuracy	0.809
Consistency	0.757
Kappa (k)	0.541

Table DAC-6b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Mathematics, Grade 8

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.987	0.005	0.007	0.982
II: III	0.948	0.029	0.023	0.928
III: IV	0.873	0.093	0.034	0.841

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-7a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Mathematics, High School

Accuracy	0.834
Consistency	0.788
Kappa (k)	0.541

Table DAC-7b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Mathematics, High School

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.979	0.010	0.012	0.970
II: III	0.948	0.029	0.023	0.929
III: IV	0.904	0.064	0.032	0.875

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-8a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—English Language Arts, Grade 3

Accuracy	0.814
Consistency	0.761
Kappa (k)	0.547

Table DAC-8b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—English Language Arts, Grade 3

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.994	0.002	0.004	0.991
II: III	0.940	0.033	0.027	0.918
III: IV	0.879	0.085	0.037	0.843

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-9a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—English Language Arts, Grade 4

Accuracy	0.810
Consistency	0.761
Kappa (k)	0.540

Table DAC-9b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—English Language Arts, Grade 4

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.992	0.003	0.005	0.988
II: III	0.931	0.040	0.029	0.907
III: IV	0.882	0.082	0.036	0.848

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-10a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—English Language Arts, Grade 5

Accuracy	0.892
Consistency	0.856
Kappa (k)	0.549

Table DAC-10b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—English Language Arts, Grade 5

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.996	0.001	0.003	0.994
II: III	0.981	0.008	0.011	0.973
III: IV	0.915	0.052	0.033	0.886

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-11a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—English Language Arts, Grade 6

Accuracy	0.868
Consistency	0.828
Kappa (k)	0.540

Table DAC-11b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—English Language Arts, Grade 6

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.987	0.005	0.008	0.982
II: III	0.965	0.017	0.018	0.952
III: IV	0.914	0.053	0.033	0.885

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-12a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—English Language Arts, Grade 7

Accuracy	0.853
Consistency	0.807
Kappa (k)	0.534

Table DAC-12b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—English Language Arts, Grade 7

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.996	0.001	0.003	0.994
II: III	0.960	0.019	0.021	0.945
III: IV	0.896	0.066	0.038	0.862

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-13a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—English Language Arts, Grade 8

Accuracy	0.850
Consistency	0.804
Kappa (k)	0.545

Table DAC-13b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—English Language Arts, Grade 8

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.993	0.002	0.005	0.990
II: III	0.956	0.023	0.021	0.939
III: IV	0.900	0.065	0.036	0.867

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-14a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—English Language Arts, High School

Accuracy	0.876
Consistency	0.834
Kappa (k)	0.569

Table DAC-14b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—English Language Arts, High School

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.997	0.001	0.002	0.996
II: III	0.966	0.016	0.018	0.953
III: IV	0.912	0.054	0.034	0.882

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-15a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Science, Grade 4

Accuracy	0.879
Consistency	0.843
Kappa (k)	0.548

Table DAC-15b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Science, Grade 4

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.991	0.004	0.005	0.988
II: III	0.967	0.017	0.016	0.954
III: IV	0.920	0.050	0.030	0.894

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-16a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Science, Grade 8

Accuracy	0.878
Consistency	0.841
Kappa (k)	0.563

Table DAC-16b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Science, Grade 8

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.991	0.003	0.006	0.988
II: III	0.962	0.020	0.017	0.948
III: IV	0.923	0.050	0.027	0.898

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-17a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Science, High School

Accuracy	0.859
Consistency	0.817
Kappa (k)	0.547

Table DAC-17b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Science, High School

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.992	0.003	0.005	0.988
II: III	0.960	0.021	0.020	0.944
III: IV	0.907	0.060	0.033	0.877

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-18a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Social Studies, Grade 5

Accuracy	0.842
Consistency	0.797
Kappa (k)	0.543

Table DAC-18b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Social Studies, Grade 5

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.993	0.003	0.005	0.989
II: III	0.952	0.025	0.023	0.934
III: IV	0.896	0.070	0.034	0.865

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-19a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Social Studies, Grade 8

Accuracy	0.848
Consistency	0.804
Kappa (k)	0.521

Table DAC-19b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Social Studies, Grade 8

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.988	0.005	0.007	0.983
II: III	0.955	0.023	0.022	0.938
III: IV	0.903	0.063	0.034	0.872

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

Table DAC-20a. 2006–07 NYSAA: Summary of Overall Accuracy and Consistency Indices—Social Studies, High School

Accuracy	0.848
Consistency	0.804
Kappa (k)	0.545

Table DAC-20b. 2006–07 NYSAA: Accuracy and Consistency Indices at Cutpoints—Social Studies, High School

Cutpoint	Accuracy	False Positive	False Negative	Consistency
I: II	0.984	0.007	0.009	0.978
II: III	0.959	0.021	0.020	0.943
III: IV	0.904	0.064	0.032	0.874

I = Not Meeting; II = Partially Meeting; III = Meeting; IV = Meeting with Distinction
False Positive = proportion of students with observed score above cutpoint and true score below cutpoint
False Negative = proportion of students with observed score below cutpoint and true score above cutpoint

5.3 Reliability Monitoring Review Analysis

As explained in Chapter 3, the purpose of the Reliability Monitoring Review (RMR) is to ensure scoring consistency and reliability across scoring institutes. Specifically, at the end of the scoring institute, twenty percent (20%) of the scored datafolios from each scoring site are randomly collected by the Score Site Coordinator for RMR. Measured Progress conducts a scoring institute in New Hampshire where the random 20% of datafolios are independently scored by highly experienced and qualified

scorers, who all have a minimum of a Bachelor's degree as required by The Department. These scorers must complete the same NYSAA training and qualification process used statewide in New York. Their scoring of the student datafolios is entirely independent, in the sense that they are given no information regarding the scores that were assigned in-state.

RMR scores are compared to the original scores from the regional scoring institutes. The original score remains the score of record; the RMR score does not change or affect the original score in any way. However, by comparing the RMR scores with the original scores, we obtain another estimate of the reliability of the datafolio scoring. Because this analysis involves a separate independent rating, this type of reliability estimate is referred to as interrater reliability.

Table 5-2 displays the interrater reliability results at the level of each subject area (i.e., aggregated over grade levels within subject area). The percent exact agreement is the percent of scores that were exactly the same by the original scorer and the RMR scorer. Even the smallest percent agreement reported in the table, 93.85%, is an exceptional achievement for the NYSAA scorers. The "kappa" results are Cohen's kappa[4], a measure of agreement that takes into account the amount of agreement that would be expected by chance. A Cohen's kappa of zero indicates that amount of agreement between the two independent scorings was what you would expect by random chance alone, whereas a Cohen's kappa of 1 indicates perfect agreement. Cohen's kappa was applied to the percent exact values, and the results are reported in Table 5-2. These values indicate very good agreement between the two scorings. The results labeled "percent adjacent or exact" give the percent of scores that were either the same or only differed by one category. As expected from the percent exact results, the percent adjacent results are very high. As expected from the percent agreement and Cohen's kappa results, the correlations between the RMR and the original scores are also very good. Pearson correlations between the performance levels assigned by the two scorers are also shown in the table. Although Intra Class Correlation is recognized as an interrater reliability indices, Measured Progress has used Pearson correlations for RMR interrater reliability

[4] Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20, 37-46.

correlation analysis for the past several years. Measured Progress receives RMR interrater reliability specifications from The Department.

Table 5-2. 2006-07 NYSAA Interrater Reliability Analysis by Subject Area.

Performance Levels by Content Area						
Subject Area	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**	**N**
English Language Arts	0.88	0.01	97.87	94.27	0.86	3086
Mathematics	0.88	0.01	98.18	94.10	0.89	3085
Science	0.87	0.01	98.50	94.30	0.88	1405
Social Studies	0.87	0.01	97.47	93.85	0.84	1382

Table 5-3 displays the interrater reliability results for each grade level and each subject area. The percent exact agreement rates reported here are even higher than those reported in Table 5-2. Similarly, the Cohen's kappa, percent adjacent, and correlation results are quite high.

Table 5-3. 2006-07 NYSAA Interrater Reliability Analysis by Grade Level and Subject Area.

Performance Levels by Subject Area and Grade							
Grade	**Subject Area**	**N**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
3	English Language Arts	406	0.90	0.02	97.55	94.34	0.86
4		404	0.91	0.02	98.79	94.81	0.93
5		401	*	*	99.27	94.02	0.85
6		424	0.88	0.02	96.93	94.57	0.83
7		438	0.84	0.03	96.80	92.47	0.83
8		403	0.91	0.02	97.78	95.79	0.87
High School		610	0.85	0.02	98.05	94.11	0.84
3	Mathematics	405	0.90	0.02	99.01	95.56	0.92
4		405	0.83	0.03	97.54	92.59	0.85
5		401	0.88	0.03	98.01	95.51	0.84
6		425	0.88	0.02	98.83	94.59	0.92
7		438	0.86	0.02	98.17	93.15	0.88
8		405	0.87	0.02	97.28	92.84	0.86
High School		606	0.89	0.02	98.37	94.39	0.91

Table 5-3. 2006-07 NYSAA Interrater Reliability Analysis by Grade Level and Subject Area (cont'd).

Performance Levels by Subject Area and Grade							
Grade	**Subject Area**	**N**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
4	Science	403	0.87	0.03	99.00	95.28	0.91
8		402	0.90	0.02	98.53	95.78	0.89
High School		600	0.84	0.02	98.15	92.66	0.86
5	Social Studies	382	0.88	0.02	97.40	94.25	0.83
8		404	0.85	0.03	96.80	93.32	0.80
High School		596	0.87	0.02	97.97	93.95	0.87
* Missing values for Kappa due to one or more performance levels with insufficient data							

Table 5-4 displays the interrater reliability results for each grade level and each subject area broken down by each of the scoring dimensions: Accuracy and Independence. The percent exact agreement rates reported here are still higher than the results reported in Table 5-3 with most of the values being greater than 99% and all the values exceeding 97%. Similarly, the Cohen's kappa, percent adjacent, and correlation results are quite high. Indeed, many of the percent adjacent results indicated perfect 100% agreement.

Table 5-4. 2006-07 NYSAA Interrater Reliability Analysis by Scoring Dimension, Grade Level and Subject Area.

Raw Scores by Grade, Dimension and Subject Area										
Grade	**Dimension**	**Subject Area**	**N**	**AGLI**	**Date**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
3	Accuracy	English Language Arts	399	1	1	0.97	0.01	99.75	98.75	0.98
3			392		2	0.99	0.01	100.00	99.76	0.99
3			395		3	0.99	0.01	99.99	99.74	0.97
3			401	2	1	0.97	0.01	99.76	98.76	0.98
3			393		2	0.96	0.02	99.48	98.72	0.98
3			390		3	0.96	0.02	99.75	98.98	0.93
3	Independence		399	1	1	0.98	0.01	99.50	98.75	0.98
3			392		2	0.98	0.01	100.00	99.24	0.98
3			395		3	0.98	0.01	99.74	99.24	0.97
3			401	2	1	0.96	0.01	99.26	97.76	0.98
3			393		2	0.96	0.02	99.22	97.96	0.98
3			391		3	0.97	0.02	99.76	98.98	0.97

Table 5-4. 2006-07 NYSAA Interrater Reliability Analysis by Scoring Dimension, Grade Level and Subject Area (cont'd).

Raw Scores by Grade, Dimension and Subject Area										
Grade	**Dimension**	**Subject Area**	**N**	**AGLI**	**Date**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
3	Accuracy	Mathematics	403	1	1	0.99	0.01	99.50	99.50	0.98
3			398		2	0.97	0.01	99.50	99.25	0.98
3			398		3	0.95	0.02	99.24	98.74	0.96
3			401	2	1	0.99	0.01	99.51	99.51	0.99
3			395		2	0.99	0.01	100.00	99.75	0.98
3			395		3	0.96	0.02	99.99	99.24	0.97
3	Independence		403	1	1	0.98	0.01	99.76	99.01	0.99
3			398		2	0.96	0.01	99.49	98.24	0.98
3			399		3	0.98	0.01	99.74	99.24	0.98
3			400	2	1	0.99	0.01	100.00	99.50	0.99
3			394		2	0.99	0.01	100.00	99.75	0.99
3			395		3	0.99	0.01	100.00	99.75	0.98
4	Accuracy	English Language Arts	397	1	1	0.99	0.01	99.76	99.51	0.98
4			391		2	0.98	0.01	99.75	99.49	0.99
4			393		3	0.99	0.01	99.75	99.75	0.97
4			397	2	1	0.99	0.01	100.00	99.50	0.98
4			393		2	0.99	0.01	99.99	99.74	0.98
4			395		3	0.93	0.03	99.49	98.73	0.93
4	Independence		397	1	1	0.96	0.01	99.23	98.23	0.98
4			391		2	0.98	0.01	99.75	99.24	0.98
4			393		3	0.98	0.01	99.49	99.24	0.97
4			397	2	1	0.99	0.01	99.75	99.50	0.98
4			393		2	0.98	0.01	99.74	99.23	0.98
4			394		3	0.97	0.01	99.24	98.99	0.97
4	Accuracy	Mathematics	400	1	1	0.99	0.01	99.75	99.50	0.98
4			393		2	0.96	0.02	99.99	98.98	0.98
4			393		3	0.94	0.03	99.23	98.98	0.96
4			397	2	1	0.97	0.01	99.99	98.49	0.99
4			388		2	0.97	0.02	100.00	99.23	0.98
4			390		3	0.98	0.02	99.75	99.49	0.97
4	Independence		400	1	1	0.98	0.01	99.75	99.00	0.99
4			393		2	0.97	0.02	99.48	98.72	0.98
4			392		3	0.92	0.03	98.99	97.71	0.98
4			397	2	1	0.96	0.01	99.49	97.98	0.99
4			388		2	0.98	0.01	100.02	99.24	0.99
4			390		3	0.95	0.02	99.48	98.20	0.98

Table 5-4. 2006-07 NYSAA Interrater Reliability Analysis by Scoring Dimension, Grade Level and Subject Area (cont'd).

Raw Scores by Grade, Dimension and Subject Area										
Grade	**Dimension**	**Subject Area**	**N**	**AGLI**	**Date**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
4	Accuracy	Science	398	1	1	0.99	0.01	99.75	99.75	0.97
4			384		2	0.97	0.02	99.99	99.21	0.96
4			390		3	0.98	0.02	100.00	99.75	0.96
4			396	2	1	0.97	0.01	99.48	98.73	0.98
4			394		2	0.97	0.02	100.00	99.50	0.97
4			396		3	1.00	0.00	100.00	100.00	0.95
4	Independence		398	1	1	0.98	0.01	99.49	98.99	0.99
4			384		2	0.98	0.01	99.75	99.23	0.99
4			389		3	0.98	0.01	99.74	99.48	0.99
4			396	2	1	0.99	0.01	99.74	99.49	0.99
4			393		2	0.97	0.02	99.73	98.98	0.97
4			396		3	0.96	0.02	99.50	99.00	0.96
5	Accuracy	English Language Arts	396	1	1	0.99	0.01	99.75	99.50	0.98
5			396		2	0.98	0.02	99.76	99.51	0.99
5			392		3	0.93	0.03	99.50	98.98	0.97
5			396	2	1	0.99	0.01	99.75	99.50	0.98
5			390		2	0.99	0.01	100.00	99.75	0.98
5			389		3	0.94	0.03	99.74	98.97	0.93
5	Independence		395	1	1	0.99	0.01	99.74	99.24	0.98
5			396		2	0.99	0.01	99.74	99.49	0.98
5			391		3	0.98	0.01	100.00	99.24	0.97
5			396	2	1	0.98	0.01	100.00	98.99	0.98
5			389		2	0.98	0.01	100.00	99.23	0.98
5			388		3	0.94	0.03	99.49	98.71	0.97
5	Accuracy	Mathematics	393	1	1	0.97	0.01	99.73	98.98	0.98
5			390		2	0.98	0.02	99.74	99.48	0.98
5			391		3	0.94	0.03	99.75	98.98	0.96
5			398	2	1	0.96	0.02	99.49	98.74	0.99
5			391		2	0.94	0.03	99.76	98.99	0.98
5			391		3	0.83	0.07	99.49	98.47	0.97
5	Independence		393	1	1	0.99	0.01	99.99	99.24	0.99
5			390		2	0.99	0.01	99.75	99.49	0.98
5			389		3	1.00	0.00	100.00	100.00	0.98
5			398	2	1	0.97	0.01	99.50	98.50	0.99
5			391		2	1.00	0.00	100.00	100.00	0.99
5			391		3	0.96	0.02	99.76	99.24	0.98

Table 5-4. 2006-07 NYSAA Interrater Reliability Analysis by Scoring Dimension, Grade Level and Subject Area (cont'd).

Raw Scores by Grade, Dimension and Subject Area										
Grade	**Dimension**	**Subject Area**	**N**	**AGLI**	**Date**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
5	Accuracy	Social Studies	376	1	1	0.98	0.01	100.00	99.20	0.98
5			372		2	0.95	0.03	99.73	99.19	0.97
5			374		3	0.94	0.04	99.46	99.19	0.97
5			378	2	1	0.98	0.01	99.74	99.21	0.99
5			374		2	0.94	0.03	99.48	98.94	0.97
5			374		3	0.91	0.04	99.47	98.67	0.95
5	Independence		376	1	1	0.98	0.01	100.00	98.93	0.99
5			372		2	1.00	0.00	100.00	100.00	0.99
5			374		3	0.99	0.01	99.74	99.74	0.99
5			378	2	1	0.98	0.01	99.73	98.94	0.98
5			374		2	0.95	0.02	99.73	97.86	0.98
5			374		3	0.97	0.01	100.00	99.20	0.97
6	Accuracy	English Language Arts	423	1	1	0.99	0.01	99.76	99.52	0.98
6			420		2	0.99	0.01	100.00	99.76	0.99
6			419		3	0.92	0.03	99.53	98.57	0.97
6			409	2	1	0.98	0.01	99.99	99.26	0.98
6			403		2	0.99	0.01	100.00	99.75	0.98
6			404		3	0.98	0.02	99.75	99.50	0.93
6	Independence		423	1	1	0.99	0.01	99.76	99.29	0.98
6			419		2	0.98	0.01	100.00	99.28	0.98
6			419		3	0.97	0.01	99.52	99.04	0.97
6			409	2	1	0.99	0.01	99.99	99.51	0.98
6			403		2	0.99	0.01	100.00	99.75	0.98
6			403		3	0.98	0.01	99.76	99.01	0.97
6	Accuracy	Mathematics	422	1	1	0.99	0.01	99.77	99.77	0.98
6			418		2	0.97	0.01	99.76	99.28	0.98
6			414		3	0.95	0.02	99.99	98.79	0.96
6			414	2	1	0.98	0.01	99.99	99.27	0.99
6			410		2	0.97	0.02	99.99	99.02	0.98
6			412		3	0.95	0.02	99.77	98.79	0.97
6	Independence		422	1	1	0.98	0.01	99.53	99.05	0.99
6			418		2	0.97	0.01	99.53	98.81	0.98
6			414		3	0.99	0.01	100.00	99.76	0.98
6			414	2	1	0.97	0.01	100.00	98.55	0.99
6			410		2	0.97	0.01	100.00	98.78	0.99
6			412		3	0.97	0.01	99.75	99.03	0.98

Table 5-4. 2006-07 NYSAA Interrater Reliability Analysis by Scoring Dimension, Grade Level and Subject Area (cont'd).

Raw Scores by Grade, Dimension and Subject Area										
Grade	**Dimension**	**Subject Area**	**N**	**AGLI**	**Date**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
7	Accuracy	English Language Arts	429	1	1	0.97	0.01	99.54	98.61	0.98
7			425		2	0.97	0.02	100.00	99.29	0.99
7			423		3	0.96	0.02	100.00	99.29	0.97
7			424	2	1	0.93	0.02	99.30	96.94	0.98
7			414		2	1.00	0.00	100.00	100.00	0.98
7			415		3	0.93	0.03	99.75	98.79	0.93
7	Independence		427	1	1	0.98	0.01	99.54	99.07	0.98
7			424		2	0.98	0.01	99.53	99.29	0.98
7			423		3	0.96	0.02	100.00	98.58	0.97
7			424	2	1	0.96	0.01	99.06	97.64	0.98
7			414		2	0.98	0.01	99.52	99.04	0.98
7			415		3	0.96	0.02	99.52	98.80	0.97
7	Accuracy	Mathematics	430	1	1	0.98	0.01	99.76	99.07	0.98
7			422		2	0.97	0.02	100.00	99.05	0.98
7			419		3	0.94	0.03	99.52	98.80	0.96
7			429	2	1	0.97	0.01	100.00	98.84	0.99
7			422		2	0.97	0.01	100.00	99.30	0.98
7			422		3	0.92	0.03	99.53	98.58	0.97
7	Independence		430	1	1	0.97	0.01	99.07	98.14	0.99
7			422		2	0.98	0.01	99.53	99.29	0.98
7			419		3	0.97	0.01	99.77	99.05	0.98
7			429	2	1	0.97	0.01	99.54	98.38	0.99
7			422		2	0.99	0.01	99.77	99.29	0.99
7			422		3	0.98	0.01	100.00	99.29	0.98
8	Accuracy	English Language Arts	398	1	1	0.98	0.01	99.75	99.00	0.98
8			393		2	0.99	0.01	99.74	99.74	0.99
8			395		3	0.99	0.01	100.00	99.75	0.97
8			398	2	1	0.97	0.01	99.50	98.75	0.98
8			390		2	0.95	0.02	99.23	98.72	0.98
8			392		3	0.93	0.03	99.24	98.47	0.93
8	Independence		398	1	1	0.98	0.01	99.25	99.00	0.98
8			393		2	0.99	0.01	99.75	99.50	0.98
8			394		3	0.98	0.01	99.23	99.23	0.97
8			398	2	1	0.98	0.01	99.75	99.00	0.98
8			389		2	0.95	0.02	100.00	97.95	0.98
8			393		3	0.96	0.02	99.22	98.47	0.97

Table 5-4. 2006-07 NYSAA Interrater Reliability Analysis by Scoring Dimension, Grade Level and Subject Area (cont'd).

Raw Scores by Grade, Dimension and Subject Area										
Grade	**Dimension**	**Subject Area**	**N**	**AGLI**	**Date**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
8	Accuracy	Mathematics	394	1	1	0.99	0.01	99.75	99.75	0.98
8			391		2	0.97	0.02	100.00	99.23	0.98
8			392		3	0.96	0.02	99.75	99.23	0.96
8			398	2	1	0.98	0.01	99.75	99.25	0.99
8			392		2	0.99	0.01	100.00	99.75	0.98
8			390		3	0.97	0.02	100.00	99.24	0.97
8	Independence		394	1	1	0.99	0.01	100.00	99.50	0.99
8			390		2	0.98	0.01	99.99	99.22	0.98
8			393		3	0.97	0.02	99.49	99.24	0.98
8			397	2	1	0.99	0.01	100.00	99.50	0.99
8			392		2	0.97	0.01	99.50	98.98	0.99
8			389		3	0.97	0.02	99.50	98.98	0.98
8	Accuracy	Science	396	1	1	0.95	0.02	99.25	97.98	0.97
8			392		2	0.94	0.03	99.52	98.74	0.96
8			392		3	0.92	0.03	99.00	98.48	0.96
8			400	2	1	0.95	0.02	99.75	98.00	0.98
8			395		2	0.94	0.02	99.75	98.48	0.97
8			395		3	0.96	0.02	99.48	99.23	0.95
8	Independence		396	1	1	0.98	0.01	100.00	98.99	0.99
8			392		2	0.97	0.01	100.00	98.72	0.99
8			392		3	0.98	0.01	99.75	99.49	0.99
8			400	2	1	0.98	0.01	99.75	99.00	0.99
8			395		2	0.98	0.01	99.74	99.24	0.97
8			395		3	0.95	0.02	99.74	98.73	0.96
8	Accuracy	Social Studies	398	1	1	0.98	0.01	100.00	99.25	0.98
8			393		2	0.97	0.02	99.99	99.24	0.97
8			391		3	0.96	0.02	99.50	99.24	0.97
8			398	2	1	0.99	0.01	100.00	99.50	0.99
8			394		2	0.90	0.04	100.00	98.22	0.97
8			393		3	0.97	0.02	99.74	99.49	0.95
8	Independence		398	1	1	0.97	0.01	100.00	98.50	0.99
8			392		2	0.97	0.01	99.49	98.72	0.99
8			390		3	0.98	0.01	99.50	99.24	0.99
8			398	2	1	0.97	0.01	99.25	98.50	0.98
8			394		2	0.97	0.01	99.50	98.99	0.98
8			393		3	0.94	0.02	98.98	98.22	0.97

Table 5-4. 2006-07 NYSAA Interrater Reliability Analysis by Scoring Dimension, Grade Level and Subject Area (cont'd).

Raw Scores by Grade, Dimension and Subject Area										
Grade	**Dimension**	**Subject Area**	**N**	**AGLI**	**Date**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
High School	Accuracy	English Language Arts	591	1	1	0.97	0.01	99.66	98.81	0.98
High School			583		2	0.98	0.01	99.83	99.49	0.99
High School			583		3	0.96	0.02	99.82	98.97	0.97
High School			598	2	1	0.98	0.01	99.83	99.00	0.98
High School			591		2	0.97	0.01	99.67	99.16	0.98
High School			595		3	0.92	0.02	98.99	97.98	0.93
High School	Independence		591	1	1	0.97	0.01	99.50	98.65	0.98
High School			583		2	0.97	0.01	99.14	98.63	0.98
High School			583		3	0.96	0.01	99.13	98.45	0.97
High School			598	2	1	0.98	0.01	99.83	99.16	0.98
High School			591		2	0.98	0.01	99.67	99.16	0.98
High School			595		3	0.96	0.01	99.84	98.66	0.97
High School	Accuracy	Mathematics	596	1	1	0.98	0.01	99.84	99.16	0.98
High School			584		2	0.95	0.02	99.48	98.12	0.98
High School			584		3	0.96	0.02	99.82	98.97	0.96
High School			600	2	1	0.96	0.01	99.83	98.50	0.99
High School			594		2	0.94	0.02	99.33	98.48	0.98
High School			595		3	0.97	0.01	99.84	99.50	0.97
High School	Independence		595	1	1	0.98	0.01	99.50	98.99	0.99
High School			583		2	0.97	0.01	99.47	98.62	0.98
High School			583		3	0.94	0.02	99.48	97.94	0.98
High School			600	2	1	0.98	0.01	99.67	98.67	0.99
High School			594		2	0.98	0.01	99.50	98.99	0.99
High School			594		3	0.98	0.01	99.66	99.32	0.98
High School	Accuracy	Science	596	1	1	0.98	0.01	99.85	99.17	0.97
High School			580		2	0.95	0.02	99.47	98.62	0.96
High School			589		3	0.95	0.02	99.84	98.82	0.96
High School			590	2	1	0.97	0.01	100.00	98.82	0.98
High School			576		2	0.97	0.01	99.64	99.12	0.97
High School			580		3	0.93	0.02	99.13	98.45	0.95
High School	Independence		595	1	1	0.99	0.01	99.84	99.33	0.99
High School			580		2	0.98	0.01	99.49	99.15	0.99
High School			588		3	0.98	0.01	99.82	99.31	0.99
High School			590	2	1	0.98	0.01	99.66	98.98	0.99
High School			576		2	0.96	0.01	99.14	98.62	0.97
High School			580		3	0.93	0.02	99.13	97.93	0.96

Table 5-4. 2006-07 NYSAA Interrater Reliability Analysis by Scoring Dimension, Grade Level and Subject Area (cont'd).

Raw Scores by Grade, Dimension and Subject Area										
Grade	**Dimension**	**Subject Area**	**N**	**AGLI**	**Date**	**Kappa**	**Kappa standard error**	**Percent adjacent or exact**	**Percent exact**	**Correlation**
High School	Accuracy	Social Studies	588	1	1	0.97	0.01	99.66	98.81	0.98
High School			573		2	0.94	0.02	99.64	98.25	0.97
High School			578		3	0.97	0.01	99.82	99.31	0.97
High School			586	2	1	0.98	0.01	99.66	99.15	0.99
High School			576		2	0.96	0.02	99.81	98.95	0.97
High School			576		3	0.97	0.02	99.64	99.30	0.95
High School	Independence		588	1	1	0.97	0.01	99.49	98.64	0.99
High School			573		2	0.97	0.01	99.81	98.78	0.99
High School			578		3	0.97	0.01	99.65	98.96	0.99
High School			586	2	1	0.97	0.01	99.65	98.29	0.98
High School			576		2	0.98	0.01	99.65	99.31	0.98
High School			573		3	0.97	0.01	99.30	99.13	0.97

Chapter 6: Validity

6.1 Procedural Validity

In order to ensure consistency of the information given to teachers across New York State, sets of documents and training programs were developed and distributed statewide. New York has a set of Alternate Assessment Training Network Specialists (AATNs) and Score Site Coordinators (SSCs) that turn-key the training provided to them by The Department and Measured Progress.

For the administration of the 2006-2007 NYSAA the materials included the following:

- Administration Manual and Frameworks. Contained all of the background information regarding NYSAA; the guidelines and specific requirements of NYSAA; all of the forms that are required to be used in the datafolio; and the test blueprints, alternate grade level indicators (AGLIs), and assessment tasks for each of the required components for each grade level and content area.
- Training Program PowerPoint slides and handouts. The PowerPoint handout to the trainers contained the actual training script that The Department and Measured Progress used in their presentations. The handout for teachers contained the actual PowerPoint slides and a guided practice activity.
- The Department approved task writing guidelines and supplemental assessment tasks. These were posted to The Department website and sent out electronically to each AATN for distribution to teachers. These documents provided supplemental information to the administration manual and frameworks to further direct teachers on administration procedures.

For the scoring of the 2006-2007 NYSAA, the materials included the following:

- Step by Step Procedures and Decision Rules documents. The two main documents used to guide the scoring process for each datafolio.

- Training Program Video. The entire scoring training program that is used with scorers. All SSCs are required to use the video in its entirety to train scorers. It ensures that the exact same message is imparted statewide.
- Datafolio Practices and Qualifiers. All scorers must complete the three practice samples provided to help train them and then must qualify by scoring datafolio samples that have been provided. All scorers are qualified using calibrated materials that were initially identified during a benchmarking process.

6.2 Content Validity

The *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999)[1] notes that an important part of establishing test validity is to ensure that a close substantive relationship exists between a test's content and the underlying construct it is intended to measure. The *Standards* further elaborate that the test content refers to the "themes, wording, and format of the items, tasks, or questions on a test, as well as the guidelines for procedures regarding administration and scoring" (p. 11). In addition to describing the content in detail, content validity evidence must, of course, relate the content to the construct the test is intended to measure. One important approach in this regard mentioned in the *Standards* is the use of "expert judgment of the relationship between parts of the test and the construct" (p. 11).

The New York State (NYS) learning standards provide the framework for the New York State (NYS) Testing Program, including NYSAA. These learning standards are the constructs that are intended to be measured by NYSAA. Chapter 2 describes in detail the development and design of the content for NYSAA with special emphasis on the relationship of the test content to the NYS learning standards. Chapter 3 provides a detailed description of the scoring procedures for the test, again emphasizing the

[1] American Educational Research Association, American Psychological Association, & National Council on Measurement in Education (1999). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.

procedures taken to ensure strong adherence to the NYS learning standards. Another important component of the scoring procedure is the standard setting process, in which expert judgment is used to set the scores on the test that correspond to different levels of classification of student achievement relative to the NYS learning standards. A separate standard setting report described the rigorous procedures that were adhered to in order to ensure that the content related aspects of the standard setting maintained a strong substantive alignment with the NYS learning standards.

As can be seen from the above definition of construct validity and descriptions of the contents of Chapters 2 and 3 of this report, a complete description of the content validity of NYSAA is available to the reader.

6.3 Consequential Validity

Beginning in 1997, The Department began discussions on how to provide students with severe cognitive disabilities access to the general education standards. To that end, an advisory committee made up of New York stakeholders was formed. Their goal was to develop a handbook for teachers to use that would provide an alternate pathway for this group of students to gain access to the New York State (NYS) learning standards. On July 17, 1997 the New York State Board of Regents endorsed a set of alternate performance indicators (APIs) that were linked to the NYS learning standards. The purpose of the APIs was to provide teachers with a way of teaching academic content to students with severe cognitive disabilities. The final manual, “The Learning Standards and Alternate Performance Indicators for Students with Severe Disabilities” was published in 1998 and distributed statewide.

As mandated in the re-authorized Individuals with Disabilities Education Act of 1997 (IDEA ‘97), states were required to have in place by July 2000 an alternate assessment for those students who cannot participate in the general education assessment even with accommodations. Because of the ground breaking work already done, The Department, in collaboration with Measured Progress and under the guidance of the advisory committee, endorsed the use of the APIs as a way to measure students with

severe cognitive disabilities knowledge and skills against the NYS learning standards. The advisory group concluded that all students must be given the opportunity to achieve the learning standards, but that not all standards are appropriate for this group of students, which was in line with the intent of IDEA '97. The standards, as written in 1997, are the same for all students, including students with severe cognitive disabilities. However, it was understood that this group of students would be assessed against APIs due to their inability to participate in the general assessment, even with accommodations. The APIs, while based on the learning standards, are by their very nature functional and limited to an age level of five and reflect what was determined to be appropriate for this group of students. They were not grade specific nor were they aligned to grade level content. Committees on Special Education (CSEs) determined which students were appropriate for the NYSAA based on several strict criteria and on which APIs the students would be assessed. The first New York State Alternate Assessment (NYSAA) was piloted between March 1998 and March 2000, with full implementation during the 2000-2001 school year. The purpose of the NYSAA was to promote the inclusion of students with severe cognitive disabilities in the statewide testing program. It was not for the purposes of adequate yearly progress as defined by No Child Left Behind (NCLB).

This is the calendar of events The Department engaged in to develop and implement their very first alternate assessment:

Spring 1998	Conduct regional training for teachers on the APIs
March 1998- March 2000	Develop and pilot their alternate assessment system
March-June 2000	Provide information and training on their alternate assessment system
July 2000	Implement a statewide alternate assessment system as required by IDEA '97
June 2001	Collect data and report to the public student scores

The Department and their stakeholders were committed to building an assessment and accountability system that included students with severe cognitive disabilities. They were one of the first states to engage

teachers, administrators, policy makers, and others in these important discussions and did pioneering work in the early years of alternate assessment.

With the re-authorization of NCLB, states are being held to a high level of student academic achievement, including students with severe cognitive disabilities. The original NYSAA tested students in grades 4, 8, and high school in the content areas of English language arts, mathematics, science/health, and social studies. Based on new testing grade requirements in NCLB, The Department began to implement in September 2005 a revised NYSAA that included grades 3-8 and high school in the content areas of English Language Arts, mathematics, science, and social studies. The students were still assessed against the original APIs. However, the format and number of APIs assessed was modified. The following chart outlines the revised NYSAA:

Table 6-1: Revised NYSAA: Grades 3 to High School

Datafolio Component	Anchor Grade Equivalents 4, 8 and high school	Expanded Grade Equivalents 3, 5, 6 and 7
Table of Contents	✓	✓
Student Page	✓	✓
One Entry Cover Sheet for each content area	English language arts, mathematics, social studies, science	English language arts, mathematics
One Data Summary Sheet for each content area	4 (one for each content area above)	2 (one for English language arts, one for mathematics)
Verifying Evidence per API	1 piece per API in each content area	3 pieces for mandatory API in English language arts and mathematics
Parent/Family/Guardian Survey	✓	✓
Permission to Tape and Photograph	If applicable	If applicable
Video and Audiotape Evaluation Form	If applicable	If applicable

During the 2005-2006 testing cycle, The Department submitted their accountability documentation for Peer Review. The results of that review required The Department to revise their alternate assessment to ensure:

- evidence of alignment between the NYSAA alternate achievement standards and the newly adopted grade level expectations;
- that students are assessed at each required grade;
- setting cut points and developing Alternate Performance Level Descriptors for each grade level and content area; and
- technical quality of the assessment, including research based standard setting, production and submission of the standard setting report, and technical manual.

The new assessment system had to be in place for the 2006-2007 testing cycle, culminating with standard setting in June 2007.

Beginning in July 2006, The Department, in collaboration with Measured Progress, re-designed NYSAA. The focus and purpose of the assessment is to ensure students with severe cognitive disabilities are being provided access to the general education curriculum, i.e., grade level expectations. However, for these students, grade level expectations need to be expanded in both breath and depth. This resulted in Alternate Grade Level Indicators (AGLIs).

The Department brought together groups of stakeholders including general education content specialists and special education teachers to develop the AGLIs. The groups referred to the general education test blueprints to determine the academic core priorities. From there, each content group reviewed the grade level expectations for each grade level and content area. The group determined the essences of the grade level expectations. Lastly, the group wrote AGLIs that were aligned to the essences of the grade level expectations. In addition to developing the AGLIs, stakeholders were also brought together to develop sample tasks aligned to the AGLIs. Chapter 2 contains a more thorough description of the test design and format.

The new NYSAA was first implemented in the late fall of 2006. The administration culminated with regional scoring institutes. Standard setting was conducted in June 2007, resulting in cut scores, for each

grade level and content area, and Alternate Performance Level Descriptors (APLDs). The cut scores were approved by the Commissioner of Education and submitted along with the standard setting report to the United States Department of Education.

The information provided in this section and throughout the Technical Manual provides a framework to determine the consequential validity of NYSAA. In order to demonstrate consequential validity the assessment should:

- provide multiple measurement occasions;
- show student results are improving; and
- demonstrate that revisions are considered to NYSAA based on stakeholder feedback.

The revised NYSAA demonstrates that students are provided multiple measurement occasions as embedded in the three data collection points. Also, stakeholder input has been critical throughout the development and revision processes. However, since this is the first year for the implementation of the revised NYSAA, there isn't data available yet to demonstrate student growth. Therefore, it is recommended that The Department consider having an external study conducted to investigate the issues of consequential validity after year two of NYSAA.

Chapter 7: Reporting of Results

7.1 Percentages of Students at each Performance Level

Shown below, in Tables 7.1 through 7.4, are the percentages of students statewide who scored in each performance level category for each subject area. (Note: Performance levels are abbreviated as NM: not meeting learning standards; PM: partially meeting learning standards; M: meeting learning standards; and MD: meeting learning standards with distinction.) In all subject areas, students performed well on the assessment, with the percentage of students scoring proficient or better ranging from 81.4% for grade 4 English language arts to 95.2% for grade 5 English language arts. The percentage of students categorized as proficient with distinction ranged from 57.6% for grade 8 mathematics to 76.8% for grade 5 mathematics.

Table 7.1: State Results—English Language Arts

Percent at Each Performance Level				
Grade	NM	PM	M	MD
3	1.7	13.1	25.7	59.4
4	1.5	17.0	21.2	60.2
5	1.2	3.7	22.1	73.1
6	3.3	7.4	20.6	68.7
7	1.1	10.7	19.9	68.3
8	1.2	8.8	19.8	70.2
High School	0.7	6.5	20.1	72.8

Table 7.2: State Results—Mathematics

Percent at Each Performance Level				
Grade	NM	PM	M	MD
3	0.6	9.8	20.5	69.2
4	2.1	9.2	18.0	70.7
5	1.2	6.7	15.4	76.8
6	2.3	10.4	20.2	67.1
7	1.7	10.4	24.1	63.8
8	1.8	10.9	29.6	57.6
High School	3.1	12.9	18.4	65.6

Table 7.3: State Results—Science

Percent at Each Performance Level				
Grade	NM	PM	M	MD
4	1.2	6.3	16.6	75.9
8	1.5	8.7	19.1	70.7
High School	1.2	10.2	19.0	69.5

Table 7.4: State Results—Social Studies

Percent at Each Performance Level				
Grade	NM	PM	M	MD
5	1.4	12.5	21.6	64.5
8	2.4	10.4	19.2	68.1
High School	2.3	7.8	21.1	68.8

At the time that standard setting was conducted in June 2007, score data were not yet available for all students. Therefore, a sample of students was used to calculate impact data at the standard setting meeting. While the impact data were not provided to panelists, they were used by The Department in evaluating the results of the standard setting and informing policy decisions about the final placements of the cutpoints. The impact data used at standard setting are shown in Tables 7.5 through 7.8 below.

Table 7.5: Results Based on Standard Setting Sample—English Language Arts

Percent at Each Performance Level				
Grade	NM	PM	M	MD
3	0.5	10.9	26.5	62.0
4	1.7	13.6	21.2	63.5
5	0.3	2.2	18.5	78.9
6	0.5	6.6	18.3	74.6
7	0.0	8.5	15.4	76.2
8	3.3	5.5	14.5	76.8
High School	0.4	4.8	15.8	79.0

Table 7.6: Results Based on Standard Setting Sample—Mathematics

Percent at Each Performance Level				
Grade	NM	PM	M	MD
3	0.3	9.8	20.9	69.1
4	0.8	8.1	16.1	75.0
5	0.6	4.8	14.8	79.8
6	0.5	7.7	17.5	74.3
7	0.3	8.9	20.1	70.8
8	0.3	11.8	21.8	66.1
High School	2.1	10.9	17.5	69.5

Table 7.7: Results Based on Standard Setting Sample—Science

Percent at Each Performance Level				
Grade	NM	PM	M	MD
4	0.3	4.9	15.2	79.7
8	0.8	6.3	17.4	75.5
High School	0.7	7.2	16.0	76.0

Table 7.8: Results Based on Standard Setting Sample—Social Studies

Percent at Each Performance Level				
Grade	NM	PM	M	MD
5	0.0	11.2	18.5	70.3
8	0.5	9.0	18.6	71.8
High School	1.1	6.3	20.6	72.0

Comparing the results in the two sets of tables does show some differences in the percentages. The differences ranged from essentially 0.0 percentage points to a high of about 8.5 percentage points for performance level 4 (meeting learning standards with distinction) in grade 8 mathematics. Since the sample values were used for purposes of standard setting, these differences should be considered in interpreting the results of NYSAA.

7.2 Performance Level Scores

For purposes of reporting, raw scores on NYSAA are translated to performance levels using the cut scores established via standard setting. Shown below in Tables 7.9 through 7.12 are the raw score to performance level conversion tables.

Table 7.9: Raw Score to Performance Level Conversions—English Language Arts

	Performance Level						
Raw Score	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
0	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1
14	1	1	1	1	1	1	2
15	1	1	1	1	1	1	2
16	1	1	1	1	1	1	2
17	1	1	1	1	1	1	2
18	2	1	1	1	2	1	2
19	2	1	1	1	2	2	2
20	2	2	2	1	2	2	2
21	2	2	2	1	2	2	2
22	2	2	2	1	2	2	2
23	2	2	2	1	2	2	2
24	2	2	2	2	2	2	2
25	2	2	2	2	2	2	2
26	2	2	2	2	2	2	2
27	2	2	2	2	2	2	2
28	2	2	2	2	2	2	2
29	2	2	3	2	2	2	2
30	2	2	3	2	2	2	3
31	2	2	3	2	2	2	3
32	2	2	3	3	2	2	3
33	2	2	3	3	3	3	3
34	2	2	3	3	3	3	3

Table 7.9: Raw Score to Performance Level Conversions—English Language Arts (cont'd)

	Performance Level						
Raw Score	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
35	2	2	3	3	3	3	3
36	3	2	3	3	3	3	3
37	3	2	3	3	3	3	3
38	3	3	3	3	3	3	3
39	3	3	3	3	3	3	3
40	3	3	3	3	3	3	4
41	3	3	4	4	3	3	4
42	3	3	4	4	4	4	4
43	3	3	4	4	4	4	4
44	4	4	4	4	4	4	4
45	4	4	4	4	4	4	4
46	4	4	4	4	4	4	4
47	4	4	4	4	4	4	4
48	4	4	4	4	4	4	4

Table 7.10: Raw Score to Performance Level Conversions—Mathematics

	Performance Level						
Raw Score	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
0	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1
14	2	1	1	1	1	1	1
15	2	1	1	1	1	1	1
16	2	1	1	1	1	1	1
17	2	1	1	1	2	1	1
18	2	1	1	1	2	1	1
19	2	1	1	1	2	1	1
20	2	2	2	2	2	1	1
21	2	2	2	2	2	2	1
22	2	2	2	2	2	2	1
23	2	2	2	2	2	2	1
24	2	2	2	2	2	2	2

Table 7.10: Raw Score to Performance Level Conversions—Mathematics (cont'd)

Performance Level							
Raw Score	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
25	2	2	2	2	2	2	2
26	2	2	2	2	2	2	2
27	2	2	2	2	2	2	2
28	2	2	2	2	2	2	2
29	2	2	2	2	2	2	2
30	2	2	2	2	2	2	2
31	3	2	3	2	3	2	2
32	3	3	3	3	3	2	2
33	3	3	3	3	3	2	2
34	3	3	3	3	3	2	3
35	3	3	3	3	3	3	3
36	3	3	3	3	3	3	3
37	3	3	3	3	3	3	3
38	3	3	3	3	3	3	3
39	3	3	3	3	3	3	3
40	3	3	4	3	3	3	3
41	4	4	4	4	3	3	3
42	4	4	4	4	4	3	4
43	4	4	4	4	4	3	4
44	4	4	4	4	4	3	4
45	4	4	4	4	4	4	4
46	4	4	4	4	4	4	4
47	4	4	4	4	4	4	4
48	4	4	4	4	4	4	4

Table 7.11: Raw Score to Performance Level Conversions—Science

Performance Level			
Raw Score	Grade 4	Grade 8	High School
0	1	1	1
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1
5	1	1	1
6	1	1	1
7	1	1	1
8	1	1	1
9	1	1	1
10	1	1	1
11	1	1	1
12	1	1	1
13	1	1	1

Table 7.11: Raw Score to Performance Level Conversions—Science (cont'd)

Performance Level			
Raw Score	Grade 4	Grade 8	High School
14	1	1	1
15	1	1	1
16	1	1	1
17	1	1	1
18	1	1	1
19	2	1	1
20	2	1	2
21	2	2	2
22	2	2	2
23	2	2	2
24	2	2	2
25	2	2	2
26	2	2	2
27	2	2	2
28	2	2	2
29	2	2	2
30	2	2	2
31	3	2	2
32	3	2	2
33	3	3	3
34	3	3	3
35	3	3	3
36	3	3	3
37	3	3	3
38	3	3	3
39	3	3	3
40	3	3	3
41	4	3	3
42	4	4	4
43	4	4	4
44	4	4	4
45	4	4	4
46	4	4	4
47	4	4	4
48	4	4	4

Table 7.12: Raw Score to Performance Level Conversions—Social Studies

	Performance Level		
Raw Score	Grade 5	Grade 8	High School
0	1	1	1
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1
5	1	1	1
6	1	1	1
7	1	1	1
8	1	1	1
9	1	1	1
10	1	1	1
11	1	1	1
12	1	1	1
13	1	1	1
14	1	1	1
15	1	1	1
16	1	1	1
17	1	1	1
18	1	1	1
19	1	1	1
20	1	1	1
21	2	1	1
22	2	1	1
23	2	2	2
24	2	2	2
25	2	2	2
26	2	2	2
27	2	2	2
28	2	2	2
29	2	2	2
30	2	2	2
31	2	2	2
32	2	2	3
33	2	2	3
34	2	3	3
35	3	3	3
36	3	3	3
37	3	3	3
38	3	3	3
39	3	3	3
40	3	3	3

Table 7.12: Raw Score to Performance Level Conversions—Social Studies (cont'd)

	Performance Level		
Raw Score	Grade 5	Grade 8	High School
41	3	3	3
42	3	4	4
43	4	4	4
44	4	4	4
45	4	4	4
46	4	4	4
47	4	4	4
48	4	4	4

Chapter 8: Summary of Operational Test Results

8.1 Raw Score Frequency Distributions

Shown below, in Tables 8.1 through 8.20, are raw score frequency distributions for each grade and subject area. Frequencies are shown for all students in the state, as well as broken out by gender and ethnicity (Black, Asian, Hispanic, and White).

Table 8.1: Raw Score Frequency Distributions—English Language Arts, Grade 3

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	2	0.1	1	0.1	1	0.2	1	0.2	0	0.0	0	0.0	1	0.1
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	1	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.1
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	8	0.4	8	0.6	0	0.0	0	0.0	0	0.0	2	0.4	6	0.7
13	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	4	0.2	2	0.1	2	0.3	1	0.2	0	0.0	0	0.0	3	0.3
15	6	0.3	6	0.4	0	0.0	0	0.0	0	0.0	4	0.9	2	0.2
16	8	0.4	6	0.4	2	0.3	3	0.5	0	0.0	3	0.7	2	0.2
17	4	0.2	4	0.3	0	0.0	1	0.2	0	0.0	0	0.0	3	0.3
18	3	0.1	1	0.1	2	0.3	1	0.2	0	0.0	1	0.2	1	0.1
19	1	0.0	1	0.1	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0
20	4	0.2	2	0.1	2	0.3	1	0.2	1	0.9	1	0.2	1	0.1
21	4	0.2	4	0.3	0	0.0	3	0.5	1	0.9	0	0.0	0	0.0
22	6	0.3	5	0.4	1	0.2	1	0.2	0	0.0	1	0.2	4	0.5
23	7	0.3	6	0.4	1	0.2	3	0.5	0	0.0	2	0.4	2	0.2
24	19	0.9	12	0.9	7	1.1	5	0.9	1	0.9	4	0.9	9	1.0
25	3	0.1	3	0.2	0	0.0	1	0.2	0	0.0	1	0.2	1	0.1
26	13	0.6	10	0.7	3	0.5	2	0.4	0	0.0	1	0.2	10	1.1
27	8	0.4	5	0.4	3	0.5	1	0.2	1	0.9	5	1.1	1	0.1
28	14	0.7	10	0.7	4	0.7	3	0.5	2	1.8	2	0.4	7	0.8
29	7	0.3	3	0.2	4	0.7	2	0.4	1	0.9	1	0.2	3	0.3

Table 8.1: Raw Score Frequency Distributions—English Language Arts, Grade 3 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
30	39	1.9	28	2.0	11	1.8	11	2.0	2	1.8	11	2.4	15	1.7
31	18	0.9	13	0.9	5	0.8	6	1.1	0	0.0	8	1.7	4	0.5
32	32	1.6	19	1.4	13	2.1	8	1.4	0	0.0	8	1.7	16	1.8
33	34	1.7	28	2.0	6	1.0	9	1.6	4	3.6	6	1.3	14	1.6
34	30	1.5	18	1.3	12	2.0	5	0.9	1	0.9	10	2.2	14	1.6
35	22	1.1	13	0.9	9	1.5	8	1.4	1	0.9	6	1.3	7	0.8
36	51	2.5	32	2.3	19	3.1	12	2.2	3	2.7	12	2.6	23	2.6
37	37	1.8	32	2.3	5	0.8	8	1.4	0	0.0	10	2.2	19	2.1
38	43	2.1	28	2.0	15	2.5	11	2.0	2	1.8	8	1.7	22	2.5
39	66	3.3	47	3.4	19	3.1	14	2.5	5	4.5	15	3.3	32	3.6
40	72	3.6	44	3.1	28	4.6	24	4.3	4	3.6	16	3.5	28	3.2
41	62	3.1	42	3.0	20	3.3	16	2.9	3	2.7	15	3.3	28	3.2
42	106	5.3	72	5.1	34	5.6	25	4.5	5	4.5	27	5.9	49	5.5
43	81	4.0	55	3.9	26	4.2	16	2.9	6	5.5	16	3.5	43	4.9
44	94	4.7	64	4.6	30	4.9	27	4.9	5	4.5	17	3.7	45	5.1
45	133	6.6	98	7.0	35	5.7	41	7.4	3	2.7	25	5.4	63	7.1
46	122	6.1	83	5.9	39	6.4	24	4.3	7	6.4	31	6.7	60	6.8
47	130	6.5	92	6.6	38	6.2	35	6.3	4	3.6	30	6.5	61	6.9
48	718	35.7	503	35.9	215	35.1	222	40.2	48	43.6	160	34.8	285	32.2

Table 8.2: Raw Score Frequency Distributions—English Language Arts, Grade 4

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	3	0.2	3	0.2	0	0.0	1	0.2	1	0.9	1	0.2	0	0.0
9	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
10	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	4	0.2	1	0.1	3	0.5	1	0.2	0	0.0	1	0.2	2	0.2
13	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
14	3	0.2	3	0.2	0	0.0	2	0.4	0	0.0	0	0.0	1	0.1
15	4	0.2	2	0.1	2	0.3	2	0.4	0	0.0	0	0.0	2	0.2
16	3	0.2	1	0.1	2	0.3	2	0.4	0	0.0	0	0.0	1	0.1
17	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
18	8	0.4	5	0.4	3	0.5	2	0.4	0	0.0	1	0.2	5	0.5
19	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1

Table 8.2: Raw Score Frequency Distributions—English Language Arts, Grade 4 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
20	7	0.4	5	0.4	2	0.3	1	0.2	0	0.0	3	0.7	3	0.3
21	10	0.5	3	0.2	7	1.1	3	0.6	0	0.0	2	0.5	5	0.5
22	6	0.3	2	0.1	4	0.6	4	0.8	1	0.9	0	0.0	1	0.1
23	4	0.2	3	0.2	1	0.2	1	0.2	0	0.0	1	0.2	2	0.2
24	25	1.3	15	1.1	10	1.6	4	0.8	3	2.8	3	0.7	15	1.6
25	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2
26	6	0.3	6	0.4	0	0.0	1	0.2	1	0.9	2	0.5	2	0.2
27	7	0.4	3	0.2	4	0.6	1	0.2	0	0.0	2	0.5	4	0.4
28	11	0.6	8	0.6	3	0.5	3	0.6	0	0.0	3	0.7	5	0.5
29	16	0.8	12	0.9	4	0.6	3	0.6	0	0.0	3	0.7	10	1.1
30	34	1.7	25	1.8	9	1.5	10	2.0	1	0.9	5	1.2	18	1.9
31	16	0.8	12	0.9	4	0.6	5	1.0	1	0.9	3	0.7	7	0.7
32	34	1.7	27	2.0	7	1.1	6	1.2	2	1.8	4	1.0	22	2.4
33	34	1.7	23	1.7	11	1.8	7	1.4	0	0.0	6	1.4	20	2.1
34	24	1.2	15	1.1	9	1.5	3	0.6	5	4.6	5	1.2	11	1.2
35	35	1.8	19	1.4	16	2.6	14	2.8	1	0.9	6	1.4	14	1.5
36	46	2.3	29	2.1	17	2.8	12	2.4	4	3.7	9	2.1	21	2.2
37	21	1.1	13	1.0	8	1.3	5	1.0	0	0.0	4	1.0	12	1.3
38	48	2.4	28	2.1	20	3.2	7	1.4	3	2.8	14	3.3	23	2.5
39	79	4.0	56	4.1	23	3.7	17	3.3	3	2.8	19	4.5	39	4.2
40	72	3.6	53	3.9	19	3.1	14	2.8	5	4.6	21	5.0	31	3.3
41	56	2.8	39	2.9	17	2.8	15	2.9	1	0.9	9	2.1	30	3.2
42	97	4.9	69	5.1	28	4.5	25	4.9	7	6.4	21	5.0	44	4.7
43	69	3.5	50	3.7	19	3.1	16	3.1	3	2.8	12	2.9	37	4.0
44	90	4.5	55	4.0	35	5.7	27	5.3	4	3.7	17	4.1	41	4.4
45	133	6.7	91	6.7	42	6.8	37	7.3	6	5.5	29	6.9	60	6.4
46	137	6.9	100	7.3	37	6.0	30	5.9	9	8.3	26	6.2	72	7.7
47	126	6.4	90	6.6	36	5.8	35	6.9	6	5.5	31	7.4	54	5.8
48	708	35.7	492	36.0	216	35.0	193	37.9	42	38.5	154	36.8	316	33.8

Table 8.3: Raw Score Frequency Distributions—English Language Arts, Grade 5

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count		Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	1	0.0	1	0.1	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 8.3: Raw Score Frequency Distributions—English Language Arts, Grade 5 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count		Count	%	Count	%	Count	%
10	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
13	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	3	0.1	2	0.1	1	0.1	1	0.2	0	0.0	0	0.0	2	0.2
16	8	0.4	3	0.2	5	0.7	3	0.5	2	1.9	2	0.4	1	0.1
17	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
18	5	0.2	5	0.4	0	0.0	2	0.4	0	0.0	1	0.2	2	0.2
19	1	0.0	1	0.1	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0
20	5	0.2	3	0.2	2	0.3	2	0.4	0	0.0	2	0.4	1	0.1
21	6	0.3	5	0.4	1	0.1	2	0.4	0	0.0	2	0.4	2	0.2
22	10	0.5	7	0.5	3	0.4	5	0.9	1	1.0	2	0.4	2	0.2
23	3	0.1	3	0.2	0	0.0	0	0.0	0	0.0	2	0.4	1	0.1
24	24	1.1	19	1.3	5	0.7	11	2.0	2	1.9	5	0.9	6	0.6
25	6	0.3	5	0.4	1	0.1	3	0.5	0	0.0	2	0.4	1	0.1
26	10	0.5	7	0.5	3	0.4	3	0.5	1	1.0	2	0.4	4	0.4
27	9	0.4	5	0.4	4	0.5	1	0.2	3	2.9	2	0.4	3	0.3
28	7	0.3	4	0.3	3	0.4	3	0.5	0	0.0	2	0.4	2	0.2
29	20	0.9	15	1.1	5	0.7	9	1.6	0	0.0	1	0.2	9	0.9
30	45	2.1	26	1.8	19	2.5	12	2.2	0	0.0	13	2.4	20	2.1
31	10	0.5	5	0.4	5	0.7	1	0.2	1	1.0	7	1.3	1	0.1
32	27	1.2	15	1.1	12	1.6	3	0.5	1	1.0	8	1.5	15	1.5
33	30	1.4	21	1.5	9	1.2	6	1.1	0	0.0	8	1.5	16	1.6
34	30	1.4	23	1.6	7	0.9	10	1.8	1	1.0	8	1.5	11	1.1
35	26	1.2	20	1.4	6	0.8	5	0.9	1	1.0	3	0.6	17	1.7
36	51	2.3	32	2.2	19	2.5	12	2.2	1	1.0	7	1.3	31	3.2
37	34	1.6	23	1.6	11	1.5	9	1.6	1	1.0	8	1.5	16	1.6
38	54	2.5	32	2.2	22	2.9	12	2.2	0	0.0	16	3.0	26	2.7
39	86	3.9	55	3.9	31	4.1	18	3.3	5	4.8	23	4.3	40	4.1
40	69	3.2	49	3.4	20	2.6	20	3.6	2	1.9	14	2.6	33	3.4
41	75	3.4	48	3.4	27	3.6	17	3.1	1	1.0	18	3.4	39	4.0
42	118	5.4	82	5.8	36	4.8	26	4.7	5	4.8	28	5.2	59	6.1
43	64	2.9	30	2.1	34	4.5	16	2.9	4	3.8	13	2.4	30	3.1
44	107	4.9	68	4.8	39	5.2	21	3.8	4	3.8	30	5.6	51	5.2
45	139	6.4	83	5.8	56	7.4	34	6.2	10	9.5	35	6.5	59	6.1
46	133	6.1	77	5.4	56	7.4	34	6.2	5	4.8	35	6.5	58	6.0
47	127	5.8	85	6.0	42	5.6	39	7.1	7	6.7	28	5.2	53	5.4
48	830	38.1	558	39.2	272	36.0	208	37.8	47	44.8	205	38.2	360	37.0

Table 8.4: Raw Score Frequency Distributions—English Language Arts, Grade 6

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	2	0.4	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	1	0.0	0	0.0	1	0.1	1	0.2	0	0.0	0	0.0	0	0.0
9	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
10	1	0.0	1	0.1	0	0.0	0	0.0	1	0.8	0	0.0	0	0.0
11	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
12	4	0.2	4	0.3	0	0.0	2	0.3	0	0.0	1	0.2	1	0.1
13	1	0.0	1	0.1	0	0.0	0	0.0	1	0.8	0	0.0	0	0.0
14	2	0.1	1	0.1	1	0.1	0	0.0	0	0.0	1	0.2	1	0.1
15	1	0.0	1	0.1	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0
16	7	0.3	4	0.3	3	0.4	1	0.2	1	0.8	0	0.0	5	0.5
17	3	0.1	1	0.1	2	0.3	0	0.0	1	0.8	0	0.0	2	0.2
18	10	0.4	6	0.4	4	0.5	5	0.8	0	0.0	2	0.4	3	0.3
19	8	0.4	6	0.4	2	0.3	2	0.3	3	2.3	0	0.0	3	0.3
20	4	0.2	2	0.1	2	0.3	1	0.2	1	0.8	1	0.2	1	0.1
21	9	0.4	7	0.5	2	0.3	3	0.5	0	0.0	4	0.8	2	0.2
22	12	0.5	9	0.6	3	0.4	4	0.6	2	1.5	3	0.6	3	0.3
23	7	0.3	4	0.3	3	0.4	4	0.6	0	0.0	0	0.0	3	0.3
24	20	0.9	13	0.9	7	0.9	7	1.1	1	0.8	7	1.4	5	0.5
25	6	0.3	3	0.2	3	0.4	2	0.3	2	1.5	1	0.2	1	0.1
26	10	0.4	5	0.3	5	0.6	4	0.6	0	0.0	4	0.8	2	0.2
27	11	0.5	11	0.7	0	0.0	5	0.8	0	0.0	3	0.6	2	0.2
28	16	0.7	11	0.7	5	0.6	2	0.3	2	1.5	5	1.0	7	0.7
29	11	0.5	6	0.4	5	0.6	3	0.5	1	0.8	2	0.4	5	0.5
30	63	2.8	41	2.8	22	2.8	12	1.9	2	1.5	8	1.6	41	4.1
31	29	1.3	20	1.4	9	1.2	8	1.3	2	1.5	9	1.8	10	1.0
32	31	1.4	19	1.3	12	1.6	10	1.6	2	1.5	7	1.4	12	1.2
33	30	1.3	15	1.0	15	1.9	12	1.9	2	1.5	3	0.6	13	1.3
34	28	1.2	13	0.9	15	1.9	3	0.5	0	0.0	9	1.8	16	1.6
35	42	1.9	28	1.9	14	1.8	8	1.3	3	2.3	16	3.3	15	1.5
36	69	3.1	45	3.0	24	3.1	12	1.9	2	1.5	16	3.3	39	3.9
37	53	2.4	35	2.4	18	2.3	17	2.7	2	1.5	10	2.0	24	2.4
38	53	2.4	36	2.4	17	2.2	13	2.1	5	3.8	14	2.9	21	2.1
39	87	3.9	53	3.6	34	4.4	19	3.1	2	1.5	18	3.7	47	4.7
40	71	3.2	49	3.3	22	2.8	16	2.6	7	5.3	16	3.3	31	3.1
41	63	2.8	43	2.9	20	2.6	19	3.1	3	2.3	10	2.0	31	3.1
42	99	4.4	66	4.5	33	4.3	36	5.8	5	3.8	19	3.9	39	3.9
43	91	4.0	56	3.8	35	4.5	21	3.4	5	3.8	21	4.3	43	4.3

Table 8.4: Raw Score Frequency Distributions—English Language Arts, Grade 6 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
44	108	4.8	66	4.5	42	5.4	30	4.8	5	3.8	17	3.5	56	5.6
45	150	6.7	103	7.0	47	6.1	45	7.3	9	6.8	34	6.9	58	5.8
46	149	6.6	94	6.4	55	7.1	43	6.9	7	5.3	27	5.5	71	7.2
47	141	6.3	87	5.9	54	7.0	41	6.6	4	3.0	32	6.5	61	6.1
48	746	33.1	509	34.4	237	30.7	208	33.5	50	37.6	168	34.3	317	31.9

Table 8.5: Raw Score Frequency Distributions—English Language Arts, Grade 7

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	2	0.1	2	0.1	0	0.0	1	0.1	0	0.0	1	0.2	0	0.0
9	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
10	2	0.1	2	0.1	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	3	0.1	2	0.1	1	0.1	2	0.3	0	0.0	1	0.2	0	0.0
13	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
15	3	0.1	2	0.1	1	0.1	0	0.0	0	0.0	1	0.2	2	0.2
16	10	0.4	8	0.5	2	0.2	2	0.3	0	0.0	5	0.9	3	0.3
17	5	0.2	1	0.1	4	0.5	1	0.1	0	0.0	0	0.0	4	0.4
18	5	0.2	5	0.3	0	0.0	2	0.3	0	0.0	1	0.2	2	0.2
19	4	0.2	3	0.2	1	0.1	0	0.0	0	0.0	2	0.4	2	0.2
20	9	0.4	6	0.4	3	0.3	3	0.4	1	0.9	1	0.2	4	0.4
21	4	0.2	4	0.3	0	0.0	0	0.0	0	0.0	4	0.7	0	0.0
22	9	0.4	5	0.3	4	0.5	5	0.7	0	0.0	1	0.2	3	0.3
23	7	0.3	7	0.4	0	0.0	3	0.4	0	0.0	0	0.0	4	0.4
24	28	1.1	17	1.1	11	1.3	8	1.2	0	0.0	7	1.3	13	1.2
25	11	0.4	8	0.5	3	0.3	3	0.4	1	0.9	3	0.5	4	0.4
26	10	0.4	8	0.5	2	0.2	2	0.3	1	0.9	2	0.4	5	0.5
27	14	0.6	10	0.6	4	0.5	2	0.3	0	0.0	3	0.5	9	0.8
28	17	0.7	8	0.5	9	1.0	2	0.3	2	1.7	6	1.1	7	0.6
29	15	0.6	12	0.8	3	0.3	7	1.0	0	0.0	2	0.4	6	0.6
30	63	2.6	38	2.4	25	2.9	14	2.1	1	0.9	15	2.7	33	3.0
31	27	1.1	15	0.9	12	1.4	10	1.5	2	1.7	6	1.1	9	0.8
32	39	1.6	27	1.7	12	1.4	8	1.2	1	0.9	8	1.5	22	2.0
33	28	1.1	17	1.1	11	1.3	7	1.0	1	0.9	2	0.4	18	1.7
34	34	1.4	20	1.3	14	1.6	13	1.9	3	2.6	7	1.3	11	1.0

Table 8.5: Raw Score Frequency Distributions—English Language Arts, Grade 7 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
35	27	1.1	17	1.1	10	1.2	6	0.9	2	1.7	7	1.3	12	1.1
36	57	2.3	37	2.3	20	2.3	13	1.9	3	2.6	12	2.2	29	2.7
37	41	1.7	23	1.5	18	2.1	14	2.1	3	2.6	8	1.5	16	1.5
38	42	1.7	29	1.8	13	1.5	9	1.3	1	0.9	8	1.5	24	2.2
39	103	4.2	70	4.4	33	3.8	27	4.0	3	2.6	27	4.9	45	4.1
40	99	4.0	59	3.7	40	4.6	25	3.7	2	1.7	23	4.2	49	4.5
41	57	2.3	35	2.2	22	2.5	15	2.2	1	0.9	11	2.0	30	2.8
42	136	5.6	75	4.7	61	7.1	37	5.4	6	5.1	29	5.3	62	5.7
43	102	4.2	58	3.7	44	5.1	34	5.0	2	1.7	17	3.1	48	4.4
44	126	5.1	87	5.5	39	4.5	33	4.9	4	3.4	37	6.7	52	4.8
45	174	7.1	114	7.2	60	7.0	44	6.5	4	3.4	40	7.3	84	7.7
46	169	6.9	106	6.7	63	7.3	45	6.6	5	4.3	37	6.7	82	7.5
47	149	6.1	97	6.1	52	6.0	43	6.3	7	6.0	35	6.4	63	5.8
48	814	33.3	549	34.7	265	30.7	238	35.0	61	52.1	182	33.0	329	30.2

Table 8.6: Raw Score Frequency Distributions—English Language Arts, Grade 8

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	1	0.0	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	1	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
12	4	0.2	3	0.2	1	0.1	2	0.3	0	0.0	1	0.2	1	0.1
13	3	0.1	2	0.1	1	0.1	2	0.3	0	0.0	0	0.0	1	0.1
14	4	0.2	2	0.1	2	0.2	2	0.3	0	0.0	0	0.0	2	0.2
15	4	0.2	4	0.3	0	0.0	3	0.4	0	0.0	0	0.0	1	0.1
16	3	0.1	2	0.1	1	0.1	2	0.3	0	0.0	0	0.0	1	0.1
17	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	2	0.4	0	0.0
18	6	0.3	5	0.3	1	0.1	4	0.6	0	0.0	2	0.4	0	0.0
19	6	0.3	4	0.3	2	0.2	1	0.1	1	0.8	3	0.6	1	0.1
20	4	0.2	3	0.2	1	0.1	1	0.1	0	0.0	1	0.2	2	0.2
21	7	0.3	4	0.3	3	0.3	2	0.3	0	0.0	2	0.4	3	0.3
22	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
23	3	0.1	2	0.1	1	0.1	1	0.1	0	0.0	0	0.0	2	0.2
24	33	1.4	16	1.0	17	2.0	14	2.0	2	1.7	3	0.6	14	1.3

Table 8.6: Raw Score Frequency Distributions—English Language Arts, Grade 8 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
25	10	0.4	5	0.3	5	0.6	2	0.3	2	1.7	2	0.4	4	0.4
26	10	0.4	9	0.6	1	0.1	2	0.3	1	0.8	2	0.4	5	0.5
27	7	0.3	3	0.2	4	0.5	3	0.4	0	0.0	0	0.0	4	0.4
28	10	0.4	6	0.4	4	0.5	4	0.6	1	0.8	3	0.6	2	0.2
29	20	0.8	11	0.7	9	1.0	2	0.3	0	0.0	4	0.8	14	1.3
30	47	2.0	34	2.2	13	1.5	8	1.2	1	0.8	10	2.0	28	2.6
31	17	0.7	13	0.8	4	0.5	8	1.2	1	0.8	3	0.6	5	0.5
32	36	1.5	24	1.6	12	1.4	8	1.2	4	3.4	6	1.2	18	1.7
33	36	1.5	25	1.6	11	1.3	10	1.5	3	2.5	7	1.4	16	1.5
34	31	1.3	20	1.3	11	1.3	5	0.7	4	3.4	7	1.4	15	1.4
35	31	1.3	16	1.0	15	1.7	13	1.9	2	1.7	4	0.8	11	1.0
36	57	2.4	39	2.5	18	2.1	15	2.2	5	4.2	15	3.0	22	2.0
37	43	1.8	34	2.2	9	1.0	15	2.2	4	3.4	6	1.2	18	1.7
38	55	2.3	35	2.3	20	2.3	19	2.8	2	1.7	12	2.4	22	2.0
39	75	3.1	48	3.1	27	3.1	26	3.8	3	2.5	10	2.0	36	3.4
40	74	3.1	43	2.8	31	3.6	23	3.3	1	0.8	12	2.4	38	3.5
41	73	3.0	48	3.1	25	2.9	20	2.9	2	1.7	15	3.0	35	3.3
42	127	5.3	76	5.0	51	5.9	37	5.4	7	5.9	33	6.6	50	4.7
43	116	4.8	79	5.2	37	4.3	34	4.9	4	3.4	23	4.6	54	5.0
44	147	6.1	85	5.5	62	7.2	40	5.8	8	6.8	34	6.8	63	5.9
45	160	6.7	102	6.7	58	6.7	38	5.5	8	6.8	38	7.6	74	6.9
46	172	7.2	112	7.3	60	6.9	43	6.3	10	8.5	34	6.8	84	7.8
47	154	6.4	91	5.9	63	7.3	47	6.8	7	5.9	28	5.6	69	6.4
48	805	33.6	522	34.1	283	32.8	230	33.4	35	29.7	178	35.6	357	33.2

Table 8.7: Raw Score Frequency Distributions—English Language Arts, High School

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
7	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1	0	0.0
8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	3	0.1	3	0.1	0	0.0	1	0.1	0	0.0	1	0.1	1	0.1
10	3	0.1	1	0.0	2	0.1	1	0.1	0	0.0	0	0.0	2	0.1
11	2	0.1	2	0.1	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0
12	9	0.2	4	0.2	5	0.4	2	0.2	0	0.0	0	0.0	7	0.4
13	4	0.1	2	0.1	2	0.1	1	0.1	0	0.0	1	0.1	2	0.1
14	8	0.2	7	0.3	1	0.1	2	0.2	0	0.0	3	0.4	3	0.2

Table 8.7: Raw Score Frequency Distributions—English Language Arts, High School (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
15	5	0.1	3	0.1	2	0.1	3	0.3	0	0.0	0	0.0	2	0.1
16	10	0.3	5	0.2	5	0.4	2	0.2	1	0.7	1	0.1	6	0.3
17	5	0.1	3	0.1	2	0.1	2	0.2	0	0.0	1	0.1	2	0.1
18	5	0.1	3	0.1	2	0.1	2	0.2	0	0.0	0	0.0	3	0.2
19	5	0.1	3	0.1	2	0.1	1	0.1	1	0.7	0	0.0	3	0.2
20	10	0.3	2	0.1	8	0.6	1	0.1	0	0.0	0	0.0	9	0.5
21	18	0.5	12	0.5	6	0.4	4	0.4	0	0.0	5	0.7	9	0.5
22	14	0.4	12	0.5	2	0.1	4	0.4	1	0.7	2	0.3	7	0.4
23	17	0.5	9	0.4	8	0.6	4	0.4	1	0.7	6	0.8	6	0.3
24	51	1.4	31	1.3	20	1.4	14	1.4	0	0.0	12	1.6	25	1.4
25	5	0.1	4	0.2	1	0.1	1	0.1	0	0.0	1	0.1	3	0.2
26	15	0.4	11	0.5	4	0.3	6	0.6	0	0.0	4	0.5	5	0.3
27	27	0.7	14	0.6	13	0.9	8	0.8	3	2.2	5	0.7	11	0.6
28	20	0.5	13	0.6	7	0.5	6	0.6	0	0.0	4	0.5	10	0.6
29	25	0.7	13	0.6	12	0.9	4	0.4	0	0.0	4	0.5	17	1.0
30	111	3.0	60	2.6	51	3.7	24	2.3	4	2.9	22	2.9	61	3.4
31	40	1.1	30	1.3	10	0.7	14	1.4	2	1.5	9	1.2	15	0.8
32	46	1.2	25	1.1	21	1.5	17	1.7	2	1.5	8	1.1	19	1.1
33	53	1.4	33	1.4	20	1.4	10	1.0	3	2.2	14	1.9	26	1.5
34	43	1.2	29	1.3	14	1.0	7	0.7	2	1.5	10	1.3	24	1.4
35	53	1.4	34	1.5	19	1.4	22	2.2	3	2.2	6	0.8	22	1.2
36	104	2.8	65	2.8	39	2.8	27	2.6	5	3.6	17	2.3	54	3.0
37	74	2.0	44	1.9	30	2.2	23	2.2	5	3.6	23	3.1	23	1.3
38	93	2.5	64	2.8	29	2.1	24	2.3	4	2.9	18	2.4	46	2.6
39	126	3.4	81	3.5	45	3.2	30	2.9	2	1.5	29	3.9	65	3.7
40	137	3.7	86	3.7	51	3.7	44	4.3	5	3.6	17	2.3	71	4.0
41	106	2.9	68	2.9	38	2.7	29	2.8	6	4.4	18	2.4	52	2.9
42	161	4.3	103	4.4	58	4.2	28	2.7	8	5.8	39	5.2	86	4.8
43	149	4.0	93	4.0	56	4.0	35	3.4	8	5.8	31	4.1	74	4.2
44	196	5.3	121	5.2	75	5.4	58	5.7	7	5.1	44	5.9	86	4.8
45	256	6.9	162	7.0	94	6.8	65	6.4	10	7.3	46	6.2	134	7.5
46	259	7.0	151	6.5	108	7.8	64	6.3	13	9.5	58	7.8	121	6.8
47	248	6.7	155	6.7	93	6.7	75	7.3	5	3.6	44	5.9	124	7.0
48	1185	32.0	754	32.6	431	31.1	356	34.8	36	26.3	242	32.4	540	30.4

Table 8.8: Raw Score Frequency Distributions—Mathematics, Grade 3

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 8.8: Raw Score Frequency Distributions—Mathematics, Grade 3 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	2	0.1	1	0.1	1	0.2	0	0.0	1	0.9	0	0.0	1	0.1
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	5	0.2	5	0.4	0	0.0	0	0.0	0	0.0	3	0.6	2	0.2
13	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2
14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	11	0.5	9	0.6	2	0.3	2	0.4	1	0.9	2	0.4	6	0.7
16	7	0.3	3	0.2	4	0.7	0	0.0	0	0.0	3	0.6	4	0.5
17	3	0.1	3	0.2	0	0.0	0	0.0	0	0.0	2	0.4	1	0.1
18	7	0.3	7	0.5	0	0.0	3	0.5	0	0.0	1	0.2	3	0.3
19	6	0.3	2	0.1	4	0.7	2	0.4	0	0.0	3	0.6	1	0.1
20	4	0.2	2	0.1	2	0.3	1	0.2	1	0.9	0	0.0	2	0.2
21	8	0.4	5	0.4	3	0.5	3	0.5	1	0.9	3	0.6	1	0.1
22	6	0.3	2	0.1	4	0.7	2	0.4	0	0.0	3	0.6	1	0.1
23	2	0.1	2	0.1	0	0.0	0	0.0	1	0.9	0	0.0	1	0.1
24	24	1.2	14	1.0	10	1.6	7	1.3	0	0.0	8	1.7	9	1.0
25	6	0.3	5	0.4	1	0.2	1	0.2	0	0.0	1	0.2	4	0.5
26	8	0.4	5	0.4	3	0.5	0	0.0	3	2.7	3	0.6	2	0.2
27	13	0.6	10	0.7	3	0.5	3	0.5	0	0.0	3	0.6	7	0.8
28	11	0.5	6	0.4	5	0.8	5	0.9	2	1.8	0	0.0	4	0.5
29	14	0.7	10	0.7	4	0.7	1	0.2	0	0.0	3	0.6	10	1.1
30	68	3.4	48	3.4	20	3.3	17	3.1	1	0.9	20	4.3	30	3.4
31	19	0.9	11	0.8	8	1.3	4	0.7	1	0.9	3	0.6	11	1.2
32	26	1.3	17	1.2	9	1.5	14	2.5	0	0.0	3	0.6	8	0.9
33	31	1.5	20	1.4	11	1.8	9	1.6	0	0.0	6	1.3	16	1.8
34	35	1.7	24	1.7	11	1.8	12	2.2	0	0.0	9	1.9	14	1.6
35	38	1.9	24	1.7	14	2.3	6	1.1	4	3.6	13	2.8	15	1.7
36	64	3.2	37	2.6	27	4.4	22	4.0	2	1.8	7	1.5	33	3.7
37	33	1.6	22	1.6	11	1.8	4	0.7	5	4.5	9	1.9	15	1.7
38	43	2.1	28	2.0	15	2.4	10	1.8	4	3.6	9	1.9	20	2.3
39	66	3.3	42	3.0	24	3.9	23	4.2	2	1.8	7	1.5	34	3.8
40	58	2.9	43	3.1	15	2.4	17	3.1	4	3.6	12	2.6	25	2.8
41	49	2.4	33	2.3	16	2.6	16	2.9	1	0.9	11	2.4	21	2.4
42	111	5.5	78	5.5	33	5.4	27	4.9	6	5.4	25	5.4	53	6.0
43	58	2.9	40	2.8	18	2.9	15	2.7	5	4.5	11	2.4	27	3.0
44	107	5.3	73	5.2	34	5.5	33	6.0	5	4.5	25	5.4	44	5.0
45	119	5.9	74	5.3	45	7.3	25	4.5	4	3.6	27	5.8	63	7.1
46	114	5.6	85	6.0	29	4.7	23	4.2	7	6.3	35	7.5	49	5.5
47	121	6.0	92	6.5	29	4.7	35	6.3	10	9.0	25	5.4	51	5.8
48	718	35.5	519	36.9	199	32.4	210	38.0	40	36.0	170	36.6	293	33.1

Table 8.9: Raw Score Frequency Distributions—Mathematics, Grade 4

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
7	1	0.1	1	0.1	0	0.0	0	0.0	1	0.9	0	0.0	0	0.0
8	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2
9	1	0.1	1	0.1	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0
10	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	8	0.4	6	0.4	2	0.3	2	0.4	0	0.0	4	1.0	2	0.2
13	3	0.2	2	0.1	1	0.2	0	0.0	0	0.0	2	0.5	1	0.1
14	2	0.1	1	0.1	1	0.2	0	0.0	0	0.0	1	0.2	1	0.1
15	3	0.2	0	0.0	3	0.5	2	0.4	0	0.0	0	0.0	1	0.1
16	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2
17	1	0.1	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.1
18	9	0.5	3	0.2	6	1.0	3	0.6	0	0.0	1	0.2	5	0.5
19	6	0.3	2	0.1	4	0.6	0	0.0	0	0.0	0	0.0	6	0.6
20	7	0.4	6	0.4	1	0.2	0	0.0	0	0.0	0	0.0	7	0.7
21	6	0.3	2	0.1	4	0.6	3	0.6	0	0.0	0	0.0	2	0.2
22	4	0.2	2	0.1	2	0.3	0	0.0	0	0.0	1	0.2	3	0.3
23	15	0.8	10	0.7	5	0.8	2	0.4	0	0.0	5	1.2	8	0.9
24	30	1.5	24	1.8	6	1.0	12	2.4	2	1.9	6	1.4	10	1.1
25	11	0.6	7	0.5	4	0.6	4	0.8	1	0.9	2	0.5	4	0.4
26	7	0.4	5	0.4	2	0.3	1	0.2	0	0.0	1	0.2	5	0.5
27	7	0.4	5	0.4	2	0.3	4	0.8	0	0.0	1	0.2	2	0.2
28	11	0.6	5	0.4	6	1.0	3	0.6	2	1.9	0	0.0	6	0.6
29	12	0.6	6	0.4	6	1.0	1	0.2	0	0.0	0	0.0	10	1.1
30	61	3.1	41	3.0	20	3.2	13	2.5	3	2.8	7	1.7	38	4.1
31	11	0.6	9	0.7	2	0.3	2	0.4	0	0.0	4	1.0	5	0.5
32	29	1.5	17	1.2	12	1.9	5	1.0	1	0.9	8	1.9	15	1.6
33	32	1.6	17	1.2	15	2.4	9	1.8	2	1.9	6	1.4	15	1.6
34	33	1.7	22	1.6	11	1.8	6	1.2	1	0.9	9	2.1	17	1.8
35	23	1.2	10	0.7	13	2.1	8	1.6	1	0.9	4	1.0	10	1.1
36	44	2.2	30	2.2	14	2.3	7	1.4	3	2.8	10	2.4	24	2.6
37	33	1.7	18	1.3	15	2.4	9	1.8	0	0.0	3	0.7	21	2.2
38	36	1.8	19	1.4	17	2.8	9	1.8	0	0.0	9	2.1	18	1.9
39	68	3.4	53	3.9	15	2.4	15	2.9	4	3.7	10	2.4	39	4.2
40	59	3.0	41	3.0	18	2.9	21	4.1	5	4.6	9	2.1	24	2.6
41	56	2.8	35	2.6	21	3.4	13	2.5	3	2.8	17	4.1	22	2.4
42	96	4.8	65	4.8	31	5.0	23	4.5	7	6.5	20	4.8	46	4.9
43	67	3.4	51	3.7	16	2.6	18	3.5	3	2.8	16	3.8	30	3.2

Table 8.9: Raw Score Frequency Distributions—Mathematics, Grade 4 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
44	101	5.1	78	5.7	23	3.7	23	4.5	4	3.7	27	6.4	46	4.9
45	132	6.7	97	7.1	35	5.7	36	7.1	11	10.2	28	6.7	55	5.9
46	132	6.7	93	6.8	39	6.3	33	6.5	6	5.6	35	8.4	56	6.0
47	127	6.4	86	6.3	41	6.6	41	8.0	5	4.6	25	6.0	56	6.0
48	691	34.9	488	35.8	203	32.9	181	35.5	43	39.8	147	35.1	317	33.9

Table 8.10: Raw Score Frequency Distributions—Mathematics, Grade 5

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	2	0.1	1	0.1	1	0.1	1	0.2	1	1.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
11	2	0.1	2	0.1	0	0.0	2	0.4	0	0.0	0	0.0	0	0.0
12	6	0.3	5	0.4	1	0.1	0	0.0	0	0.0	4	0.7	2	0.2
13	2	0.1	1	0.1	1	0.1	0	0.0	0	0.0	1	0.2	1	0.1
14	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.2	0	0.0
15	3	0.1	1	0.1	2	0.3	0	0.0	0	0.0	1	0.2	2	0.2
16	1	0.0	0	0.0	1	0.1	0	0.0	1	1.0	0	0.0	0	0.0
17	1	0.0	1	0.1	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0
18	3	0.1	2	0.1	1	0.1	0	0.0	0	0.0	1	0.2	2	0.2
19	3	0.1	2	0.1	1	0.1	0	0.0	0	0.0	0	0.0	3	0.3
20	4	0.2	3	0.2	1	0.1	0	0.0	0	0.0	2	0.4	2	0.2
21	9	0.4	8	0.6	1	0.1	4	0.7	0	0.0	1	0.2	4	0.4
22	5	0.2	4	0.3	1	0.1	1	0.2	0	0.0	0	0.0	4	0.4
23	8	0.4	5	0.4	3	0.4	1	0.2	1	1.0	1	0.2	5	0.5
24	19	0.9	12	0.8	7	0.9	3	0.5	2	1.9	9	1.7	5	0.5
25	2	0.1	1	0.1	1	0.1	0	0.0	0	0.0	1	0.2	1	0.1
26	5	0.2	2	0.1	3	0.4	0	0.0	0	0.0	2	0.4	3	0.3
27	6	0.3	3	0.2	3	0.4	3	0.5	0	0.0	0	0.0	3	0.3
28	13	0.6	7	0.5	6	0.8	7	1.3	0	0.0	2	0.4	4	0.4
29	6	0.3	6	0.4	0	0.0	1	0.2	0	0.0	0	0.0	5	0.5
30	68	3.1	35	2.5	33	4.3	11	2.0	2	1.9	13	2.4	41	4.2
31	14	0.6	10	0.7	4	0.5	2	0.4	0	0.0	4	0.7	8	0.8
32	38	1.7	22	1.5	16	2.1	7	1.3	3	2.9	12	2.2	16	1.6
33	30	1.4	20	1.4	10	1.3	6	1.1	2	1.9	9	1.7	13	1.3

Table 8.10: Raw Score Frequency Distributions—Mathematics, Grade 5 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
34	18	0.8	11	0.8	7	0.9	5	0.9	0	0.0	6	1.1	7	0.7
35	23	1.1	17	1.2	6	0.8	6	1.1	2	1.9	4	0.7	11	1.1
36	64	2.9	45	3.2	19	2.5	14	2.6	1	1.0	19	3.5	29	3.0
37	35	1.6	22	1.5	13	1.7	10	1.8	2	1.9	10	1.9	13	1.3
38	37	1.7	26	1.8	11	1.4	16	2.9	2	1.9	8	1.5	11	1.1
39	78	3.6	46	3.2	32	4.2	17	3.1	3	2.9	16	3.0	42	4.3
40	64	2.9	34	2.4	30	4.0	15	2.7	5	4.8	16	3.0	28	2.9
41	71	3.3	44	3.1	27	3.6	21	3.8	2	1.9	12	2.2	36	3.7
42	102	4.7	68	4.8	34	4.5	32	5.8	8	7.6	20	3.7	42	4.3
43	83	3.8	50	3.5	33	4.3	19	3.5	4	3.8	25	4.7	35	3.6
44	91	4.2	62	4.4	29	3.8	15	2.7	5	4.8	27	5.0	44	4.5
45	122	5.6	79	5.6	43	5.7	33	6.0	8	7.6	25	4.7	55	5.6
46	137	6.3	83	5.8	54	7.1	37	6.7	8	7.6	33	6.2	58	5.9
47	154	7.1	100	7.0	54	7.1	40	7.3	9	8.6	39	7.3	65	6.7
48	851	39.0	582	40.9	269	35.4	219	39.9	34	32.4	211	39.4	377	38.6

Table 8.11: Raw Score Frequency Distributions—Mathematics, Grade 6

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	3	0.1	1	0.1	2	0.3	1	0.2	0	0.0	0	0.0	2	0.2
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	2	0.1	2	0.1	0	0.0	1	0.2	0	0.0	0	0.0	1	0.1
12	14	0.6	8	0.5	6	0.8	4	0.6	1	0.7	5	1.0	4	0.4
13	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2
14	5	0.2	4	0.3	1	0.1	1	0.2	0	0.0	2	0.4	2	0.2
15	5	0.2	2	0.1	3	0.4	0	0.0	1	0.7	1	0.2	3	0.3
16	5	0.2	3	0.2	2	0.3	2	0.3	0	0.0	1	0.2	2	0.2
17	5	0.2	5	0.3	0	0.0	0	0.0	0	0.0	3	0.6	2	0.2
18	8	0.4	7	0.5	1	0.1	4	0.6	0	0.0	2	0.4	2	0.2
19	3	0.1	1	0.1	2	0.3	2	0.3	0	0.0	0	0.0	1	0.1
20	5	0.2	3	0.2	2	0.3	3	0.5	0	0.0	1	0.2	1	0.1
21	16	0.7	12	0.8	4	0.5	7	1.1	0	0.0	2	0.4	7	0.7
22	6	0.3	4	0.3	2	0.3	2	0.3	0	0.0	1	0.2	3	0.3
23	11	0.5	4	0.3	7	0.9	3	0.5	1	0.7	2	0.4	5	0.5

Table 8.11: Raw Score Frequency Distributions—Mathematics, Grade 6 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
24	39	1.7	26	1.8	13	1.7	13	2.1	2	1.5	10	2.0	14	1.4
25	11	0.5	7	0.5	4	0.5	4	0.6	1	0.7	3	0.6	3	0.3
26	9	0.4	4	0.3	5	0.6	1	0.2	0	0.0	2	0.4	6	0.6
27	14	0.6	10	0.7	4	0.5	3	0.5	0	0.0	3	0.6	8	0.8
28	11	0.5	6	0.4	5	0.6	3	0.5	1	0.7	2	0.4	5	0.5
29	20	0.9	15	1.0	5	0.6	3	0.5	0	0.0	6	1.2	11	1.1
30	75	3.3	44	3.0	31	4.0	17	2.7	3	2.2	9	1.8	46	4.6
31	17	0.8	9	0.6	8	1.0	3	0.5	1	0.7	2	0.4	10	1.0
32	38	1.7	21	1.4	17	2.2	7	1.1	2	1.5	12	2.4	17	1.7
33	23	1.0	12	0.8	11	1.4	9	1.5	0	0.0	2	0.4	12	1.2
34	39	1.7	23	1.6	16	2.1	13	2.1	5	3.7	7	1.4	14	1.4
35	27	1.2	17	1.1	10	1.3	7	1.1	2	1.5	5	1.0	13	1.3
36	72	3.2	42	2.8	30	3.9	13	2.1	5	3.7	19	3.9	34	3.4
37	48	2.1	33	2.2	15	1.9	7	1.1	5	3.7	15	3.0	21	2.1
38	55	2.4	36	2.4	19	2.5	16	2.6	5	3.7	11	2.2	23	2.3
39	86	3.8	63	4.3	23	3.0	26	4.2	5	3.7	14	2.8	41	4.1
40	67	3.0	44	3.0	23	3.0	16	2.6	4	3.0	16	3.3	31	3.1
41	52	2.3	29	2.0	23	3.0	13	2.1	0	0.0	8	1.6	30	3.0
42	115	5.1	73	4.9	42	5.4	36	5.8	8	6.0	23	4.7	48	4.8
43	73	3.2	50	3.4	23	3.0	25	4.0	3	2.2	16	3.3	28	2.8
44	103	4.6	68	4.6	35	4.5	22	3.6	9	6.7	25	5.1	46	4.6
45	112	5.0	78	5.3	34	4.4	31	5.0	6	4.5	23	4.7	51	5.1
46	152	6.7	108	7.3	44	5.7	46	7.4	7	5.2	38	7.7	59	5.9
47	170	7.5	107	7.2	63	8.1	49	7.9	13	9.7	32	6.5	74	7.5
48	735	32.6	496	33.5	239	30.9	206	33.3	44	32.8	169	34.3	311	31.3

Table 8.12: Raw Score Frequency Distributions—Mathematics, Grade 7

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	1	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	1	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
10	1	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
11	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
12	11	0.4	8	0.5	3	0.3	5	0.7	2	1.7	2	0.4	2	0.2
13	1	0.0	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0
14	2	0.1	2	0.1	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1

Table 8.12: Raw Score Frequency Distributions—Mathematics, Grade 7 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
15	6	0.2	2	0.1	4	0.5	2	0.3	0	0.0	2	0.4	2	0.2
16	17	0.7	10	0.6	7	0.8	4	0.6	0	0.0	9	1.6	4	0.4
17	3	0.1	1	0.1	2	0.2	2	0.3	0	0.0	0	0.0	1	0.1
18	10	0.4	7	0.4	3	0.3	5	0.7	1	0.9	2	0.4	2	0.2
19	3	0.1	0	0.0	3	0.3	1	0.1	0	0.0	1	0.2	1	0.1
20	4	0.2	3	0.2	1	0.1	2	0.3	1	0.9	0	0.0	1	0.1
21	9	0.4	7	0.4	2	0.2	3	0.4	0	0.0	1	0.2	5	0.5
22	12	0.5	8	0.5	4	0.5	4	0.6	0	0.0	1	0.2	7	0.6
23	13	0.5	8	0.5	5	0.6	6	0.9	0	0.0	3	0.5	4	0.4
24	28	1.1	20	1.3	8	0.9	7	1.0	0	0.0	12	2.2	9	0.8
25	7	0.3	5	0.3	2	0.2	2	0.3	0	0.0	1	0.2	4	0.4
26	9	0.4	8	0.5	1	0.1	5	0.7	0	0.0	1	0.2	3	0.3
27	21	0.9	15	0.9	6	0.7	3	0.4	1	0.9	8	1.4	9	0.8
28	17	0.7	7	0.4	10	1.2	4	0.6	0	0.0	4	0.7	9	0.8
29	15	0.6	10	0.6	5	0.6	5	0.7	0	0.0	6	1.1	4	0.4
30	105	4.3	54	3.4	51	5.9	18	2.6	5	4.3	21	3.8	61	5.6
31	30	1.2	17	1.1	13	1.5	10	1.5	1	0.9	4	0.7	15	1.4
32	32	1.3	18	1.1	14	1.6	11	1.6	1	0.9	5	0.9	15	1.4
33	44	1.8	28	1.8	16	1.8	13	1.9	1	0.9	8	1.4	22	2.0
34	34	1.4	24	1.5	10	1.2	4	0.6	2	1.7	6	1.1	22	2.0
35	49	2.0	27	1.7	22	2.5	15	2.2	1	0.9	12	2.2	21	1.9
36	49	2.0	35	2.2	14	1.6	13	1.9	2	1.7	10	1.8	24	2.2
37	56	2.3	37	2.3	19	2.2	9	1.3	3	2.6	11	2.0	33	3.0
38	53	2.2	35	2.2	18	2.1	21	3.1	1	0.9	13	2.3	18	1.7
39	76	3.1	54	3.4	22	2.5	14	2.1	2	1.7	15	2.7	44	4.0
40	100	4.1	65	4.1	35	4.0	31	4.5	4	3.5	29	5.2	36	3.3
41	67	2.7	37	2.3	30	3.5	17	2.5	3	2.6	14	2.5	33	3.0
42	106	4.3	66	4.2	40	4.6	26	3.8	4	3.5	24	4.3	52	4.8
43	89	3.6	55	3.5	34	3.9	23	3.4	5	4.3	20	3.6	40	3.7
44	106	4.3	62	3.9	44	5.1	18	2.6	6	5.2	22	4.0	60	5.5
45	140	5.7	84	5.3	56	6.5	40	5.9	1	0.9	37	6.7	62	5.7
46	153	6.2	110	6.9	43	5.0	46	6.7	8	7.0	37	6.7	60	5.5
47	165	6.7	105	6.6	60	6.9	56	8.2	10	8.7	27	4.9	72	6.6
48	806	32.9	549	34.6	257	29.7	232	34.0	50	43.5	188	33.8	329	30.2

Table 8.13: Raw Score Frequency Distributions—Mathematics, Grade 8

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 8.13: Raw Score Frequency Distributions—Mathematics, Grade 8 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
6	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
7	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
8	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	3	0.1	2	0.1	1	0.1	3	0.4	0	0.0	0	0.0	0	0.0
13	5	0.2	5	0.3	0	0.0	3	0.4	0	0.0	0	0.0	2	0.2
14	2	0.1	1	0.1	1	0.1	1	0.1	0	0.0	0	0.0	1	0.1
15	6	0.3	5	0.3	1	0.1	2	0.3	0	0.0	0	0.0	4	0.4
16	4	0.2	3	0.2	1	0.1	1	0.1	0	0.0	1	0.2	2	0.2
17	3	0.1	2	0.1	1	0.1	1	0.1	0	0.0	0	0.0	2	0.2
18	6	0.3	4	0.3	2	0.2	2	0.3	0	0.0	2	0.4	2	0.2
19	4	0.2	2	0.1	2	0.2	0	0.0	1	0.8	1	0.2	2	0.2
20	7	0.3	5	0.3	2	0.2	3	0.4	0	0.0	2	0.4	2	0.2
21	5	0.2	4	0.3	1	0.1	3	0.4	1	0.8	1	0.2	0	0.0
22	9	0.4	5	0.3	4	0.5	5	0.7	1	0.8	0	0.0	3	0.3
23	6	0.3	1	0.1	5	0.6	1	0.1	0	0.0	3	0.6	2	0.2
24	29	1.2	19	1.2	10	1.2	9	1.3	2	1.7	4	0.8	13	1.2
25	5	0.2	2	0.1	3	0.3	1	0.1	0	0.0	0	0.0	4	0.4
26	14	0.6	10	0.7	4	0.5	5	0.7	0	0.0	2	0.4	7	0.7
27	13	0.5	5	0.3	8	0.9	3	0.4	0	0.0	2	0.4	8	0.7
28	11	0.5	7	0.5	4	0.5	1	0.1	0	0.0	4	0.8	6	0.6
29	9	0.4	8	0.5	1	0.1	2	0.3	1	0.8	3	0.6	3	0.3
30	72	3.0	45	2.9	27	3.1	14	2.0	4	3.4	11	2.2	43	4.0
31	15	0.6	7	0.5	8	0.9	5	0.7	0	0.0	4	0.8	6	0.6
32	21	0.9	13	0.8	8	0.9	4	0.6	1	0.8	7	1.4	9	0.8
33	36	1.5	20	1.3	16	1.9	9	1.3	1	0.8	6	1.2	20	1.9
34	17	0.7	13	0.8	4	0.5	5	0.7	1	0.8	2	0.4	9	0.8
35	29	1.2	16	1.0	13	1.5	11	1.6	0	0.0	6	1.2	12	1.1
36	64	2.7	39	2.5	25	2.9	12	1.7	5	4.2	13	2.6	34	3.2
37	45	1.9	27	1.8	18	2.1	12	1.7	0	0.0	11	2.2	22	2.0
38	51	2.1	27	1.8	24	2.8	10	1.5	4	3.4	12	2.4	25	2.3
39	91	3.8	59	3.8	32	3.7	31	4.5	3	2.5	16	3.2	41	3.8
40	70	2.9	43	2.8	27	3.1	24	3.5	2	1.7	19	3.8	24	2.2
41	70	2.9	47	3.1	23	2.7	29	4.2	4	3.4	16	3.2	21	2.0
42	96	4.0	50	3.3	46	5.3	23	3.3	5	4.2	22	4.4	46	4.3
43	79	3.3	45	2.9	34	3.9	22	3.2	3	2.5	17	3.4	37	3.4
44	114	4.8	78	5.1	36	4.2	33	4.8	7	5.9	31	6.2	42	3.9
45	171	7.1	113	7.4	58	6.7	48	7.0	14	11.9	35	7.0	73	6.8
46	174	7.3	120	7.8	54	6.3	52	7.6	10	8.5	28	5.6	81	7.5
47	201	8.4	132	8.6	69	8.0	57	8.3	14	11.9	39	7.8	88	8.2
48	835	34.8	548	35.7	287	33.3	241	35.0	34	28.8	177	35.5	377	35.1

Table 8.14: Raw Score Frequency Distributions—Mathematics, High School

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
5	1	0.0	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0
6	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
7	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	3	0.1	1	0.0	2	0.1	1	0.1	0	0.0	0	0.0	2	0.1
10	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
11	4	0.1	1	0.0	3	0.2	2	0.2	1	0.7	1	0.1	0	0.0
12	10	0.3	4	0.2	6	0.4	1	0.1	0	0.0	2	0.3	7	0.4
13	3	0.1	2	0.1	1	0.1	1	0.1	0	0.0	1	0.1	1	0.1
14	3	0.1	3	0.1	0	0.0	1	0.1	1	0.7	1	0.1	0	0.0
15	10	0.3	8	0.3	2	0.1	1	0.1	0	0.0	3	0.4	6	0.3
16	11	0.3	7	0.3	4	0.3	4	0.4	0	0.0	1	0.1	6	0.3
17	2	0.1	0	0.0	2	0.1	1	0.1	0	0.0	1	0.1	0	0.0
18	8	0.2	6	0.3	2	0.1	2	0.2	0	0.0	2	0.3	4	0.2
19	3	0.1	2	0.1	1	0.1	2	0.2	0	0.0	0	0.0	1	0.1
20	13	0.4	6	0.3	7	0.5	3	0.3	0	0.0	4	0.5	6	0.3
21	14	0.4	6	0.3	8	0.6	2	0.2	0	0.0	5	0.7	7	0.4
22	16	0.4	7	0.3	9	0.6	3	0.3	0	0.0	1	0.1	12	0.7
23	8	0.2	3	0.1	5	0.4	3	0.3	1	0.7	2	0.3	2	0.1
24	48	1.3	32	1.4	16	1.2	15	1.5	4	2.9	5	0.7	24	1.4
25	22	0.6	12	0.5	10	0.7	6	0.6	4	2.9	5	0.7	7	0.4
26	11	0.3	9	0.4	2	0.1	1	0.1	2	1.5	1	0.1	7	0.4
27	25	0.7	10	0.4	15	1.1	3	0.3	3	2.2	8	1.1	11	0.6
28	23	0.6	14	0.6	9	0.6	4	0.4	0	0.0	5	0.7	14	0.8
29	23	0.6	20	0.9	3	0.2	10	1.0	1	0.7	3	0.4	9	0.5
30	146	4.0	80	3.5	66	4.8	27	2.7	7	5.1	28	3.7	84	4.7
31	42	1.1	20	0.9	22	1.6	10	1.0	1	0.7	12	1.6	19	1.1
32	65	1.8	38	1.6	27	1.9	30	3.0	4	2.9	6	0.8	25	1.4
33	73	2.0	43	1.9	30	2.2	17	1.7	1	0.7	11	1.5	42	2.4
34	53	1.4	32	1.4	21	1.5	16	1.6	3	2.2	7	0.9	27	1.5
35	51	1.4	31	1.3	20	1.4	15	1.5	2	1.5	7	0.9	26	1.5
36	75	2.0	48	2.1	27	1.9	24	2.4	1	0.7	9	1.2	41	2.3
37	67	1.8	44	1.9	23	1.7	16	1.6	3	2.2	13	1.7	35	2.0
38	73	2.0	48	2.1	25	1.8	13	1.3	5	3.6	18	2.4	36	2.0
39	133	3.6	90	3.9	43	3.1	35	3.5	5	3.6	26	3.5	65	3.7
40	123	3.3	74	3.2	49	3.5	33	3.3	3	2.2	28	3.7	59	3.3
41	105	2.8	76	3.3	29	2.1	30	3.0	3	2.2	23	3.1	49	2.8
42	162	4.4	97	4.2	65	4.7	46	4.5	3	2.2	28	3.7	84	4.7
43	120	3.2	82	3.6	38	2.7	35	3.5	6	4.4	21	2.8	57	3.2

Table 8.14: Raw Score Frequency Distributions—Mathematics, High School (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
44	200	5.4	131	5.7	69	5.0	47	4.6	6	4.4	48	6.4	98	5.5
45	254	6.9	147	6.4	107	7.7	66	6.5	14	10.2	38	5.1	134	7.5
46	278	7.5	171	7.4	107	7.7	75	7.4	11	8.0	74	9.9	118	6.6
47	261	7.1	169	7.3	92	6.6	67	6.6	8	5.8	49	6.6	135	7.6
48	1149	31.1	732	31.7	417	30.0	345	34.0	34	24.8	250	33.4	514	28.9

Table 8.15: Raw Score Frequency Distributions—Science, Grade 4

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	1	0.1	0	0.0	1	0.2	0	0.0	0	0.0	1	0.2	0	0.0
12	5	0.3	3	0.2	2	0.3	1	0.2	1	0.9	0	0.0	3	0.3
13	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
14	1	0.1	0	0.0	1	0.2	1	0.2	0	0.0	0	0.0	0	0.0
15	1	0.1	1	0.1	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0
16	4	0.2	4	0.3	0	0.0	2	0.4	1	0.9	0	0.0	1	0.1
17	4	0.2	3	0.2	1	0.2	2	0.4	0	0.0	1	0.2	1	0.1
18	5	0.3	4	0.3	1	0.2	1	0.2	1	0.9	2	0.5	1	0.1
19	6	0.3	2	0.1	4	0.6	2	0.4	0	0.0	0	0.0	4	0.4
20	9	0.5	7	0.5	2	0.3	0	0.0	1	0.9	0	0.0	8	0.9
21	5	0.3	4	0.3	1	0.2	1	0.2	0	0.0	1	0.2	3	0.3
22	4	0.2	4	0.3	0	0.0	0	0.0	0	0.0	0	0.0	4	0.4
23	4	0.2	3	0.2	1	0.2	1	0.2	0	0.0	2	0.5	1	0.1
24	20	1.0	13	1.0	7	1.1	9	1.8	0	0.0	3	0.7	7	0.8
25	9	0.5	6	0.4	3	0.5	2	0.4	1	0.9	1	0.2	5	0.5
26	6	0.3	4	0.3	2	0.3	1	0.2	1	0.9	1	0.2	3	0.3
27	6	0.3	3	0.2	3	0.5	2	0.4	0	0.0	0	0.0	4	0.4
28	2	0.1	0	0.0	2	0.3	1	0.2	0	0.0	0	0.0	1	0.1
29	10	0.5	8	0.6	2	0.3	4	0.8	0	0.0	0	0.0	6	0.6
30	44	2.2	31	2.3	13	2.1	8	1.6	1	0.9	8	1.9	27	2.9
31	11	0.6	6	0.4	5	0.8	3	0.6	0	0.0	5	1.2	3	0.3
32	20	1.0	16	1.2	4	0.6	5	1.0	2	1.8	3	0.7	10	1.1
33	20	1.0	9	0.7	11	1.8	1	0.2	1	0.9	5	1.2	13	1.4

Table 8.15: Raw Score Frequency Distributions—Science, Grade 4 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
34	13	0.7	5	0.4	8	1.3	3	0.6	0	0.0	2	0.5	8	0.9
35	25	1.3	18	1.3	7	1.1	10	2.0	2	1.8	4	1.0	8	0.9
36	49	2.5	32	2.4	17	2.8	11	2.2	0	0.0	8	1.9	29	3.1
37	27	1.4	17	1.3	10	1.6	6	1.2	1	0.9	5	1.2	15	1.6
38	35	1.8	15	1.1	20	3.2	7	1.4	2	1.8	7	1.7	19	2.0
39	61	3.1	41	3.0	20	3.2	10	2.0	4	3.7	13	3.1	34	3.6
40	66	3.3	45	3.3	21	3.4	20	3.9	5	4.6	17	4.1	23	2.5
41	49	2.5	38	2.8	11	1.8	8	1.6	1	0.9	17	4.1	23	2.5
42	84	4.3	64	4.7	20	3.2	16	3.1	6	5.5	16	3.9	46	4.9
43	66	3.3	46	3.4	20	3.2	19	3.7	2	1.8	14	3.4	31	3.3
44	117	5.9	79	5.8	38	6.2	31	6.1	6	5.5	28	6.8	52	5.6
45	121	6.1	81	6.0	40	6.5	33	6.5	7	6.4	21	5.1	58	6.2
46	138	7.0	102	7.5	36	5.8	45	8.8	10	9.2	37	8.9	45	4.8
47	132	6.7	88	6.5	44	7.1	41	8.1	5	4.6	22	5.3	63	6.8
48	792	40.1	554	40.8	238	38.6	201	39.5	48	44.0	169	40.8	371	39.8

Table 8.16: Raw Score Frequency Distributions—Science, Grade 8

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	2	0.1	1	0.1	1	0.1	2	0.3	0	0.0	0	0.0	0	0.0
13	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	5	0.2	4	0.3	1	0.1	0	0.0	0	0.0	2	0.4	3	0.3
16	6	0.3	3	0.2	3	0.3	1	0.1	1	0.9	3	0.6	1	0.1
17	3	0.1	2	0.1	1	0.1	1	0.1	0	0.0	0	0.0	2	0.2
18	5	0.2	3	0.2	2	0.2	1	0.1	1	0.9	2	0.4	1	0.1
19	6	0.3	2	0.1	4	0.5	2	0.3	0	0.0	1	0.2	3	0.3
20	5	0.2	4	0.3	1	0.1	1	0.1	0	0.0	0	0.0	4	0.4
21	10	0.4	9	0.6	1	0.1	3	0.4	0	0.0	1	0.2	6	0.6
22	6	0.3	5	0.3	1	0.1	3	0.4	0	0.0	2	0.4	1	0.1
23	6	0.3	2	0.1	4	0.5	4	0.6	0	0.0	0	0.0	2	0.2

Table 8.16: Raw Score Frequency Distributions—Science, Grade 8 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
24	28	1.2	18	1.2	10	1.2	12	1.7	3	2.6	3	0.6	10	0.9
25	11	0.5	8	0.5	3	0.3	1	0.1	1	0.9	1	0.2	8	0.7
26	9	0.4	8	0.5	1	0.1	4	0.6	0	0.0	0	0.0	5	0.5
27	10	0.4	6	0.4	4	0.5	4	0.6	1	0.9	1	0.2	4	0.4
28	12	0.5	10	0.7	2	0.2	2	0.3	1	0.9	4	0.8	5	0.5
29	8	0.3	5	0.3	3	0.3	2	0.3	1	0.9	0	0.0	5	0.5
30	68	2.8	43	2.8	25	2.9	12	1.7	3	2.6	10	2.0	43	4.0
31	17	0.7	7	0.5	10	1.2	6	0.9	0	0.0	4	0.8	7	0.7
32	24	1.0	17	1.1	7	0.8	7	1.0	2	1.7	6	1.2	9	0.8
33	28	1.2	13	0.9	15	1.7	5	0.7	3	2.6	3	0.6	17	1.6
34	33	1.4	25	1.6	8	0.9	13	1.9	2	1.7	4	0.8	13	1.2
35	32	1.3	16	1.0	16	1.9	12	1.7	2	1.7	8	1.6	10	0.9
36	48	2.0	29	1.9	19	2.2	13	1.9	2	1.7	10	2.0	23	2.1
37	45	1.9	30	2.0	15	1.7	11	1.6	3	2.6	12	2.4	19	1.8
38	65	2.7	47	3.1	18	2.1	17	2.5	5	4.3	16	3.2	27	2.5
39	68	2.8	44	2.9	24	2.8	17	2.5	3	2.6	18	3.6	30	2.8
40	76	3.2	52	3.4	24	2.8	23	3.3	1	0.9	14	2.8	37	3.5
41	61	2.6	36	2.4	25	2.9	18	2.6	6	5.1	11	2.2	26	2.4
42	118	4.9	80	5.2	38	4.4	38	5.5	3	2.6	30	6.0	46	4.3
43	76	3.2	41	2.7	35	4.1	20	2.9	2	1.7	19	3.8	35	3.3
44	114	4.8	67	4.4	47	5.5	34	4.9	7	6.0	22	4.4	51	4.8
45	165	6.9	106	6.9	59	6.9	58	8.4	9	7.7	29	5.8	68	6.3
46	161	6.7	105	6.9	56	6.5	42	6.1	12	10.3	40	8.0	65	6.1
47	179	7.5	109	7.1	70	8.1	41	6.0	12	10.3	35	7.0	91	8.5
48	875	36.6	567	37.1	308	35.8	258	37.5	31	26.5	184	37.0	392	36.6

Table 8.17: Raw Score Frequency Distributions—Science, High School

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1	0	0.0
5	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
6	2	0.1	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	2	0.1
7	2	0.1	1	0.0	1	0.1	0	0.0	0	0.0	1	0.1	1	0.1
8	1	0.0	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
9	1	0.0	0	0.0	1	0.1	0	0.0	1	0.7	0	0.0	0	0.0
10	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	8	0.2	4	0.2	4	0.3	2	0.2	1	0.7	1	0.1	4	0.2
13	4	0.1	1	0.0	3	0.2	1	0.1	0	0.0	3	0.4	0	0.0

Table 8.17: Raw Score Frequency Distributions—Science, High School (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
14	1	0.0	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
15	2	0.1	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	2	0.1
16	7	0.2	4	0.2	3	0.2	3	0.3	0	0.0	1	0.1	3	0.2
17	2	0.1	2	0.1	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
18	7	0.2	4	0.2	3	0.2	2	0.2	0	0.0	2	0.3	3	0.2
19	7	0.2	5	0.2	2	0.1	3	0.3	0	0.0	1	0.1	3	0.2
20	10	0.3	7	0.3	3	0.2	2	0.2	2	1.5	2	0.3	4	0.2
21	13	0.4	6	0.3	7	0.5	2	0.2	0	0.0	3	0.4	8	0.4
22	12	0.3	7	0.3	5	0.4	1	0.1	0	0.0	4	0.5	7	0.4
23	13	0.4	9	0.4	4	0.3	6	0.6	1	0.7	2	0.3	4	0.2
24	39	1.1	26	1.1	13	0.9	10	1.0	1	0.7	9	1.2	19	1.1
25	9	0.2	6	0.3	3	0.2	2	0.2	1	0.7	4	0.5	2	0.1
26	9	0.2	6	0.3	3	0.2	2	0.2	2	1.5	2	0.3	3	0.2
27	19	0.5	15	0.7	4	0.3	5	0.5	0	0.0	7	0.9	6	0.3
28	14	0.4	8	0.3	6	0.4	6	0.6	0	0.0	3	0.4	5	0.3
29	18	0.5	7	0.3	11	0.8	1	0.1	1	0.7	5	0.7	11	0.6
30	130	3.5	72	3.1	58	4.2	21	2.1	5	3.7	22	3.0	82	4.6
31	40	1.1	22	1.0	18	1.3	9	0.9	3	2.2	7	0.9	21	1.2
32	52	1.4	29	1.3	23	1.7	23	2.3	2	1.5	11	1.5	16	0.9
33	46	1.2	33	1.4	13	0.9	14	1.4	2	1.5	8	1.1	22	1.2
34	48	1.3	28	1.2	20	1.4	17	1.7	1	0.7	9	1.2	21	1.2
35	47	1.3	25	1.1	22	1.6	14	1.4	3	2.2	8	1.1	22	1.2
36	69	1.9	48	2.1	21	1.5	22	2.2	3	2.2	12	1.6	32	1.8
37	71	1.9	45	2.0	26	1.9	19	1.9	3	2.2	10	1.3	39	2.2
38	76	2.1	51	2.2	25	1.8	23	2.3	4	2.9	18	2.4	31	1.7
39	106	2.9	67	2.9	39	2.8	25	2.4	5	3.7	20	2.7	55	3.1
40	121	3.3	74	3.2	47	3.4	35	3.4	2	1.5	23	3.1	60	3.4
41	118	3.2	74	3.2	44	3.2	33	3.2	3	2.2	22	3.0	58	3.3
42	171	4.6	109	4.7	62	4.5	31	3.0	9	6.6	43	5.8	86	4.8
43	136	3.7	82	3.6	54	3.9	40	3.9	5	3.7	24	3.2	66	3.7
44	172	4.7	113	4.9	59	4.2	48	4.7	5	3.7	36	4.9	82	4.6
45	217	5.9	142	6.2	75	5.4	54	5.3	7	5.1	37	5.0	118	6.6
46	273	7.4	173	7.5	100	7.2	72	7.1	12	8.8	55	7.4	133	7.5
47	244	6.6	141	6.1	103	7.4	63	6.2	15	11.0	48	6.5	116	6.5
48	1358	36.7	856	37.1	502	36.1	407	39.9	37	27.2	278	37.5	629	35.4

Table 8.18: Raw Score Frequency Distributions—Social Studies, Grade 5

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 8.18: Raw Score Frequency Distributions—Social Studies, Grade 5 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	2	0.1	1	0.1	1	0.1	0	0.0	0	0.0	1	0.2	1	0.1
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	2	0.1	1	0.1	1	0.1	0	0.0	0	0.0	1	0.2	1	0.1
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
11	2	0.1	1	0.1	1	0.1	1	0.2	0	0.0	1	0.2	0	0.0
12	6	0.3	5	0.4	1	0.1	0	0.0	0	0.0	6	1.1	0	0.0
13	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
14	2	0.1	1	0.1	1	0.1	0	0.0	2	1.9	0	0.0	0	0.0
15	4	0.2	3	0.2	1	0.1	2	0.4	0	0.0	1	0.2	1	0.1
16	3	0.1	1	0.1	2	0.3	0	0.0	1	1.0	1	0.2	1	0.1
17	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	5	0.2	2	0.1	3	0.4	0	0.0	0	0.0	2	0.4	3	0.3
19	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	3	0.1	2	0.1	1	0.1	0	0.0	0	0.0	0	0.0	3	0.3
21	6	0.3	5	0.4	1	0.1	0	0.0	1	1.0	1	0.2	4	0.4
22	5	0.2	2	0.1	3	0.4	2	0.4	0	0.0	2	0.4	1	0.1
23	10	0.5	8	0.6	2	0.3	2	0.4	0	0.0	2	0.4	6	0.6
24	18	0.8	12	0.8	6	0.8	4	0.7	1	1.0	5	0.9	8	0.8
25	5	0.2	3	0.2	2	0.3	0	0.0	0	0.0	2	0.4	3	0.3
26	12	0.6	11	0.8	1	0.1	4	0.7	0	0.0	2	0.4	5	0.5
27	11	0.5	6	0.4	5	0.7	5	0.9	0	0.0	3	0.6	3	0.3
28	11	0.5	9	0.6	2	0.3	3	0.5	0	0.0	2	0.4	6	0.6
29	12	0.6	10	0.7	2	0.3	5	0.9	0	0.0	2	0.4	5	0.5
30	83	3.8	48	3.4	35	4.6	16	2.9	1	1.0	16	3.0	50	5.1
31	19	0.9	13	0.9	6	0.8	3	0.5	1	1.0	6	1.1	9	0.9
32	26	1.2	16	1.1	10	1.3	7	1.3	2	1.9	5	0.9	12	1.2
33	31	1.4	17	1.2	14	1.9	5	0.9	1	1.0	7	1.3	18	1.9
34	23	1.1	17	1.2	6	0.8	8	1.5	1	1.0	5	0.9	9	0.9
35	18	0.8	9	0.6	9	1.2	5	0.9	0	0.0	4	0.8	9	0.9
36	62	2.9	41	2.9	21	2.8	13	2.4	3	2.9	17	3.2	27	2.8
37	35	1.6	25	1.8	10	1.3	9	1.6	3	2.9	5	0.9	18	1.9
38	39	1.8	27	1.9	12	1.6	10	1.8	2	1.9	10	1.9	17	1.7
39	77	3.5	54	3.8	23	3.0	19	3.5	3	2.9	14	2.6	41	4.2
40	61	2.8	41	2.9	20	2.6	15	2.7	4	3.8	13	2.4	29	3.0
41	65	3.0	40	2.8	25	3.3	16	2.9	3	2.9	16	3.0	30	3.1
42	112	5.2	72	5.1	40	5.3	23	4.2	4	3.8	25	4.7	59	6.1
43	67	3.1	43	3.0	24	3.2	15	2.7	2	1.9	15	2.8	35	3.6
44	97	4.5	56	4.0	41	5.4	24	4.4	9	8.6	25	4.7	39	4.0
45	102	4.7	70	4.9	32	4.2	30	5.5	3	2.9	21	4.0	47	4.8
46	126	5.8	77	5.4	49	6.5	41	7.5	9	8.6	36	6.8	39	4.0
47	119	5.5	75	5.3	44	5.8	29	5.3	2	1.9	27	5.1	61	6.3
48	888	40.9	589	41.6	299	39.6	232	42.3	47	44.8	229	43.1	371	38.2

Table 8.19: Raw Score Frequency Distributions—Social Studies, Grade 8

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	2	0.1	2	0.1	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
8	1	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	1	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	3	0.1	3	0.2	0	0.0	1	0.1	0	0.0	1	0.2	1	0.1
13	3	0.1	3	0.2	0	0.0	3	0.4	0	0.0	0	0.0	0	0.0
14	1	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
15	4	0.2	2	0.1	2	0.2	2	0.3	0	0.0	0	0.0	2	0.2
16	9	0.4	4	0.3	5	0.6	2	0.3	0	0.0	2	0.4	5	0.5
17	7	0.3	7	0.5	0	0.0	3	0.4	0	0.0	0	0.0	4	0.4
18	4	0.2	0	0.0	4	0.5	0	0.0	0	0.0	2	0.4	2	0.2
19	1	0.0	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0
20	5	0.2	2	0.1	3	0.3	1	0.1	0	0.0	0	0.0	4	0.4
21	12	0.5	10	0.7	2	0.2	4	0.6	1	0.9	0	0.0	7	0.7
22	3	0.1	1	0.1	2	0.2	2	0.3	0	0.0	0	0.0	1	0.1
23	11	0.5	6	0.4	5	0.6	4	0.6	0	0.0	2	0.4	5	0.5
24	26	1.1	16	1.0	10	1.2	9	1.3	1	0.9	7	1.4	9	0.8
25	6	0.3	3	0.2	3	0.3	2	0.3	1	0.9	0	0.0	3	0.3
26	8	0.3	5	0.3	3	0.3	4	0.6	0	0.0	1	0.2	3	0.3
27	10	0.4	7	0.5	3	0.3	4	0.6	0	0.0	2	0.4	4	0.4
28	6	0.3	1	0.1	5	0.6	1	0.1	1	0.9	1	0.2	3	0.3
29	17	0.7	8	0.5	9	1.0	7	1.0	3	2.6	1	0.2	6	0.6
30	77	3.2	55	3.6	22	2.6	12	1.7	2	1.7	13	2.6	49	4.6
31	24	1.0	16	1.0	8	0.9	6	0.9	3	2.6	1	0.2	14	1.3
32	29	1.2	20	1.3	9	1.0	9	1.3	4	3.4	3	0.6	13	1.2
33	34	1.4	19	1.2	15	1.7	8	1.2	1	0.9	10	2.0	15	1.4
34	35	1.5	25	1.6	10	1.2	16	2.3	1	0.9	4	0.8	14	1.3
35	26	1.1	16	1.0	10	1.2	11	1.6	1	0.9	2	0.4	12	1.1
36	69	2.9	39	2.5	30	3.5	19	2.8	4	3.4	16	3.2	30	2.8
37	39	1.6	24	1.6	15	1.7	8	1.2	1	0.9	10	2.0	20	1.9
38	53	2.2	28	1.8	25	2.9	17	2.5	2	1.7	10	2.0	24	2.2
39	96	4.0	64	4.2	32	3.7	24	3.5	5	4.3	23	4.6	44	4.1
40	59	2.5	37	2.4	22	2.6	18	2.6	6	5.1	10	2.0	25	2.3
41	81	3.4	56	3.7	25	2.9	18	2.6	4	3.4	20	4.0	39	3.6
42	127	5.3	81	5.3	46	5.3	31	4.5	4	3.4	35	7.0	56	5.2
43	88	3.7	58	3.8	30	3.5	27	3.9	3	2.6	22	4.4	36	3.4

Table 8.19: Raw Score Frequency Distributions—Social Studies, Grade 8 (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
44	115	4.8	76	5.0	39	4.5	27	3.9	8	6.8	24	4.8	54	5.0
45	141	5.9	90	5.9	51	5.9	35	5.1	11	9.4	26	5.2	69	6.4
46	142	5.9	95	6.2	47	5.5	45	6.5	5	4.3	38	7.6	54	5.0
47	142	5.9	92	6.0	50	5.8	33	4.8	5	4.3	23	4.6	78	7.3
48	873	36.5	556	36.3	317	36.8	272	39.5	40	34.2	188	37.8	364	34.0

Table 8.20: Raw Score Frequency Distributions—Social Studies, High School

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
6	3	0.1	2	0.1	1	0.1	1	0.1	0	0.0	1	0.1	1	0.1
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	2	0.1	0	0.0	2	0.1	1	0.1	0	0.0	0	0.0	1	0.1
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	2	0.1	1	0.0	1	0.1	0	0.0	0	0.0	2	0.3	0	0.0
11	1	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
12	7	0.2	2	0.1	5	0.4	2	0.2	1	0.7	0	0.0	4	0.2
13	3	0.1	1	0.0	2	0.1	0	0.0	0	0.0	0	0.0	3	0.2
14	6	0.2	4	0.2	2	0.1	1	0.1	1	0.7	1	0.1	3	0.2
15	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
16	13	0.4	9	0.4	4	0.3	3	0.3	0	0.0	2	0.3	8	0.5
17	2	0.1	1	0.0	1	0.1	1	0.1	0	0.0	1	0.1	0	0.0
18	10	0.3	5	0.2	5	0.4	1	0.1	0	0.0	2	0.3	7	0.4
19	4	0.1	3	0.1	1	0.1	1	0.1	1	0.7	0	0.0	2	0.1
20	9	0.2	5	0.2	4	0.3	2	0.2	1	0.7	1	0.1	5	0.3
21	11	0.3	6	0.3	5	0.4	2	0.2	0	0.0	2	0.3	7	0.4
22	10	0.3	6	0.3	4	0.3	1	0.1	1	0.7	3	0.4	5	0.3
23	12	0.3	10	0.4	2	0.1	2	0.2	1	0.7	2	0.3	7	0.4
24	44	1.2	26	1.1	18	1.3	13	1.3	1	0.7	10	1.3	20	1.1
25	8	0.2	3	0.1	5	0.4	1	0.1	0	0.0	2	0.3	5	0.3
26	13	0.4	7	0.3	6	0.4	4	0.4	1	0.7	3	0.4	5	0.3
27	17	0.5	10	0.4	7	0.5	7	0.7	0	0.0	4	0.5	6	0.3
28	16	0.4	8	0.3	8	0.6	4	0.4	3	2.2	3	0.4	6	0.3
29	26	0.7	19	0.8	7	0.5	6	0.6	1	0.7	5	0.7	14	0.8
30	126	3.4	71	3.1	55	4.0	23	2.3	3	2.2	27	3.6	72	4.1
31	28	0.8	14	0.6	14	1.0	5	0.5	2	1.5	6	0.8	15	0.8
32	64	1.7	38	1.6	26	1.9	30	2.9	4	2.9	11	1.5	19	1.1
33	54	1.5	35	1.5	19	1.4	12	1.2	1	0.7	15	2.0	26	1.5

Table 8.20: Raw Score Frequency Distributions—Social Studies, High School (cont'd)

Raw Score	All Students		Male		Female		Black		Asian		Hispanic		White	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
34	47	1.3	29	1.3	18	1.3	17	1.7	0	0.0	10	1.3	20	1.1
35	39	1.1	29	1.3	10	0.7	11	1.1	2	1.5	5	0.7	20	1.1
36	90	2.4	52	2.3	38	2.7	25	2.5	4	2.9	20	2.7	41	2.3
37	65	1.8	45	1.9	20	1.4	25	2.5	2	1.5	17	2.3	21	1.2
38	71	1.9	42	1.8	29	2.1	16	1.6	2	1.5	16	2.1	37	2.1
39	116	3.1	70	3.0	46	3.3	33	3.2	7	5.1	19	2.5	56	3.2
40	125	3.4	85	3.7	40	2.9	30	2.9	1	0.7	28	3.7	66	3.7
41	109	2.9	66	2.9	43	3.1	31	3.0	3	2.2	25	3.3	49	2.8
42	186	5.0	117	5.1	69	5.0	43	4.2	5	3.6	28	3.7	108	6.1
43	128	3.5	80	3.5	48	3.4	40	3.9	10	7.3	25	3.3	53	3.0
44	175	4.7	104	4.5	71	5.1	50	4.9	10	7.3	43	5.7	70	3.9
45	214	5.8	148	6.4	66	4.7	52	5.1	6	4.4	43	5.7	112	6.3
46	236	6.4	148	6.4	88	6.3	50	4.9	11	8.0	52	6.9	122	6.9
47	249	6.7	163	7.1	86	6.2	84	8.2	12	8.8	39	5.2	113	6.4
48	1358	36.7	844	36.5	514	36.9	389	38.2	40	29.2	275	36.7	645	36.3

8.2 Performance Level Frequency Distributions

Shown below, in Tables 8.21 through 8.24, are performance level frequency distributions for each grade and subject area. Frequencies are shown for all students in the state, as well as broken out by gender and ethnicity (Black, Asian, Hispanic, and White). (Note: Performance levels are abbreviated as NM: not meeting learning standards; PM: partially meeting learning standards; M: meeting learning standards; and MD: meeting learning standards with distinction.)

Table 8.21: Performance Level Frequency Distributions—English Language Arts

Grade	Performance Level	All Students		Male		Female		Black		Asian		Hispanic		White	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
3	NM	35	1.7	29	2.1	6	1.0	6	1.1	0	0.0	10	2.2	19	2.1
	PM	264	13.1	181	12.9	83	13.6	71	12.9	15	13.6	68	14.8	109	12.3
	M	518	25.7	352	25.1	166	27.1	126	22.8	28	25.5	119	25.9	244	27.5
	MD	1197	59.4	840	59.9	357	58.3	349	63.2	67	60.9	263	57.2	514	58.0
4	NM	30	1.5	20	1.5	10	1.6	10	2.0	1	0.9	5	1.2	14	1.5
	PM	338	17.0	222	16.3	116	18.8	83	16.3	19	17.4	61	14.6	174	18.6
	M	421	21.2	295	21.6	126	20.4	94	18.5	22	20.2	96	22.9	204	21.8
	MD	1194	60.2	828	60.7	366	59.2	322	63.3	67	61.5	257	61.3	543	58.1
5	NM	25	1.1	19	1.3	6	0.8	8	1.5	2	1.9	7	1.3	8	0.8
	PM	80	3.7	58	4.1	22	2.9	30	5.5	7	6.7	21	3.9	22	2.3
	M	482	22.1	316	22.2	166	22.0	117	21.3	13	12.4	116	21.6	235	24.1
	MD	1593	73.1	1031	72.4	562	74.3	395	71.8	83	79.0	392	73.1	709	72.8
6	NM	74	3.3	51	3.5	23	3.0	24	3.9	10	7.5	14	2.9	26	2.6
	PM	166	7.4	110	7.4	56	7.2	43	6.9	10	7.5	39	8.0	73	7.4
	M	464	20.6	293	19.8	171	22.1	110	17.7	25	18.8	109	22.2	218	22.0
	MD	1547	68.7	1024	69.3	523	67.7	443	71.5	88	66.2	328	66.9	676	68.1
7	NM	27	1.1	18	1.1	9	1.0	8	1.2	0	0.0	8	1.5	11	1.0
	PM	262	10.7	173	10.9	89	10.3	69	10.1	9	7.7	61	11.1	123	11.3
	M	488	19.9	307	19.4	181	21.0	129	19.0	19	16.2	105	19.1	234	21.5
	MD	1670	68.2	1086	68.6	584	67.7	474	69.7	89	76.1	377	68.4	720	66.2
8	NM	29	1.2	22	1.4	7	0.8	17	2.5	0	0.0	5	1.0	7	0.7
	PM	211	8.8	135	8.8	76	8.8	56	8.1	13	11.0	39	7.8	103	9.6
	M	475	19.8	308	20.1	167	19.3	146	21.2	26	22.0	88	17.6	213	19.8
	MD	1681	70.2	1067	69.6	614	71.1	469	68.2	79	66.9	368	73.6	751	69.9
High School	NM	24	0.6	13	0.6	11	0.8	7	0.7	0	0.0	4	0.5	13	0.7
	PM	240	6.5	145	6.3	95	6.8	64	6.3	7	5.1	48	6.4	121	6.8
	M	743	20.1	465	20.1	278	20.0	198	19.4	32	23.4	156	20.9	355	20.0
	MD	2697	72.8	1693	73.1	1004	72.3	754	73.7	98	71.5	539	72.2	1288	72.5

Table 8.22: Performance Level Frequency Distributions—Mathematics

Grade	Performance Level	All Students		Male		Female		Black		Asian		Hispanic		White	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
3	NM	12	0.6	11	0.8	1	0.2	0	0.0	1	0.9	3	0.6	8	0.9
	PM	197	9.8	133	9.5	64	10.4	47	8.5	10	9.0	55	11.8	85	9.6
	M	413	20.5	268	19.1	145	23.7	121	21.9	22	19.8	78	16.8	191	21.6
	MD	1397	69.2	994	70.7	403	65.7	384	69.6	78	70.3	329	70.8	601	67.9
4	NM	41	2.1	23	1.7	18	2.9	8	1.6	1	0.9	9	2.1	23	2.5
	PM	182	9.2	122	8.9	60	9.7	45	8.8	8	7.4	27	6.4	100	10.7
	M	357	18.0	227	16.6	130	21.1	89	17.5	17	15.7	68	16.2	183	19.6
	MD	1402	70.7	993	72.7	409	66.3	368	72.2	82	75.9	315	75.2	628	67.2
5	NM	25	1.1	16	1.1	9	1.2	4	0.7	2	1.9	9	1.7	10	1.0
	PM	145	6.6	86	6.0	59	7.8	31	5.6	5	4.8	31	5.8	77	7.9
	M	337	15.4	219	15.4	118	15.5	83	15.1	15	14.3	88	16.4	150	15.4
	MD	1675	76.8	1102	77.4	573	75.5	431	78.5	83	79.0	408	76.1	740	75.7
6	NM	52	2.3	35	2.4	17	2.2	15	2.4	2	1.5	14	2.8	21	2.1
	PM	234	10.4	144	9.7	90	11.6	62	10.0	9	6.7	43	8.7	119	12.0
	M	455	20.2	291	19.7	164	21.2	114	18.4	33	24.6	101	20.5	206	20.7
	MD	1512	67.1	1009	68.2	503	65.0	428	69.1	90	67.2	334	67.9	647	65.2
7	NM	41	1.7	26	1.6	15	1.7	16	2.3	2	1.7	13	2.3	10	0.9
	PM	256	10.4	153	9.6	103	11.9	67	9.8	8	7.0	61	11.0	120	11.0
	M	590	24.1	377	23.8	213	24.6	158	23.2	21	18.3	127	22.8	283	26.0
	MD	1565	63.8	1031	65.0	534	61.7	441	64.7	84	73.0	355	63.8	675	62.0
8	NM	44	1.8	32	2.1	12	1.4	16	2.3	1	0.8	8	1.6	19	1.8
	PM	262	10.9	159	10.4	103	12.0	67	9.7	12	10.2	49	9.8	133	12.4
	M	709	29.6	431	28.1	278	32.3	207	30.1	33	28.0	163	32.7	304	28.3
	MD	1381	57.6	913	59.5	468	54.4	398	57.8	72	61.0	279	55.9	619	57.6
High School	NM	113	3.1	57	2.5	56	4.0	28	2.8	3	2.2	25	3.3	57	3.2
	PM	478	12.9	278	12.1	200	14.4	123	12.1	27	19.7	84	11.2	242	13.6
	M	680	18.4	443	19.2	237	17.1	182	17.9	25	18.2	131	17.5	338	19.0
	MD	2424	65.6	1529	66.3	895	64.5	681	67.2	82	59.9	508	67.9	1140	64.2

Table 8.23: Performance Level Frequency Distributions—Science

Grade	Performance Level	All Students		Male		Female		Black		Asian		Hispanic		White	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
4	NM	24	1.2	18	1.3	6	1.0	8	1.6	3	2.8	5	1.2	8	0.9
	PM	124	6.3	84	6.2	40	6.5	31	6.1	4	3.7	16	3.9	72	7.7
	M	327	16.6	204	15.0	123	20.0	76	14.9	17	15.6	69	16.7	162	17.4
	MD	1499	75.9	1052	77.5	447	72.6	394	77.4	85	78.0	324	78.3	689	74.0
8	NM	36	1.5	23	1.5	13	1.5	8	1.2	2	1.7	10	2.0	16	1.5
	PM	208	8.7	137	9.0	71	8.2	60	8.7	12	10.3	32	6.4	104	9.7
	M	456	19.1	292	19.1	164	19.0	129	18.8	27	23.1	96	19.3	202	18.9
	MD	1688	70.7	1075	70.4	613	71.2	491	71.4	76	65.0	359	72.2	748	69.9
High School	NM	46	1.2	24	1.0	22	1.6	14	1.4	2	1.5	10	1.3	20	1.1
	PM	378	10.2	220	9.5	158	11.4	90	8.8	18	13.2	81	10.9	188	10.6
	M	702	19.0	445	19.3	257	18.5	202	19.8	26	19.1	130	17.5	340	19.1
	MD	2571	69.5	1616	70.1	955	68.6	715	70.0	90	66.2	521	70.2	1230	69.2

Table 8.24: Performance Level Frequency Distributions—Social Studies

Grade	Performance Level	All Students		Male		Female		Black		Asian		Hispanic		White	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
5	NM	31	1.4	19	1.3	12	1.6	3	0.5	3	2.9	14	2.6	11	1.1
	PM	271	12.5	176	12.4	95	12.6	63	11.5	8	7.6	60	11.3	139	14.3
	M	469	21.6	309	21.9	160	21.2	110	20.1	22	21.0	104	19.6	230	23.7
	MD	1399	64.5	910	64.4	489	64.7	371	67.8	72	68.6	353	66.5	592	60.9
8	NM	57	2.4	37	2.4	20	2.3	22	3.2	1	0.9	6	1.2	28	2.6
	PM	248	10.4	156	10.2	92	10.7	66	9.6	16	13.7	41	8.2	124	11.6
	M	458	19.2	289	18.9	169	19.6	131	19.0	24	20.5	95	19.1	208	19.4
	MD	1628	68.1	1048	68.5	580	67.4	470	68.2	76	65.0	356	71.5	711	66.4
High School	NM	85	2.3	46	2.0	39	2.8	16	1.6	5	3.6	16	2.1	48	2.7
	PM	290	7.8	168	7.3	122	8.8	65	6.4	12	8.8	62	8.3	150	8.4
	M	780	21.1	491	21.3	289	20.8	230	22.6	26	19.0	166	22.2	355	20.0
	MD	2546	68.8	1604	69.5	942	67.7	708	69.5	94	68.6	505	67.4	1223	68.9