

TECHNICAL REPORT 2014-2015

**Pennsylvania Alternate
System of Assessment**

**A Statewide Assessment for
Students with Significant
Cognitive Disabilities**

**2015 Reading and Mathematics
Grades 3/4, 5/6, 7/8 and 11**

Provided by

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Pennsylvania Alternate System of Assessment

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PREFACE

An Overview of the Pennsylvania Alternate System of Assessment (PASA) from 2000 to the Present

The *Pennsylvania Alternate System of Assessment (PASA) Reading and Math* tests were introduced as the statewide alternate assessment during the 2000-2001 school year. Initially, the test was designed for use in grades 5, 8, and 11. It began as a set of four extended performance tasks, two related to reading and two related to mathematics. The extended performance tasks were divided into component steps, and performance on each step was scored separately. In the process of pilot testing and validating the conceptual framework for the assessment, it was recommended by administrators and confirmed by raters evaluating student performance that administration and scoring as well as student performance were hindered by the extended task format. Consequently, *PASA Reading and Math* ceased to be an extended set of performance tasks and instead became an assessment comprised of several independent test items or small item sets linked to one stimulus (e.g., a paragraph). In the 2002-03 school year, grade 3 was added to the set of grades tested. In the 2004-05 school year, grades 4, 6, and 7 were included in a mandatory pilot test. In 2005-06, *PASA Reading and Math* scores were included in the calculation of AYP in grades 3 through 8 and 11.

Although student proficiency scores have always been reported to parents, *PASA Reading and Math* tests were not designed to be used to make individual student-level instructional decisions. Instead, *PASA Reading* and *PASA Math* tests were designed in response to federal laws requiring that all students, including those with the most severe disabilities, participate in the statewide accountability process (see Section 504 of The Rehabilitation Act; Title II of the Americans with Disabilities Act of 1990; Title I of the Elementary and Secondary Education Act; and the Individuals with Disabilities Education Act (IDEA) Amendments of 1997). Later, *PASA Reading and Math* were used to meet the requirements of No Child Left Behind (NCLB).

Assessment Activities from 2000 to 2008

Prior to the 2006-07 spring administration of *PASA Reading and Math*, a study was completed to verify the adequacy of the conceptual framework underlying *PASA*. Specific skills were generated by teachers within the general skill areas (Reporting Categories) assessed on the *Pennsylvania System of School Assessment (PSSA)*, and were reviewed by subject matter experts, experts in the field of low incidence disabilities, and measurement experts. Specific skills ranged from items as simplistic as orienting toward materials, to reading extended blocks of text or solving word problems using addition, subtraction, multiplication, or division. Based on judgments of the cognitive complexity

and age appropriateness of each skill, items were placed at specific grade levels and levels of difficulty (A, B, or C). After skills were placed, they were again reviewed by experts to determine if those within a grade were age-appropriate. Items were also examined to determine if the levels of difficulty within a grade differed appropriately and if skills within one level of difficulty (e.g., Level A at grades 3, 5, 8, and 11) changed across grades in a way that was consistent with the *theoretical* pattern of growth for students with severe cognitive disabilities represented in the model shown in Figure 1.

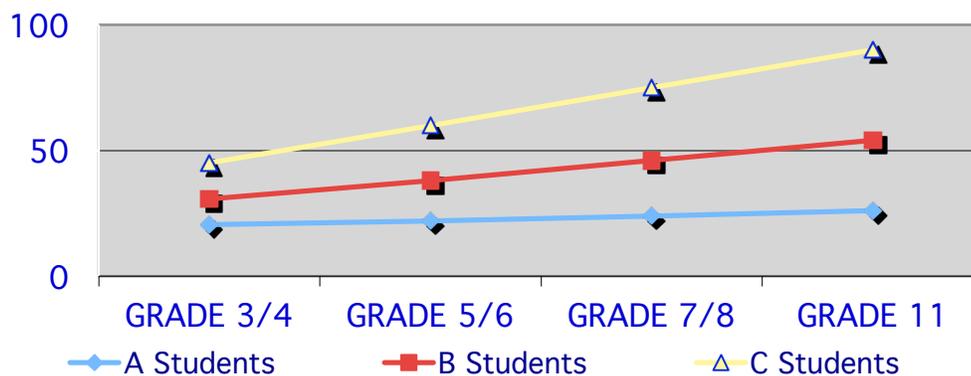


Figure 1. *Theoretical representation of growth trajectories for students assigned to Levels A, B, or C of the PASA*

All items identified by experts were then evaluated in a pilot test conducted in the fall of 2004. In this study, between 31 and 64 students at each grade level from grades 3 through 8 and 11 were recruited and given a set of reading and/or math items. Teachers were asked to also complete a Skills Checklist for each participant. In addition, teachers were asked to read three profiles that had been written to describe the typical expected performance of a student who would take level A, B, or C at a given grade level. Using a combination of patterns of endorsement on the Skills Checklist, the Skills Checklist total score, and the profile selected by a teacher to describe his/her student, students were assigned to receive a Level A, B, or C form in Reading and/or in Math. Teachers were then provided with one of several test booklets. They were instructed to administer the items as they typically would, providing the necessary accommodations and supports to bring out optimal student performance. The teachers were also asked to write down their comments about items. The performance of students was videotaped, and this, along with teacher comments on items, was submitted for scoring. Scorers were asked to rate each item from 0-5 using the standard PASA scoring rubric. They were also asked to select from a list the reason for assigning each score. The choices were that the score represented a true reflection of the student's ability, a lucky guess, or an error in the administration of the item.

Performance of students was analyzed considering both the score and the reason for the score on each item. Items were flagged if they appeared to be too easy or too difficult. In addition, items were examined within a test form to ensure that they were reasonably consistent in terms of difficulty. Items were further examined across forms to make sure that the characteristics identified as increasing the difficulty of items across grades within a level worked effectively.

Across grade levels, existing items and formats that exhibited appropriate characteristics were identified. Then, extensive reviews were conducted on items that did not perform as desired. Skills that appeared to be fundamentally flawed were eliminated from the conceptual framework. Skills that could potentially be altered and be successful were identified and revisions were made. These items were included as field test items in the subsequent spring administrations of the *PASA Reading and Math*.

From the start, individual test items were generated by professionals in special education, in reading, and in mathematics. Items were reviewed by special education, content, and technical experts in order to identify items that appeared to be biased for or against certain subgroups. Specifically, items were reviewed in an effort to identify those that appeared biased on the basis of gender and setting (rural, urban, or suburban). Items that seemed particularly problematic were revised or eliminated. Considering the nature of the cognitive disabilities of students taking *PASA Reading and Math*, care was taken to present information about subject matter with which students were likely to have direct experience (e.g., items that involve activities in the home or in school). In addition, the range of disabilities of students taking *PASA Reading and Math* and the nature of the stimuli and responses were considered and a description of acceptable accommodations was developed for inclusion in the Administrator Manual.

After extensive review by individuals in special education, reading, mathematics, and measurement, items were tried out by undergraduate and graduate students working toward degrees in special education. This review process helped to identify test administration instructions that were unclear, typographical errors in the test materials, and items for which the choice array was unwieldy.

Every year, the PASA bias review team considered each test item and the objects or graphics associated with each item. The team's primary responsibility was to evaluate every test item as to acceptability for students with vision impairments (size and color of objects; clarity of graphics), students who used sign language for communication (signing the instructions did not give away the answer; synonyms were available for vocabulary words to be signed), students whose work table would be no wider than a wheelchair tray (number and size of objects or pictures placed for student consideration), etc. The team also considered issues of familiarity with the content for students educated in separate schools or residential treatment centers, especially items in Level A of the test at any grade span. After item-by-item discussions, all comments were compiled and actions taken were recorded for future reference.

Expert review by teachers specializing in the instruction of students with hearing impairments was conducted. Certain items that were judged as being flawed (e.g., irrelevant to students with hearing impairments or flawed for students using ASL) were identified and were eliminated from the computation of these students' final scores.

The final step in item development and fairness review involved selection of objects for test kits as well as graphics, drawings, and photographs for the test booklets. For objects, availability was one consideration, but more importantly, the team considered familiarity, functionality, size, and color. Sample item arrays were reviewed until consensus was reached on the suitability of each object for each test item. The same review process was undertaken for all graphics, pictures, and photographs prepared for the test booklets.

Assessment Activities from 2007-2008 to 2013-2014

Alignment of the PASA Reading and Math to the PA Standards and the Alternate Assessment Anchors and Eligible Content.

During 2007-08, the alignment between PASA test items on the 2006-07 test and the PA Academic Standards and Alternate Assessment Anchors and Eligible Content was examined through an Enhanced Assessment Instruments grant awarded to Pennsylvania, Georgia, Washington State, and Wyoming, with research partners from Measured Progress and the Universities of Oregon, North Carolina at Charlotte, and Western Carolina. The eight criteria used in this alignment study were developed by a collaboration of content experts, special educators, and measurement experts at UNC Charlotte (see Browder, Wakeman, Flowers, Rickleman, Pugalee, & Karvonen, 2006). While some of the alignment criteria were similar to other alignment methods (e.g., Webb, Surveys of Enacted

Curriculum, and Achieve), additional criteria (criteria 5-8) were designed especially as value indicators for students with significant cognitive disabilities. All assessment items from each of the 12 Reading and 12 Mathematics grade span assessments for 2006/07 (3&4, 5&6, 7&8, and 11 at each level A, B, and C) were examined (n=267 Reading items; n=283 Math items, n=550 total items). Only items that were included in the grade span assessments for 2006-07 were rated, not the entire bank of test items. The Executive Summary of the alignment report was provided as an appendix to the 2009 *PASA* Technical Manual. The alignment study results suggested that Pennsylvania's extended/alternate eligible content and alternate assessments for students with significant cognitive disabilities were linked to grade-level academic content in the majority of instances. The study found some areas for improvement, including decreasing the number of items that were foundational, and providing test blueprints to more explicitly show the link between *PASA* items and the alternate eligible content. As a result, tables showing the content link between the items and alternate eligible content were added to the text of the 2008 Technical Report and as appendices to the 2009 Technical Report. The August 2008 alignment report dealt only with *PASA Reading and Math*, as *PASA Science* was not administered in 2007.

Establishing the Validity Argument for the PASA Reading and Math Assessments

A series of validity studies were conducted for the *PASA Reading and Math* assessments during the 2009-10, 2010-11, 2011-12 and 2012-13 school years. A Supplemental Report providing summaries of the validity studies was developed to accompany the 2013 *PASA* Technical Manual. The validity studies from that 2013 report are summarized in Chapter 10 of this report. Initial findings impacted subsequent steps of the validation process. Development of PLDs and the subsequent analyses and comparisons of actual test data to the underlying PLD framework continued to inform the content progressions that were established for the assessment. Additionally, more expansive studies, in which students were administered test items from adjacent higher test levels (i.e., students taking the A test also administered items from the B test; or students taking the B test also administered items from the C test) that represented more cognitive demand, or students at all grade levels administered the entire set of test items within their level to examine the appropriate placement of skills by grade, were designed to inform the internal structure of the assessment and to impact a re-design of *PASA* for the 2014-2015 test administration. Taken as a whole, the validity studies presented evidence that informed the validity argument being established for the *PASA*. The evidence-based argument linked to the intended purposes of the test, which are:

- 1) To measure the degree to which students attain the knowledge and skills described in the statewide alternate eligible content, which is linked to the state academic content standards;
- 2) To provide information regarding district and school accountability; and
- 3) To improve curricular and instructional practice for students with significant cognitive disabilities and increase student learning.

Aspects related to test administration, scoring, and score reporting, such as on-line trainings, proficiency tests, and focus group meetings with parents of students with significant cognitive disabilities continued to improve the design, administration, and scoring aspects of the assessment program. As new technologies became available (e.g., computer based training), the assessment program utilized these technologies whenever possible.

Transition to PA Core Standards and Alternate Eligible Content 2013-2015

On September 12, 2013, the Pennsylvania State Board of Education approved revised Chapter 4 regulations with the adoption of Pennsylvania Core Standards in English Language Arts and Mathematics. The Pennsylvania Independent Regulatory Review Commission (IRRC) approved the final regulations on November 21, 2013. With publication of Chapter 4 in the Pennsylvania Bulletin, the new PA Core Standards took effect on March 1, 2014.

Pennsylvania's Core Standards are a set of rigorous academic expectations in English Language Arts and Mathematics that all students should master by the end of each grade level. The PA Core Standards are robust, relevant to the real world, and reflect the knowledge and skills young people need to succeed in life after high school, in both post-secondary education and a globally competitive workforce. PA's Core Standards are a variant of the Common Core Standards that emerged nationally around this time.

Once the PA Core Standards were adopted by the State Board (Fall 2013), assessment anchors and eligible content were selected to guide instruction and the development of a revised *PSSA* for ELA and Mathematics to be launched in Spring 2014. The Bureau of Special Education challenged the *PASA Project* to redesign the *PASA* tests on the same timeline, that is, to bring the *PASA* tests into alignment with the PA Core Standards by Spring 2014. *PASA* staff could not deliver on that request for two reasons: (1) the 2014 test was already at the printer, and (2) BSE had not yet developed *alternate* assessment anchors and eligible content that would define the parameters of a revised *PASA*. Anticipating that an aligned test would become available from one of the two consortia

funded by OSEP for that purpose, BSE decided that the 2014 test administration would be the last use of the *PASA* tests; PA prepared to adopt, instead, the more rigorous and aligned (to the Common Core, of which the PA Core is a minor variant) assessment being developed by NCSC or DLM. A few months later, this decision was reversed with an agreement that the *PASA* Project at the University of Pittsburgh would develop a few new test items (aligned with the PA Core Standards) that would be inserted into the *PASA* 2015 tests and a total redesign of the *PASA* content could be expected by the spring assessment in 2016. The redesign would include nine elements:

- New test items aligned with the alternate eligible content based on the PA Core Standards (once they had been developed and approved)
- Separate grade level tests for grades 3, 4, 5, 6, 7, 8, and 11 (instead of grade span tests for grades 3&4, 5&6, 7&8, and 11)
- A restricted number of answer choices (3) for all levels of the assessment (instead of 3 choices at A, 4 choices at B and 5 choices at C)
- All test items written in a multiple choice format with no requirement for verbal/production responses (and therefore no need for non-verbal versions of the tests to be produced and distributed)
- A revised, simplified scoring rubric, moving from a 6-point scale to a 4-point scale
- A change in scoring practices from 2-person consensus scoring to single-scorer evaluations of student performance.
- Revised Performance Level Descriptors (PLDs) and cut scores to be generated.
- *PASA Reading and Math* test scores to be scaled both horizontally (C, B, and A test levels within a grade) and vertically (by grade within a level).
- A 'placement test' for more accurate and less biased assignment of students to the appropriate Level (A, B, or C) of the *PASA*.

Assessment Activities Occurring in 2014-15

At the start of the 2014-15 fiscal year, the PA Bureau of Special Education began the process of developing, then adopting, new alternate assessment anchors and alternate eligible content derived from the PA Core Assessment Anchor Standards and Eligible Content. This new alternate eligible content would be used to define the depth and breadth of a revised set of *PASA Reading and Math* tests and assist teachers of students with significant cognitive disabilities in prioritizing instructional objectives. The process began in earnest in October 2014 with a series of working group meetings of teachers, parents, BSE personnel, supervisory and instructional support personnel from the Pennsylvania Training and Technical Assistance Network (PaTTAN) and representatives from the *PASA* Project at the University of Pittsburgh. Anticipating some of the new Core

Content that would be included in the final alternate eligible content documents, the *PASA* team developed several new reading and math items aligned with the PA Core. Because *PASA* tests go to the printer by mid-November, however, these new items were only guesses at what would remain as alternate eligible content once the entire process had been completed. Other changes incorporated into the 2014-15 tests focused on scoring (application of a revised scoring rubric and introduction of single-person scoring). Finally, a plan was developed for the 2016 test blueprint to support the data collection necessary for scaling the *PASA* test results.

By May 2015, grade-level alternate eligible content documents were completed and were prepared for review and approval by the PA State Board of Education (that review and approval will occur at the November 2015 meeting of the State Board). As expected, the final set of eligible content did not include content on which some of the new items on the 2015 *PASA* were based.

Assessment Activities Planned for 2015-16

The 2016 *PASA Reading and Math* tests will complete the revision process, incorporating all nine elements outlined above. The 2016 tests represent a complete break from the *PASA* tests administered and scored from 2007-08 to 2012-14. We anticipate beginning an entirely new set of studies to establish the validity of the new tests over the next several years. Those are outlined briefly in Chapter 11.

CHAPTER 1

OVERVIEW OF THE PENNSYLVANIA ALTERNATE SYSTEM OF ASSESSMENT (PASA) READING AND MATH

The purpose of this Technical Report is to document the development, administration, scoring, and technical quality of the 2014-15 administration of the *Pennsylvania Alternate System of Assessment (PASA) Reading, and Math* assessments. The report does not cover these same topics for *PASA Science* because in 2014-15 the Reading/Math and Science assessment functioned as separate entities. The 2014-15 administration is referred to as the 2015 *PASA R/M* throughout this report. The report is organized into 11 chapters. The chapters describe the background, purpose, design and development, administration, scoring, and score reporting of the 2015 *PASA R/M*.

Purpose of the PASA

As outlined in Chapter 4 of the State Board of Education regulations, the purposes of the statewide assessment (referring to the *Pennsylvania System of School Assessment (PSSA)*) are as follows:

- Provide students, parents, educators, and citizens with an understanding of student and school performance.
- Determine the degree to which school programs enable students to attain proficiency of the Academic Standards.
- Provide information to state policy makers, including the State Senate, the General Assembly, and the State Board of Education, on how effective Pennsylvania schools are in promoting and demonstrating student proficiency of the Academic Standards.
- Provide information to the general public on school performance.
- Provide results to school districts based on aggregate performance of *all* students, meaning students with an Individualized Education Plan (IEP) and for those without an IEP.

The *PASA* was designed to fulfill the same purposes, and ensures that Pennsylvania students with the most significant cognitive disabilities are included in the state accountability system. An additional purpose of the *PASA* is to provide information to teachers and schools to guide the improvement of curricula and instruction to enable students with the most significant cognitive disabilities to reach proficiency in Alternate Academic Standards and Eligible Content derived from the PA Core Standards.

Description of the Alternate Assessment

Historically, the *PASA R/M* assessments have been designed at three distinct levels of difficulty in each grade span 3/4, 5/6, and 7/8, and grade 11. The test levels at each grade span or grade, labeled A, B and C, represent three levels of complexity or “cognitive demand,” with Level A being the simplest and most concrete, Level B more complex, and Level C the most complex. Items on all levels of the *PASA* for a given content area are written to the same Alternate Assessment Anchors and Eligible Content. However, the skills that are evaluated and the format of the items vary on the A, B and C level tests.

Level A items included tasks across the content areas in which students matched objects, pictures, or sets, or where they selected a requested object, picture, or amount. Items on the Level A assessments were multiple choice with two distractors. Reading content on the Level A assessments involved reading simple pictures and comprehension referred to listening comprehension. Level A math items involved distinguishing between items based on mathematical concepts such as size, shape, amount and function.

The Level B assessments at each grade span or grade fell at an intermediate level of complexity. At Level B, students were not required to draw inferences in order to reach solutions. The Level B assessments consisted mainly of selected response items with limited production items. Selection items on the Level B assessments had three distractors, two of which were related. In Level B reading, tasks included working with complex pictures, icons, or sight words. In Level B math, students were asked to solve problems and answer questions using manipulatives.

Level C items were the most complex. In Level C reading, items required that the student read and answer questions about the information read. In Level C math, items required solving arithmetic problems, using tools to measure, using money, etc. In some cases, items required that students make inferences in order to determine the solution. The level C assessments contained a majority of production items, and the selected response items had four distractors. Further, option choices for the selected response items on the level C assessments were more closely related than were option choices on the other test levels.

A summary of the historic characterizations of the *PASA* test levels is:

Level A: Concrete tasks, related to personal experiences, orienting, matching, sorting, receptive labeling, objects as test material, extensive prompting and assistance

Level B: Representations using pictures, limited test and content area vocabulary, related to familiar surroundings and experiences, receptive and expressive labeling, sorting, classifying, identifying function, limited assistance

Level C: Symbolic representation using text and complex pictures, extensive test and content area vocabulary, related to experience beyond personal familiarity, labeling, applying knowledge, producing responses to open ended questions

Each form of the assessment consisted of 20-25 items. The *PASA Reading and Math* were administered to students by their teachers or another special educator who knew them well, on a one-to-one basis. The assessments consisted of a series of independent or small item sets linked to one stimulus (e.g., a paragraph of text). Teachers were provided with a suggested script to follow with each test item, as well as the text, graphics, and most objects that they would need to administer the test.

Student performance was recorded via video or digital media or through detailed narrative notes and these recordings or notes of student performance were submitted for scoring along with Supporting Documentation. The Supporting Documentation form was completed by the test administrator and provided additional background information about the student that could help scorers in interpreting a student's performance.

Alignment of the PASA Reading and Math to Assessment Anchors and Content Standards:

Historical Perspective: Alignment with Reinterpreted Chapter 4 Academic Content Standards:

Before developing the alternate assessment, the Pennsylvania Academic Standards in reading and mathematics extant in 2000 (see 22 PA Code § 4.12.) were reinterpreted in ways that would make them more meaningful and relevant to students with significant disabilities. For both content areas of reading and mathematics, the essence of each standard was first identified. Then, in conjunction with teachers, more specific skills were identified. A very iterative process was used for identifying the essence of the standards and associated skills. These sets of skills were reviewed and discussed by subject matter experts and experts in low incidence disabilities, and comments were collected regarding the validity of the standards and skills. An Advisory Committee to the *PASA Reading and Math*, consisting of stakeholders such as Pennsylvania Department of Education employees, parents of students with disabilities, and technical consultants from the *PSSA*, also reviewed the re-interpreted standards. After incorporating their suggestions, comments were solicited from any interested parties through a posting on the Pennsylvania Department of Education/*PASA* website. All feedback received was reviewed and incorporated into the standards to the fullest extent possible. The *Pennsylvania State Board of Education* formally adopted the *Pennsylvania Alternate Academic Content Standards for Reading and for Mathematics* in June 2005.

In 2005, Assessment Anchor Content Standards (Assessment Anchors) were developed to clarify the structure and improve the articulation between instruction and the

Pennsylvania System of School Assessment (PSSA), the state's standard accountability assessment. During 2007-08, a comparable set of Alternate Assessment Anchors and Eligible Content was developed for the *PASA* to parallel the alignment context of the *PSSA* and to improve the articulation between instruction and the *PASA*. These *PASA* Alternate Assessment Anchors served to communicate the eligible content or range of knowledge and skills from which the *PASA* would be designed each year. Since the Alternate Assessment Anchors and Eligible Content encompassed the grade spans 3/4, 5/6, and 7/8, and grade 11, the document informed the test design for all grade levels and levels of complexity within tested grade levels.

Realignment of PASA with PA Core Standards Beginning in 2014-15

In 2010, the PA State Board of Education adopted the model Common Core standards for Math and English Language Arts as they were developed by the National Governor's Association and Council of Chief State School Officers (CCSSO). They replaced the state academic standards for Mathematics and Reading, Writing, Speaking and Listening written into the school code when the *PASA* first appeared. Since 2010, the State Board amended the standards to tailor them more closely to Pennsylvania's specific educational needs. The revised standards written into Chapter 4 regulations that became final and effective in March 2014 are known as the Pennsylvania Core Standards (PCS). The *PSSA* began transitioning to the PCS in 2013 and continued in 2014. The *PASA* did not begin the process until October 2014 when work on developing parallel Alternate Assessment Anchors and Alternate Eligible Content began in earnest.

The content of the 2015 *PASA R/M* reflects initial efforts to realign *PASA* test items to the more rigorous content of the PCS.

Test Design

The 2015 *PASA R/M* tests at every grade and level consisted of a combination of items aligned to the previous alternate assessment anchors and new items sampled from the working documents of alternate eligible content being prepared by the Bureau of Special Education. Each grade-span test consisted of 20 items sampled across the domains of possible skills. Consideration was given to general categories (e.g., computation, measurement, money in math; comprehending fiction or informational text in reading) in order to ensure that the breadth of the content area was covered. The blueprints for the 2015 *PASA Reading and Math* are provided in Appendix A.

The 2015 *PASA* was the first step in a total redesign of the alternate assessment to bring it into alignment with the newly adopted PA Core Standards. The 2015 *PASA R/M* incorporated three of the nine redesign elements explicated in the Preface of this report (pp. xvii)

- A restricted number of answer choices (3) for all levels of the assessment (instead of 3 choices at A, 4 choices at B and 5 choices at C)
- A revised, simplified scoring rubric, moving from a 6-point scale to a 4-point scale
- A change in scoring practices from 2-person consensus scoring to single-scorer evaluations of student performance.

It also provided an operational test of new items created to be aligned to the emerging (but not yet finalized and approved) Alternate Anchors and Eligible Content.

CHAPTER 2

DESCRIPTION OF STUDENTS TAKING THE PASA

Eligibility

The *PASA Reading and Math* tests permit students with the most significant disabilities, who are unable to participate in the *PSSA* (even with accommodations), to demonstrate mastery of skills and attainment of knowledge on the alternate academic anchor standards. The *PASA* is appropriate for students who have significant cognitive disabilities and who require intensive instruction and extensive support in order to perform and/or participate meaningfully and productively in the everyday activities of integrated school, home, community and work environments. These students require substantial modifications of the general education curriculum as well as instruction in areas not presently assessed by the *PSSA*.

PASA Reading and Math is administered to students with significant cognitive disabilities in the equivalent of grades 3, 4, 5, 6, 7, 8, and 11, who meet the criteria that have been established and disseminated by the Bureau of Special Education, Pennsylvania Department of Education. The decision about participation in the regular or alternate statewide assessment is made by the student’s IEP Team, and is based on the questions raised in Figure 2. If the answer is “Yes” to all of the questions below, it is appropriate for the IEP team to consider assessing the student with the *PASA*. If the answer is “No” to any of these questions, the *PASA* would not be the appropriate statewide assessment for the student.

1. By September 1 of the school year in which this IEP will be operative, will the student be in grade 3, 4, 5, 6, 7, 8, or 11?	YES	NO
AND		
2. Does the student have significant cognitive disabilities?	YES	NO
AND		
3. Does the student require intensive instruction to learn?	YES	NO
AND		
4. Does the student require extensive adaptation and support in order to perform and/or participate meaningfully and productively in the everyday life activities of integrated school, home, community and work environments?	YES	NO
AND		
5. Does the student require substantial modifications of the general education curriculum?	YES	NO
AND		
6. Does the student’s participation in the general education curriculum differ substantially in form and/or substance from that of most other students (i.e., different objectives, materials, or activities)?	YES	NO

Figure 2. Questions Guiding Decisions about Participation in PASA

In 2015, enrollment of eligible students into the alternate assessment was conducted digitally. A packet was sent to Alternate Assessment Coordinators in every district, charter school, Cyber School, Approved Private School, and Intermediate Unit with instructions on how to enroll students online as well as the eligibility criteria chart and the *PASA* enrollment and testing calendar. Assessment coordinators were directed to pre-populated online records for students who had taken the *PASA* in the previous year and were currently in grades 4-8; students in grades 3 and 11, and all students new to the *PASA* in 2014-15 were to be added as new *PASA* participants.

To ease the enrollment process, a digital training module was placed online and could be accessed by any of the Assessment Coordinators or teachers of students with significant cognitive disabilities. 1,710 individuals completed the online enrollment training.

Description of Examinees

In 2015, a total of 17,364 students in grades 3, 4, 5, 6, 7, 8, and 11 participated in *PASA Reading and Math*. Table 1 provides the participation counts by grade level and as a percent of total participation in statewide assessment at that grade level. A total of 468 students who initially enrolled in the *PASA Math and Reading* were not administered the assessment. Explanations for non-participation were as follows: Religious reasons (n=62), extended absence (n=89), deceased/medical emergency (n=71) and other (n=246).

Table 1. *PASA Reading and Math Participation in 2015: Counts by Grade and as Percent of Students with and without IEPs Participating in Statewide Assessment*

Grade	Reading		Math	
	N	% Statewide	N	% Statewide
3	2495	1.95%	2495	1.95%
4	2520	1.99%	2520	1.99%
5	2501	1.94%	2501	1.94%
6	2530	1.96%	2530	1.96%
7	2565	1.99%	2565	1.99%
8	2551	1.94%	2551	1.94%
11	2202	1.49%*	2202	**

*Students in high school who used to participate in the 11th grade PSSA now take Keystone exams. This figure was calculated based on the number of 11th graders who took the Keystone Literature

**Could not be calculated because students who take the Algebra 1 Keystone range from 6th graders to 11th graders

Tables 2 and 3 summarize *PASA* participation counts overall and by the demographic variables of gender, ethnicity, English Language Learners, and primary disability for the *PASA Reading and Math*.

Table 2. Demographic Data for Students Assessed by the 2015 PASA Reading and Math

	Overall		3		4		5		6		7		8		11	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Gender																
Female	5727	33.0	812	32.5	808	32.1	843	33.7	822	32.5	848	33.1	851	33.4	743	33.7
Male	11637	67.0	1683	67.5	1712	67.9	1658	66.3	1708	67.5	1717	66.9	1700	66.6	1459	66.3
Ethnicity																
American Indian or Alaskan Native	24	0.1	4	0.2	2	0.1	6	0.2	4	0.2	1	0.0	2	0.1	5	0.2
Asian or Pacific Islander	440	2.5	74	3.0	72	2.9	62	2.5	69	2.7	64	2.5	56	2.2	43	2.0
Black or African American not Hispanic	3855	22.2	553	22.2	589	23.4	565	22.6	552	21.8	570	22.2	563	22.1	463	21.0
Hispanic or Latino	1932	11.1	299	12.0	315	12.5	288	11.5	272	10.8	277	10.8	269	10.5	212	9.6
Multi-racial	610	3.5	138	5.5	106	4.2	92	3.7	79	3.1	87	3.4	59	2.3	49	2.2
White (not Hispanic)	10503	60.5	1427	57.2	1436	57.0	1488	59.5	1554	61.4	1566	61.1	1602	62.8	1430	64.9
Primary Disability																
Autism	5444	31.4	952	38.2	911	36.2	831	33.2	788	31.1	756	29.5	738	28.9	468	21.3
Deaf/Blindness	20	0.1	6	0.2	1	0.0	3	0.1	2	0.1	2	0.1	3	0.1	3	0.1
Deafness/Hearing Impairment	102	0.6	11	0.4	17	0.7	11	0.4	14	0.6	14	0.5	20	0.8	15	0.7
Emotional Disturbance	340	2.0	34	1.4	46	1.8	38	1.5	45	1.8	45	1.8	63	2.5	69	3.1
Intellectual Disability	7050	40.6	813	32.6	867	34.4	948	37.9	1054	41.7	1093	42.6	1136	44.5	1139	51.7
Learning Disability	1635	9.4	235	9.4	245	9.7	254	10.2	235	9.3	251	9.8	223	8.7	192	8.7
Multiple Disabilities	1272	7.3	180	7.2	185	7.3	174	7.0	168	6.6	179	7.0	190	7.4	196	8.9

Table 2. Demographic Data for Students Assessed by the 2015 PASA Reading and Math (cont.)

Other Health Impairment	1043	6.0	182	7.3	176	7.0	161	6.4	160	6.3	165	6.4	124	4.9	75	3.4
Orthopedic Impairment	123	0.7	22	0.9	19	0.8	19	0.8	16	0.6	16	0.6	16	0.6	15	0.7
Speech/Language Impairment	124	0.7	31	1.2	21	0.8	28	1.1	16	0.6	13	0.5	12	0.5	3	0.1
Traumatic Brain Injury	69	0.4	9	0.4	5	0.2	12	0.5	7	0.3	16	0.6	9	0.4	11	0.5
Visual Impairment	142	0.8	20	0.8	27	1.1	22	0.9	25	1.0	15	0.6	17	0.7	16	0.7

Table 3. Demographic Data for Students Classified as English Language Learners Assessed by the 2015 PASA Reading and Math

ELL with Primary Disability	Overall		3		4		5		6		7		8		11	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Autism	184	19.7	37	29.1	38	26.2	29	20.7	29	19.3	24	17.8	18	13.6	9	8.7
Deaf/Blindness	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Deafness/Hearing Impairment	5	0.5	1	0.8	2	1.4	0	0.0	0	0.0	0	0.0	1	0.8	1	1.0
Emotional Disturbance	11	1.2	0	0.0	1	0.7	3	2.1	1	0.7	0	0.0	5	3.8	1	1.0
Intellectual Disability	417	44.7	43	33.9	51	35.2	64	45.7	63	42.0	72	53.3	61	46.2	63	61.2
Learning Disability	175	18.8	17	13.4	31	21.4	26	18.6	33	22.0	21	15.6	27	20.5	20	19.4
Multiple Disabilities	50	5.4	9	7.1	6	4.1	8	5.7	7	4.7	6	4.4	9	6.8	5	4.9
Other Health Impairment	13	1.4	13	10.2	9	6.2	4	2.9	8	5.3	9	6.7	7	5.3	3	2.9
Orthopedic Impairment	53	5.7	4	3.1	1	0.7	0	0.0	4	2.7	2	1.5	2	1.5	0	0.0
Speech/Language Impairment	19	2.0	3	2.4	6	4.1	5	3.6	3	2.0	0	0.0	2	1.5	0	0.0
Traumatic Brain Injury	3	0.3	0	0.0	0	0.0	1	0.7	1	0.7	0	0.0	0	0.0	1	1.0
Visual Impairment	2	0.2	0	0.0	0	0.0	0	0.0	1	0.7	1	0.7	0	0.0	0	0.0

Assignment of Students to Levels

As was described, there are *PASA Reading and Math* tests at three levels of complexity at each grade span and grade. Grade-span appropriate Skills Checklists were created in 2005 to be used to determine the appropriate level of *PASA* to be administered to each individual student. Feedback from the field indicated that completing the checklist annually was time-consuming and unnecessary; data indicated that teachers only rarely selected a different test level (A, B, or C) in subsequent years after settling on one for the first test administration. In 2014, the annual checklists were no longer used. Instead, for students in grades 4-8 who had previously taken the *PASA*, past performance was used to assign the student to a test level. For the most part, students continued to be assigned to the same *PASA* level as the year before, EXCEPT for students who earned a perfect score on last year's test. Those students were automatically assigned to a test level one-higher than level on which they scored a perfect score. Teachers were also informed that they themselves could request a *higher*, more cognitively challenging level of the test for any individual student, but requests to move a student to a *lower* level of the assessment would require considerable explanation and documentation from the teacher and would be carefully scrutinized.

For all students in grades 3 and 11 and any other students new to the *PASA*, teachers were directed to access, online, a description of the performances expected, by grade, on the A, B, and C levels of the assessment. Based on their day-to-day knowledge of each student, the teacher/test administrator was responsible for enrolling the student into a level of the *PASA* deemed appropriate.

Level Changes

In the Administrator Manual, in the administration training sessions, on the web site, and in the packets of testing materials distributed, test administrators are reminded that, if they believed the pre-assigned level of the *PASA* was not appropriate (too high or too low) they could petition the Bureau of Special Education in PDE for permission to alter the assigned level. Reasons for the request of a level change had to be provided in the petition.

The distribution of requests for level changes granted for the 2015 administration is summarized in Table 4. Of the 17,364 students enrolled in the 2015 *PASA*, a total of 268 level change requests were received, including 133 for math and 135 for reading. Table 5 details the final assignment of students, by grade, to the A, B, and C levels of the *PASA*.

Table 4. Counts of Level Change Requests by Content Area and Grade Level for the 2015 PASA

Content	Grade														Total
	3		4		5		6		7		8		11		
	Up	Down	Up	Down	Up	Down	Up	Down	Up	Down	Up	Down	Up	Down	
Math	0	0	4	7	6	8	2	14	5	46	7	34	0	0	133
Reading	0	0	3	11	5	15	3	14	13	41	5	25	0	0	135

Table 5 presents the final counts of examinees at each grade level who took the *PASA Reading and Math* overall, in each grade, and at each test level.

Table 5. Counts of Examinees taking the PASA Reading and Math Overall and by Grade and Test Level

	Reading				Math			
	Total	A	B	C	Total	A	B	C
Grade	17364	6519	7143	3702	17364	6832	6676	3856
3	2495	1431	819	245	2495	1420	794	281
4	2520	1150	997	373	2520	1156	951	413
5	2501	935	1099	467	2501	1027	968	506
6	2530	752	1138	640	2530	820	1027	683
7	2565	718	1172	675	2565	791	1064	710
8	2551	698	1082	771	2551	756	992	803
11	2202	835	836	531	2202	862	880	460

CHAPTER 3

TEST AND ITEM DEVELOPMENT

Development of the Alternate Academic Standards and Alternate Assessment Anchors and Eligible Content

Brief History. Before developing the alternate assessment, the Pennsylvania Academic Standards in reading and mathematics (22 PA Code § 4.12.) were reinterpreted in ways that would make them more meaningful and relevant for students with significant disabilities. A summary of the process follows.

For the content areas of reading and mathematics, the essence of each standard was first identified. Then, in conjunction with teachers, more specific skills were identified. These sets of skills were reviewed and discussed by subject matter experts and experts in low incidence disabilities, and comments were collected regarding the validity of the standards and skills. The Advisory Committee to the *PASA Reading and Math*, consisting of stakeholders such as Pennsylvania Department of Education employees, parents of students with disabilities, and technical consultants from the *PSSA*, also reviewed the re-interpreted standards. After incorporating their suggestions, comments were solicited from any interested parties through a posting on the Pennsylvania Department of Education/*PASA* website. All feedback received was reviewed and incorporated into the alternate standards to the fullest extent possible. The *Pennsylvania Board of Education* formally adopted the *Pennsylvania Alternate Academic Content Standards for Reading and for Mathematics* in June, 2005.

In 2005, Assessment Anchor Content Standards (Assessment Anchors) were developed to clarify the structure and improve the articulation between general education instruction and the *PSSA*. During 2007-08, a comparable set of Alternate Assessment Anchors and Eligible Content was developed for the *PASA* to parallel the alignment context of the *PSSA* and to improve the articulation between instruction and the *PASA*. These *PASA* Alternate Assessment Anchors also served to communicate the eligible content or range of knowledge and skills from which the *PASA* would be designed each year. Since the Alternate Assessment Anchors and Eligible Content encompassed the grade spans 3/4, 5/6, 7/8, and 11, the document informed the test design for all grade levels and levels of complexity within grade levels.

During 2007-08, the alignment between the *PASA* test items on the 2007 test and the PA Academic Standards and Alternate Academic Standards was examined through an

Enhanced Assessment Instruments grant awarded to Pennsylvania, Georgia, Washington State, and Wyoming, with research partners from Measured Progress and the Universities of Oregon, North Carolina at Charlotte, and Western Carolina. The eight criteria used in this alignment study were developed by a collaboration of content experts, special educators, and measurement experts at UNC Charlotte (see Browder, Wakeman, Flowers, Rickleman, Pugalee, & Karvonen, 2006). The alignment study results suggested that Pennsylvania's extended standards and alternate assessments for students with significant cognitive disabilities were linked to academic content in the majority of instances. The study found some areas for improvement, including decreasing the number of items that were foundational, and providing a test blueprint to more explicitly show the link between *PASA* items and the alternate eligible content.

In August 2007, notification was received from the U. S. Department of Education that

...Pennsylvania's standards and assessment system satisfies the NCLB requirements. Specifically, Pennsylvania's system includes academic content standards in reading/language arts, mathematics, and science; student achievement standards in reading/language arts and mathematics; alternate achievement standards for students with the most significant cognitive disabilities in reading and mathematics; grade-level assessments in each of grades 3-8 and 11 in reading/language arts and mathematics; and the Pennsylvania Alternate System of Assessment (*PASA*) in reading/language arts and mathematics in grades 3-8 and 11. Accordingly, Pennsylvania's system warrants Full Approval with Recommendations. (Letter from Terri Briggs to PA Secretary of Education, August 28, 2007).

On September 12, 2013, the Pennsylvania State Board of Education approved revised Chapter 4 regulations with the adoption of Pennsylvania Core Standards in English Language Arts and Mathematics. The Pennsylvania Independent Regulatory Review Commission (IRRC) approved the final regulations on November 21, 2013. With publication of Chapter 4 in the Pennsylvania Bulletin, the new PA Core Standards took effect on March 1, 2014.

Once the PA Core Standards had been adopted by the State Board (Fall 2013), assessment anchors and eligible content were selected to guide instruction and the development of a revised PSSA for ELA and Mathematics to be launched in Spring 2014. The Bureau of Special Education (BSE) challenged the *PASA Project* to redesign the *PASA* tests on the same timeline (i.e., to bring them into alignment with the PA Core Standards for the 2014 *PASA* test administration). However, it was not until March 2014, with final approval and implementation of the PA Core Standards, that BSE began the process of developing *alternate* assessment anchors and eligible content that would define the parameters of a revised *PASA*. The process was in its very early stages in the Fall, 2014 when the 2015 *PASA* tests were being finalized and sent to the printer. As a result, only a handful of new test items, aligned to the PA Core Standards, could be developed and inserted into the 2015 test.

Tables 6 and 7 summarize the distribution of ‘old’ and ‘new’ test items that make up the 2015 *PASA* tests in Reading and Math respectively, by grade span, level, and *PSSA* reporting category. These tables show a total of 20 items being administered on each form of the *PASA*. ‘Old’ items are those retained from previous iterations of the *PASA* and are a far match to the content of the PA Core Standards. Because they tend to test skills listed in the PA Core Standards as below the designated tested grade level, they are labeled as “foundational” skills in these tables. ‘New’ items were developed specifically for the 2015 test and were considered to be aligned with eligible content related to the PA Core Standards. More complete blueprints for the 2015 *PASA* Reading and Math tests are provided in Appendix A.

Table 6. Distribution of Items on the 2015 PASA Reading by Grade Span, Level and PSSA Reporting Category

Grade & Level	Foundational Skills	ELA/Fiction		Informational Text		Total
		Key Ideas & Details	Vocabulary	Key Ideas & Details	Vocabulary	
3 / 4 A	8	6	--	--	6	20
3 / 4 B	6	8	4	2	--	20
3 / 4/C	3	14	2	1	--	20
5 / 6 A	9	6	--		5	20
5 / 6 B	9	9	--	2	--	20
5 / 6 C	5	10	--	4	1	
7 / 8 A	9	10	--		1	20
7 / 8 B	5	11	2	1	1	20
7 / 8 C	8	5	5	2		20
11A	9	8	--	--	3	20
11B	5	11	--	1	3	20
11C	5	2	--	8	5	20

Table 7. Distribution of Items on the 2015 PASA Reading by Grade Span, Level and Reporting Category

Grade & Level	Foundational Skills	Numbers and Operations	Algebraic Concepts	Geometry	Measurement, Data, and Probability	Total
3/4 A	7	2	1	1	9	20
3/4 B	7	4	1	1	7	20
3/4 C	2	7	3	--	8	20
5/6 A	10	5	2	1	2	20
5/6 B	8	6	2	1	3	20
5/6 C	6	7	2	1	4	20
7/8 A	12	4	0	2	2	20
7/8 B	10	7	1	2	0	20
7/8 C	6	8	2	2	2	20
11A	13	2	1	0	4	20
11B	11	1	4	0	4	20
11C	8	2	6	0	4	20

Bias, Fairness and Sensitivity Reviews. As in the past, the PASA item review team considered each new test item and the objects or graphics associated with that item as to its acceptability for students with vision impairments (size and color of objects; clarity of graphics), students who used sign language for communication (signing the instructions did not give away the answer; synonyms were available for vocabulary words to be signed), students whose work table would be no wider than a wheelchair tray (number and size of objects or pictures placed for student consideration), etc. The team considered issues of familiarity with the context for students educated in separate schools or residential treatment centers, especially items in Level A of the test at any grade span. Finally, the team could only guess at the depth and complexity of each new item, given that the new PA core was only just being introduced to teachers of students with significant cognitive disabilities. After item-by-item discussions, all consensus comments were compiled and actions taken were recorded for future reference.

CHAPTER 4

ADDITIONAL VERSIONS OF THE PASA

Although the *PASA* was designed to be accessible to students with the most severe cognitive disabilities, some students benefit from additional adaptations to the test. A section in the Administrator Manual and in each test booklet included information about some of the ways the test could be adapted.

Accommodations

Accommodations are changes to the skills that are designed to reduce or remove the construct-irrelevant variance that arises as a function of disability. Accommodations for an item do not change what is being assessed and do not affect the difficulty level of the reading or math assessed by the items. Given the heterogeneous nature of the population, it was necessary to allow items to be accommodated in a variety of ways. Common types of accommodations included using enlarged pictures or fonts; adaptive or prosthetic equipment; assistive technology devices; Braille or miniatures; sign language; and communication boards, booklets or other devices. Other accommodations involved changes in the setting, in timing, or in scheduling of the assessment. In addition to these accommodations, teachers were permitted to substitute entirely different materials without penalty, provided that the essential characteristics of the task were maintained, as judged by the scorer. This option is utilized rarely.

Colored versions of printed test materials were made available as an accommodation for students whose vision problems required testing materials with greater contrast. These could be requested, as needed, from *PASA* headquarters and they were immediately emailed to the assessor. In the interest of maintaining and improving test security, this replaced a former procedure of having the accommodated materials available downloading from the *PASA website*.

Items that remained in the test but were not appropriate for students who use American Sign Language as their communication mode were flagged with the designation **D/HOH** on the top right-hand corner of the test item page in the test booklet. Instructions in the Test Administrator Manual and in the front of the Test Booklet directed test administrators to use the alternate replacement items that were shipped with the test booklets for any students identified at enrollment as D/HOH.

For hearing students who **cannot produce an oral response** when presented with **open-ended questions**, test items requiring open-ended responses were adapted appropriately to allow for selection responses. Test items for which an adapted version had been designed were designated with an **AAC** in the top right hand corner of the Test Booklet. Again, instructions in the Test Administrator Manual and in the front of the Test Booklet directed test administrators to use the alternate replacement items

that were shipped with the test booklets for any students identified at enrollment as non-verbal.¹

An adapted version of the *PASA* was produced for students with no useable/functional vision, as they require the use of tactile and auditory presentations of the test. Most test items needed to be adapted to make them suitable to these presentation modes. This **tactual version** of the *PASA* could be downloaded from the *PASA* website at <http://www.pasaassessment.org/administering/visualimpairments.html>. Additionally, for students whose enrollment designated them as having no usable vision, these replacement test item pages were sent in the test-booklet packet. A test kit containing objects needed in the ‘no-vision version’ of the test was sent upon request.

To reiterate, there is a section in the online student enrollment record where the assessor or coordinator indicates whether the student is deaf/hard of hearing, is non-verbal, or has a visual impairment. If ‘yes’ is selected for deaf/hard of hearing and the student is taking a grade/level of the Reading test that has D/HOH replacement skills, then his/her assessor receives those. If ‘yes’ is selected for non-verbal (“students who cannot produce oral responses to answer open-ended questions but are not deaf/hard of hearing”) and the student is taking Levels B or C of Math and/or Reading, then his/her assessor receives the adapted test items that allow the student to give a selection response instead for the tests being administered. If ‘yes’ is selected for visual impairment and the assessor or coordinator selects that the student “uses a combination of vision and other senses” or “primarily uses other senses” rather than “primarily uses vision,” then the assessor receives the tactual versions for the tests the student is taking. But if anyone gave erroneous data when enrolling their student, they could make the change in the student record later on and receive the adapted version(s) needed in a later shipment.

Table 8 presents the counts of students who took one of the adapted versions of the 2015 *PASA Reading and Math* by grade and test level. Again, teachers whose students took the Level A *PASA* (only) may have indicated that the AAC version of the test was needed, but because verbal responses are not required on the Level A *PASA*, these students received the regular test rather than an adapted version.

In Chapter 10 of this report is a brief description of two studies carried out to assess the validity of the tactual version and the non-verbal version of the *PASA*. As a result of the first study, we initiated more widespread distribution of the tactual test administration instructions rather than leaving it to the test administrators themselves to access the instruction online. We also put together a kit of all the materials needed for the tactual version that test administrators could request. As a result of the second study, we

¹ It should be noted that while some teachers of students taking the Level A *PASA* indicated that the AAC version would be needed, these students received the regular Level A assessment, because the items on the Level A assessments do not actually require verbal responses.

altered the response mode of the entire set of *PASA* test items to no longer require any verbal production responses. The entire set of 2015-16 *PASA* tests will utilize multiple choice response formats.

Table 8. Use of Accommodations for the 2015 PASA Reading and Math as Reported by the Assessor

Accommodated Version of PASA	Reading			Math		
	Level			Level		
	A	B	C	A	B	C
Grade 3						
Tactual Version	21	0	0	20	0	0
Augmentative Communication Version	--	16	0	0	13	2
Deaf & Hard of Hearing Version	0	6	0	0	0	0
Grade 4						
Tactual Version	25	4	1	24	4	1
Augmentative Communication Version	--	12	2	0	14	1
Deaf & Hard of Hearing Version	0	10	6	0	0	0
Grade 5						
Tactual Version	23	1	0	22	0	0
Augmentative Communication Version	--	21	2	0	16	3
Deaf & Hard of Hearing Version	0	9	0	0	0	0
Grade 6						
Tactual Version	21	2	1	20	0	1
Augmentative Communication Version	--	21	4	0	19	3
Deaf & Hard of Hearing Version	0	9	0	0	0	0
Grade 7						
Tactual Version	22	1	1	22	0	1
Augmentative Communication Version	--	33	4	0	25	3
Deaf & Hard of Hearing Version	14	9	6	0	0	0
Grade 8						
Tactual Version	23	1	1	23	2	0
Augmentative Communication Version	--	32	2	0	18	5
Deaf & Hard of Hearing Version	12	18	5	0	0	0
Grade 11						
Tactual Version	18	2	0	16	4	0
Augmentative Communication Version	--	8	2	0	8	1
Deaf & Hard of Hearing Version	12	5	6	0	0	0
Total						
Tactual Version	153	11	4	145	10	3
Augmentative Communication Version	0	140	16	0	112	19
Deaf & Hard of Hearing Version	38	66	23	0	0	0

Modifications

Modifications to the task change what is being assessed and alter the difficulty level of the reading and math related items. Modifications resulted in the student's score being

lowered because the targeted skills were not fully observed. Modifications might include changes in the materials that make the correct answer more obvious. Modifications might also have occurred if the teacher provided additional information that made the task easier to complete. Test administrators were encouraged to make modifications if the student was unable to complete a task as specified. These modifications allow for partial participation, and a reduced (but not zero) score.

For easy reference, the Administrator's Manual contains a complete list of Accommodations and Modifications permissible for students taking the *PASA*.

CHAPTER 5

TEST ADMINISTRATION PROCEDURES

Materials Required for PASA Administration

Several sets of materials are required for administration of the PASA. These materials are described in the sections that follow.

Test Booklets

Test booklets contained all the printed materials required for administration of the PASA at each level and grade span. Assessor packets were prepared and included a set of preprinted Student Labels for each student on the roster, directions to the assessor on PASA administration, and a plastic bag for each student in which to place completed media recordings. Separate packets were assembled for each teacher and put into plastic bags. Test booklets each assessor would need for administration were then added to their plastic bag. Plastic Bags were boxed for shipment to the appropriate Coordinator. Coordinators in each APS, district, or IU were responsible for distributing packets to the appropriate assessors. Hard-copy test booklets were coded before being distributed by mail and were scanned back in as they were returned after testing to assure test security from year to year.

During the 2013-2014 year, service providers (districts, charter schools, IU/s, approved private schools) were given the option of receiving digital test booklets rather than printed ones. 272 service providers volunteered for the digital experiment, involving 9,613 students (a little more than one-half of PASA takers). Feedback indicated that participants were not enthusiastic about receiving test booklets online and streaming the test directions as they administered each test. Because of problems in coordinating the scheduling of test sessions and access to computers and videographers, a majority of test administrators downloaded the test booklets and printed them at the school site. This was both time-consuming and expensive for the schools. It also put test security in jeopardy. There was no mechanism in place for downloaded test booklets to be retrieved after the testing window closed. Further, since printed test materials and test kits still had to be mailed to test administrators, delivering the test booklets online was not as efficient as expected. Overall, consensus was that the 2015 test booklets should not be delivered online.

Test Kits

Physical objects needed for test administration were assembled into Test Kits and distributed directly to test administrators. Materials were placed into bins for each

grade and level of the test. Bins were boxed and return instructions and a UPS return label were included. Kits were distributed in an approximately 2 students to 1 test kit ratio. Most districts had the kits go directly to the schools, but some opted for kits to be delivered to the Coordinator, instead. Most IUs asked that kits be sent to the Coordinator who would, then, distribute the kits according to a schedule they created to accommodate all assessors within their jurisdiction. Other IU Coordinators opted to have kits mailed directly to schools or to certain schools based on their location (i.e., they sort of divided the IU into regions and shared kits within the region instead of across the whole IU).

Preparation of Test Administrators

Training

The *PASA Reading and Math* assessments are designed to be administered 1:1 by a student's teacher or someone else who knows the student well. The test administrator must be certified to teach in Pennsylvania (i.e., paraprofessionals may not administer the *PASA* tests, though they may assist a teacher of record with the assessment). A test administrator can exert a large influence on a student's score by the way in which the materials are varied, the way in which questions are asked, and the extent to which accommodations and modifications are provided. In order to train test administrators, on-line training was available. The online training is for both new and veteran test administrators, and features brief video segments with valuable information for before, during, and after testing. Proficiency tests are also available for test administrators to assess their test administration knowledge.

A total of 4,823 unique individuals (or groups of individuals)* registered on the test administration training site. A total of 1,734* completed the training for veteran test administrators, which included a video segment of changes in the current year, and a total of 1,793* individuals accessed the training for new test administrators, which included seven more comprehensive video modules and proficiency tests. However, only 572 'new users' completed all seven test administration modules; the rest logged in for a few seconds or minutes and did not complete any of the proficiency tests.

In addition to the online training modules, three training webinars (each 2-hours in length) were scheduled in mid-January through the PA Training and Technical Assistance Network (PaTTAN). They were broadly advertised and available at no cost to participants. They covered 1. General administration information/update, 2. Providing accommodations for students who are non-verbal, 3. Providing accommodations for students who have no usable vision.

* Groups of teachers may have assembled at one site and streamed the administration training to the entire group. Site recordkeeping could not distinguish this procedure from an individual accessing the training online.

Administrator's Manual

In addition to training, an Administrator's Manual was available for download at the PASA website. The Manual briefly outlines the purpose of the assessment and some commonly asked questions and answers. In addition, it explains in detail how to effectively administer the assessment and how to submit the materials after testing. Information about general accommodations and modifications and those applicable for students with specific kinds of disabilities, a description of the scoring rubric, a description of the difficulty levels (A, B, and C), the performance standards, and a copy of the Supporting Documentation form. Administrator's Manuals are available in print form on request.

CHAPTER 6

PROCESSING AND SCORING THE PASA

Processing Completed Assessments

Historically, UPS return labels have been provided for each box of test booklets and each test kit mailed to test administrators. Test administrators are instructed to repackage all materials for return to the *PASA* project offices once testing has been completed. Test administrators send the KITS back from the schools, but they are required to return their test booklets and media to their Assessment Coordinator, who then packages everything and returns it to *PASA* Headquarters using a pre-printed UPS label. Boxed materials can be placed with standard outgoing school UPS pickup. If there are no school pickups, materials can be delivered to the nearest UPS drop-off location.

All packages sent from and to the *PASA* project are tracked by UPS Worldship. Once received, all returned packages are opened, inspected, and media are separated from everything else. Returned media are logged into the *PASA* database, and re-boxed for transport to the scoring conferences. Remaining materials are divided between Test Booklets and Kits. Test booklets are recorded and tracked for security purposes then destroyed/recycled. Kit materials are separated, counted, and cleaned with help provided through a contract with a local sheltered workshop. Kit materials are then inventoried and stored until new Kits are made for the following year.

PASA Digital Pilot Project

In an effort to make annual testing with the *PASA* more efficient and cost effective, the *PASA* staff piloted a set of digital procedures for retrieving student test performances. Participants (districts, charter or cyber schools, approved private schools and Intermediate Units) would upload student performance recordings directly to a secure website rather than sending the hardware of recordings to Pittsburgh in preparation for scoring. 272 service providers volunteered for the digital experiment, involving 9,613 students (a little more than one-half of *PASA* takers in 2015). Pilot participants were very enthusiastic about returning student performance recordings by uploading them to a secure website, rather than mailing them back to *PASA* Headquarters through UPS. To help them with the process, a training module was created giving step-by-step instructions on how to upload and send the recorded performances. 615 teachers accessed the training.

However, in many cases, uploading required merging multiple digital videos into a single file (recording devices create a new file each time the camera is stopped and re-started, so one complete student test performance may be captured in numerous

files that have to be merged before uploading). This glitch made the uploading process extremely complex and time consuming for some test administrators. The problem was solved in 2015 through programming at the receiving end that created the merged file for the test administrator, condensed (zipped) the file into uploadable form, and speeded up the uploading process. In the end, 9,613 student performances in reading and math were uploaded and available to scorers for streaming.

Scoring Rubric

After considerable feedback from scorers and careful analyses of scoring reliability data, a streamlined scoring rubric was introduced in 2015. Instead of the 6-point scale of the past, a 4-point scale replaced it. The essence of the scale did not change, however. Scoring still gave maximum ‘points’ (C equivalent to 5 points) to a student performing correctly and independently with no additional prompts. A correct response achieved after the test administrator scaffolded the task for the student earned an intermediate score (S - equivalent to 3.5 points). An incorrect response earned a minimum score (N - equivalent to 1.5 points). Test items that were omitted or for some other reason not captured on the recording medium earned a score of zero. During training (online prior to the scoring conferences, and in a brief reminder at the start of each scoring weekend) only the letter designations (C, S, N, O) were used by scorers to reduce confusion with the ‘old’ rubric among returning, experienced scorers. The point equivalents were utilized later to make clearer comparisons of 2015 performance with the previous scoring rubric (2014 and earlier), and to calibrate cut scores for equivalent proficiency percentile distributions in 2015.

As before, scores were assigned based on the degree to which the item was performed independently and whether the correct response was ultimately generated. The scoring rubric used to score the 2015 *PASA* is found in Figure 4. A more complete description of scores and decision rules was provided to each scorer for use during the scoring conferences; it was also published in the Administrator Manual so that test administrators would understand the implications of prompting, accommodations, and modifications as they administered the test. A copy of the expanded Scoring Rubric is provided in Appendix B.

Correct and Independent	Correct but with Support	Not correct	Omitted
(C)	(S)	(N)	(O)
<p>Response (or all responses for multi-step test item) was performed correctly and independently on first attempt with only one or more repetitions of the request for student to respond and, if needed, repetitions of words of encouragement. (Additional request or encouragement was provided prior to the student making a response or between responses on multi-step test items)</p> <p>As long as no additional information is provided, it is permissible for assessors to . . .</p> <ul style="list-style-type: none"> • redirect students to the test item • encourage students to start or to continue • clarify directions in response to a student's request 	<p>Response was eventually correct, after student gave an incorrect response and additional prompt(s) were provided</p> <ul style="list-style-type: none"> • the assessor continued to prompt student for correct response • the assessor did not acknowledge the student's incorrect response and the student tried again (silent prompt) <p>and/or Test item was made easier because Assessor</p> <ul style="list-style-type: none"> • reduced the array of answer choices (with at least 2 choices remaining) • gave hints • pointed while student read • named item that was not supposed to be named • helped student read the text (single word and sentences) turning the subsequent reading comprehension skill(s) to listening comprehension skills <p>Student</p> <ul style="list-style-type: none"> • correctly completed some, but not all, of the steps in the multi-step test item (e.g., student was supposed to provide 4 facts but only gave 3; was to count quantity aloud and name total, but just named total) <p>Or Response was correct, but beginning prompt could not be seen nor heard due to recording (Does not pertain to situations in which the student seemed to know what to do and did not need a prompt to respond.)</p>	<p>Response was incorrect or student did not respond and assessor accepted it and moved on to next test item</p> <p>Or Response was ensured because assessor</p> <ul style="list-style-type: none"> • reduced the array to one choice • gave the answer; student repeated answer • demonstrated the correct response; student imitated response • pointed to correct answer; student pointed where assessor pointed • led student's hand to correct choice • stopped the student when his/her reached the correct number count <p>Or Response demonstrated was completely different from the targeted skill (e.g. student matched words instead of read words)</p> <p>Or Response was not recorded or not able to be interpreted The test materials and/or directions were presented, but scorer was unable to tell if student's response was correct or incorrect because it was not recorded or hard to see or hear</p>	<p>No part of the test item was video recorded (Test item skipped entirely - neither assessor nor student could be seen nor heard)</p> <p>All three criteria below were met:</p> <ol style="list-style-type: none"> 1. No materials were presented, 2. No request was made of the student, and 3. No student response could be seen nor heard

Figure 3. Rubric for Scoring the 2015 PASA

Recruitment and Selection of Scorers

An email announcing the opening of the scoring conference training website, test, and application was sent to all test administrators, Assessment Coordinators, and past scorers. All other interested parties could find a scoring conference application on the PASA website.

Training Scorers

In 2015, in order to be selected as a scorer, applicants had to participate in an on-line training module and pass the PASA Scoring Proficiency Test. In the training module, the general rules of scoring, videotaped examples, and details pertaining to specific scores were presented, and applicants engaged in practice scoring activities. Upon completion of the training module, applicants completed the PASA Scoring Proficiency Test. If participants passed the proficiency test (minimum of 16/20 items scored correctly) in one or two attempts, they were invited to participate in one or more scoring conferences. Applicants who did not pass the test were not invited to attend a conference. A total of 1,099 individuals registered on the training site, and 977 attempted the proficiency test. A total of 946 individuals passed the proficiency test with a score of 80%.

Scoring was carried out on four weekends, Friday evening to Sunday late afternoon, April 17-19; April 24-26; May 15-17; and May 29-31. The goal was to have about 200 scorers working each weekend so that a total of 34,728 student performances (17,364 reading and 17,364 math, plus another 3,070 student performances - approximately 8.8% - selected at random for double-scoring/reliability) could get scored.

From the pool of 946 eligible individuals, invitations to score were based on criteria such as: proficiency score on the PASA Proficiency Test, type of certification, past and current experience in administering the PASA Assessment, past scoring conference participation, foreign/sign language skills, need for housing accommodations during the scoring sessions, and availability. The final number of scorers by session is provided in Table 9.

Table 9. Number of scorers for each Scoring Conference

	Conference 1	Conference 2	Conference 3	Conference 4
Number of Scorers	192	198	196	193

In the end, 779 people scored during the four scoring weekends (569 unique individuals, 151 of whom attended more than one conference). One hundred forty one participants were new and had never attended a scoring conference in a prior year. Two hundred ninety two of the scorers had administered the 2015 *PASA*, and all 569 of the scorers were certified teachers.

Reliability to Standard

Each scoring conference began with a brief review of the scoring procedures, and each participant scored a reliability-to-standard tape at the first conference they attended. The standard tapes contained videotaped performance clips across grades, levels of difficulty, and score ranges. Clips were specifically selected so that they were challenging and offered a reasonable assessment of scorers’ understanding of the scoring rules. Each scorer worked independently to rate the same recorded performances. The ratings by each scorer were then compared against the scores assigned by the *PASA* staff prior to the conferences. Participants whose scores met the standard at 80% agreement or better moved on immediately to scoring. Participants who did not meet the 80% standard met again with *PASA* staff who provided feedback on scoring errors and additional training. After this second layer of coaching, everyone began scoring in earnest.

Percent agreement on the reliability-to-standard videos across the two content areas and the four scoring conferences is summarized in Table 10.

Table 10. *Reliability to Standard - Average Percentage of Items with Exact Agreement*

Scoring Conference	Subject	% Exact Agreement
1	Reading	79.9
	Math	82.2
	Total	81.3
2	Reading	79.0
	Math	83.4
	Total	81.2
3	Reading	77.3
	Math	88.4
	Total	82.8
4	Reading	77.6
	Math	88.4
	Total	83.0

Scorer-to-Scorer Reliability

Percent of Tapes Scored Twice. In addition to reliability to standard, a subset of tapes was selected randomly to establish scorer-to-scorer reliability at each conference and across conferences. Pairs of scorers were not prearranged. Instead, any 2 scorers might form a reliability pair for a given tape. The counts and percentages of tapes double scored for reliability appear in Table 11. These data include the 263 streamed performances that were also double scored. Reliability data appear in Table 12.

Table 11. Scorer-to-Scorer Reliability Counts and Percentages

Grade	Read and Math	
	# tapes scored for reliability	% of tapes scored for reliability
3	214	8.6
4	237	9.4
5	222	8.9
6	226	8.9
7	258	10.0
8	194	7.6
11	184	8.4

Table 12. Percent Agreement for Scorer-to-Scorer Reliability

Percent agreement between scorers by grade	Reading	Math
	Average	Average
Grade 3	90.3	91.9
Grade 4	90.5	91.4
Grade 5	91.2	90.7
Grade 6	92.4	91.4
Grade 7	89.5	89.0
Grade 8	89.9	89.0
Grade 11	91.5	89.8

CHAPTER 7

SCORE REPORTING

Individual student-level scores from the *PASA Reading and Math* are provided to Data Recognition Corporation (DRC), the contractor for the *PSSA*. These *PASA* data are incorporated in DRC's calculation of Adequate Yearly Progress (AYP, in the past) and School Performance Profiles (currently).

In addition, individual student data on the *PASA* is summarized in a report that is sent, in duplicate, to schools, one to be placed in the students' permanent record and the other to be distributed to parents. The report briefly describes the skills on which the student was tested, the performance levels earned, and an explanation of the meaning of the scores.

An example of the score report for the 2015 administration is provided in below as Figure 4. The format of this report was arrived at on the basis of a study conducted to directly examine issues related to the reporting of assessment scores to parents in Pennsylvania. The study examined alternative and preferred ways of reporting alternate assessment results to parents. The study is described briefly in Chapter 10.

Score Attribution

Until 2008, *PASA Reading and Math* test scores were aggregated to the district of residence and used as part of the determination of Adequate Yearly Progress (AYP) at the district level. In 2008, all *PASA Reading and Math* scores were attributed to the students' home school (i.e., the school the student would have attended in the district of residence had the student not had a disability). From 2009 to 2013, *PASA Reading and Math* scores for students served in district-run special education programs were attributed to the students' home school, but *PASA Reading and Math* scores for students in Intermediate Unit-run programs or in Approved Private Schools were attributed to the students' district of residence. In 2014-15, the attribution map for scores of students with significant cognitive disabilities was changed, again. Relevant excerpts from the 2015 Attribution Map are provided below as Figure 5.

Figure 4. *Sample Student Report (BELOW)*

PASA READING & MATH

2014-15 STUDENT REPORT

Dear Family,

As required by federal law, your child participated in the *Pennsylvania Alternate System of Assessment (PASA)* in the spring of 2015. This test was designed specifically as an alternate statewide assessment for students whose IEP teams determined that the regular *Pennsylvania System of School Assessment (PSSA)* is inappropriate, even with accommodations and modifications. This school year, the *PASA* began transitioning to assessing reading and math skills that are aligned to the recently developed *Alternate Eligible Content*. This content was derived directly from the *Pennsylvania Core Standards*, but includes a reduced depth and breadth of skills, making it more appropriate for students with significant cognitive disabilities.

We hope you will use the information in this report to discuss your child's performance with his/her teacher. A strong partnership between home and school is critical to your child's success.

Sincerely,



Patricia Hozella
Director of the Bureau of Special Education

Student Name:	
Student IDs:	
Service Provider:	
School:	

SUMMARY OF STUDENT'S PERFORMANCE					
Subject	Grade and Level	Performance Level			
		<i>Emerging</i>	<i>Novice</i>	<i>Proficient</i>	<i>Advanced</i>
Reading	3 B			X	-
Math	3 B			X	-

PASA tests are available at three increasing levels of complexity, from A to C. Student performance is categorized into three levels – *emerging, novice, proficient* – for test levels A and B; for level C, student performance can also be categorized as *advanced*.

Note: The *PASA* tests capture just a single snapshot of your child's performance on a particular set of test items at a particular point in the year. Please remember that the resulting scores are not meant to be a comprehensive evaluation of all of your child's skills and abilities, but rather a representation of his/her current level of performance.

Scoring Issues/Irregularities					
Reading:					
Math:					

STUDENT PASA MATH RESULTS

Skills Assessed	Performance Profile			
	Not administered and/or scored	Could not perform	Performed correctly with teacher support	Performed correctly and independently
Foundational Skills				
Matches identical words; identifies the item with a certain beginning sound or that rhymes with another item				
Identifies the item named; matches items that are associated; matches an item to the category it belongs in				XXX
Reading Literature				
Answers a literal 'who,' 'what,' or 'where' question; answers an inferential 'how' question; identifies the events displayed in a complex picture			XXXX	XXXX
Identifies the meaning or synonym of a word in context; identifies the synonym of a word in isolation; identifies the picture that shows a certain meaning of a multi-meaning word				
Reading Informational Text				
Answers a literal question about the sequence of events; identifies the evidence from the text that supports the answer to a question about sequence of events				

READING SCORE SUMMARY

Emerging	Proficient			Advanced
0	60	83	84	X 100
Student's score was 84 out of 100 points.				
The average score of all students who took this particular test in 2014-15 was 82 .				

Performance Profile

Skills Assessed	Not administered and/or scored	Could not perform	Performed correctly with teacher support	Performed correctly and independently
Foundational Skills				
Counts ≤ 5 items and matches a numeral to its quantity; identifies the longest/shortest item; reads a data table to find certain values				XXXXXXXX
Numbers and Operations				
Identifies the numeral for a double-digit number named; rounds a number to the nearest ten				
Identifies the numerator or denominator of a fraction represented in a picture				
Algebraic Concepts				
Extends an ABCABC pattern of shapes				
Geometry				
Sorts items into existing groups by their attributes				
Measurement, Data, and Probability				
Counts pennies or one-dollar bills; matches digital times				
Measures the length/width of an item; identifies the measurement tool most appropriate for a stated situation; measures area by counting				XXXX
Identifies the pictograph that matches data displayed in a table				

MATH SCORE SUMMARY

Emerging	Proficient			Advanced
0	84	85	92	93
Student's score was 96 out of 100 points.				
The average score of all students who took this particular test in 2014-15 was 89 .				

2015 Attribution Map

Student Performance and Situation	Participation attributed to	Rationale
<p>PSSA English Language Arts (ELA) and PASA: The student attends a school in the district of residence for a full academic year (enrolled on or before Oct. 1, 2014, and continuously enrolled and has completed the assessments by the end of the PSSA ELA testing window – April 17, 2015, and the end of the PASA testing window – March 27, 2015).</p>	<p style="text-align: center;">School of attendance</p> <p style="text-align: center;">District of residence</p> <p style="text-align: center;">State</p>	<p>Federal accountability designations and School Performance Profile Scores are based, in part, on the results of the Language Arts (ELA) assessment for all students enrolled in a full academic year (FAY). In Pennsylvania, FAY ELA PSSA and PASA is defined as enrolled on or before Oct. 1 of the school year and continuously enrolled through the end of the ELA PSSA testing window, April 17, 2015, and the end of the ELA PASA testing window, March 27, 2015. Schools, districts and the state are accountable for the performance of the student enrolled for a FAY. In addition, the state is responsible for the student enrolled in the school/district/state to include the last day of the PSSA make-up test window, May 8, 2015, must participate in the assessment. A non-FAY student's score will only count for participation rate.</p> <p>Note: Any student not enrolled full-time in a public school but is receiving instruction in a public school in a particular subject, must take the appropriate PSSA ELA/math assessment. This would include students dually enrolled in a nonpublic school and a public school and/or homeschooled students who enroll in a public school for specific academic instruction.</p> <p>A student receiving only Reading instruction in the school would NOT be required to take the PSSA ELA assessment if there is not an assessment in Reading only.</p>

Figure 5. Excerpt from PA 2015 Attribution Map

2015 Attribution Map, *continued*

Student Performance and Situation	Participation attributed to			Rationale
<p>PSSA Math and PASA: The student attends a school in the district of residence for a full academic year (FAY) (enrolled on or before Oct. 1, 2014, and continuously enrolled through the end of the PSSA math testing window – April 24, 2015, and the last day of the PASA testing window – March 27, 2015).</p> <p>— —</p>	<p>School of attendance</p>	<p>District of residence</p>	<p>State</p>	<p>Federal accountability designations and School Performance Profile Scores are based, in part, on the results of the math assessment for all students enrolled for a full academic year (FAY). In Pennsylvania, FAY for the math PSSA and PASA is defined as enrolled on or before Oct. 1 of the school year and continuously enrolled through the end of the math PSSA testing window, April 24, 2015, and PASA testing window – March 27, 2015. Schools, districts and the state are accountable for the performance of the student enrolled for a FAY. In addition, the student who is enrolled in the school/district/state to include the last day of the PSSA make- up test window, May 8, 2015, must participate in the assessment. A non-FAY student’s results will only count for participation rate.</p> <p>Note: Any student not enrolled full-time in a public school, but is receiving instruction in a public school in a tested subject, must take the appropriate PSSA math assessment. This would include students dually enrolled in a nonpublic school and a public school and/or homeschool who enroll in a public school for specific academic instruction.</p>
<p>Charter and Cyber Charter School Students: Charter or cyber charter school student enrolled in a charter or a cyber charter school for a full academic year (FAY) who takes any state assessment.</p>	<p>Charter or cyber charter school</p>	<p>Charter or cyber charter school</p>	<p>State</p>	<p>Charter and cyber charter schools are public schools, and as such are accountable for enrolled the student in the same manner as school districts.</p>

Figure 5. Excerpt from PA 2015 Attribution Map (cont’d)

2015 Attribution Map, *continued*

Student Situation	Performance and Participation attributed to	Rationale
<p>Student with an individualized education plan (IEP), regardless of type of disability, who is enrolled in a district and receiving educational services from the district of residence but in a school in the district other than the student's school of residence.</p>	<p>School of attendance District of residence--</p>	<p>State</p> <p>The school providing educational services for the subject areas being tested is responsible for the education of the student.</p>
<p>Student with an individualized education plan (IEP) who is enrolled in a charter school and receiving educational services from the charter school (regardless of type of disability).</p>	<p>Charter or cyber charter school Charter or cyber charter school</p>	<p>State</p> <p>The charter school is responsible for the education of the student receiving educational services from the charter school.</p>
<p>Student with an individualized education plan (IEP), who is enrolled in a district and receiving the educational services from an entity other than the district of residence.</p>	<p>District of residence</p>	<p>State</p> <p>The district's decision to place a student into a program operated by an entity other than the district of residence does not absolve the district of its responsibility to educate the student. An entity in this context can be an intermediate unit, charter or cyber charter school, APS, district consortia, licensed private school, a district other than the district of residence and any program offering Free and Appropriate Public Education (FAPE). Entity does not apply to Alternative Education for Disruptive Youth (AEDY), see page 14.</p>

Figure 5. Excerpt from PA 2015 Attribution Map (cont'd)

2015 Attribution Map, *continued*

Student Situation	Performance and Participation attributed to	Rationale
Student with an individualized education plan (IEP) who is enrolled in a charter school and receiving educational services from an entity other than their charter school.	Charter or cyber charter school : State	The charter school's decision to place a student into a program operated by an entity other than the charter school does not absolve the school of its responsibility to educate the student. An entity in this context can be an intermediate unit, another charter or cyber charter school, APS, district consortia, licensed private school, and any program offering Free and Appropriate Public Education (FAPE). Entity does not apply to Alternative Education for Disruptive Youth (AEDY), see page 14.

Figure 5. Excerpt from PA 2015 Attribution Map (cont'd)

CHAPTER 8

TEST STATISTICS

The data set from which calculations of validity and reliability coefficients did not include all students who presented themselves for the PASA assessment. Test administrators were asked to mark assessments that had been started but not completed. During scoring, scorers were asked to verify that the assessment was stopped. Overall, for 396 students in reading and 397 in math, testing was stopped after beginning administration, distributed as shown in Table 13.

Table 13. Number and Percentage of Students Assessed in Reading and Math at Each Assessment and Grade Level Whose Assessments Were Terminated Prior to Completion

	<i>#Terminated</i>	<i>% of Total</i>	<i>Level A</i>		<i>Level B</i>		<i>Level C</i>	
<i>Reading</i>	396	2.3	383	5.9	9	0.1	4	0.1
<i>Math</i>	397	2.3	380	5.6	12	0.2	5	0.1

These students' tests were not included in subsequent statistical analyses, although the students were reported to DRC as having "participated" in statewide assessment.. Summary statistics in this chapter are presented using data only from those students who completed the assessment. For all analyses, the subset of examinees with incomplete assessments was excluded.

Total scores on the test were computed based on the 20 items for the *PASA Reading and Math* and the numeric values (5, 3.5, 1.5, 0) corresponding to the scores assigned (C, S, N, O).

Descriptive Statistics and Internal Consistency

Despite the fact that PASA scores are unweighted by the level of difficulty, students tended to earn the lowest scores, on average, for the most simplistic tasks, Level A, and higher (or comparable) scores on average for the B and C level tasks in reading. Results in mathematics were similar. Cronbach's Alpha reliability coefficients were also computed using SPSS. They are a measure of the internal consistency of the *PASA* test or the extent to which all the items in each form of the *PASA* test measure the same concept or construct. As reported in Tables 14 and 15, alpha reliability coefficients were at a high level across content areas and test levels. We recognize that if the items in a test are correlated to each other, the value of alpha is increased. However, alpha is also affected by the length of the test; If the test length is too short, the value

of alpha is reduced. Given that each of the *PASA* tests is short (only 20 test items) the high values of alpha can be considered to indicate a high level of internal consistency/reliability.

The standard errors of measurement (SEM) for each test level at each grade level are also provided. The SEMs were computed using the formula: $SEM = SD * \sqrt{1 - \alpha}$ for the raw scores, where SD is the standard deviation of the raw scores on the test, and α is the Cronbach's alpha reliability coefficient. Raw scores on the *PASA* are computed by summing the individual item scores across all 20 items.

Table 14. Descriptive Statistics, Cronbach's Alpha and SEM for the 2015 PASA Reading (20 Items) for All Students Completing the PASA

Grade/ Level	n	Mean	SD	Cronbach's α	SEM
3A	1431	82.22	24.286	0.970	4.21
3B	819	83.92	13.428	0.886	4.53
3C	245	82.10	14.795	0.897	4.75
4A	1149	81.85	24.463	0.970	4.24
4B	997	85.23	13.458	0.895	4.36
4C	373	85.13	15.753	0.925	4.31
5A	935	79.17	24.924	0.969	4.39
5B	1099	87.75	12.821	0.906	3.93
5C	467	84.33	13.859	0.895	4.49
6A	752	78.18	25.909	0.970	4.49
6B	1138	88.31	12.440	0.903	3.87
6C	640	86.12	13.371	0.898	4.27
7A	718	76.72	26.896	0.975	4.25
7B	1172	86.31	13.978	0.910	4.19
7C	675	81.18	13.903	0.899	4.42
8A	698	75.99	25.646	0.969	4.52
8B	1082	86.71	13.310	0.903	4.15
8C	771	82.09	16.407	0.931	4.31
11A	835	75.72	26.963	0.972	4.51
11B	836	86.87	16.852	0.940	4.13
11C	531	84.44	16.469	0.930	4.36

Table 15. Descriptive Statistics, Cronbach's Alpha and SEM for the 2015 PASA Math (20 Items) for All Students Completing the PASA

Grade/ Level	n	Mean	SD	Cronbach's α	SEM
3A	1420	78.49	22.634	0.955	4.80
3B	794	90.29	14.534	0.939	3.59
3C	281	80.46	13.124	0.866	4.80
4A	1156	77.93	24.345	0.963	4.68
4B	951	91.66	12.772	0.929	3.40
4C	413	81.30	16.151	0.921	4.54
5A	1027	74.72	24.754	0.963	4.76
5B	968	86.61	14.211	0.916	4.12
5C	506	82.86	13.482	0.893	4.41
6A	820	72.96	24.909	0.960	4.98
6B	1027	87.52	14.674	0.927	3.96
6C	683	84.58	13.199	0.889	4.40
7A	791	71.35	24.064	0.958	4.93
7B	1064	78.01	16.434	0.915	4.79
7C	710	74.77	15.674	0.901	4.93
8A	756	70.03	22.916	0.950	5.12
8B	992	79.04	16.012	0.915	4.67
8C	803	75.94	18.116	0.931	4.76
11A	862	72.52	25.719	0.963	4.95
11B	880	78.45	18.280	0.931	4.80
11C	460	73.89	18.028	0.921	5.07

Item Performance

Further analyses of item performances are summarized in Appendices C1, C2, and C3. Inter-item correlations are presented in Appendix C1. Inter-item correlations examine the extent to which scores on one item are related to scores on all other items in a single test. It provides an assessment of item redundancy: the extent to which items in a test are assessing the same content (Cohen & Swerdlik, 2005). Average inter-item correlations by grade span and level are provided in Table 16. Ideally, the average inter-item correlation for a set of items should be between .20 and .40, suggesting that while the items are reasonably homogenous, they do contain sufficiently unique variance so as to not be isomorphic with each other. Average inter-item correlations tended to be higher in reading for Level A than for Levels B and C across grades indicating a slightly more homogeneous (redundant) set of items in the Level A tests. The same was not true for math inter-item correlations (Table 17). Items in test levels A and B seemed to hang together about equally, with level C items appearing slightly less homogeneous.

Table 16. Average Inter-item Correlations in Reading by Level and Grade Span

Grade Span	A-Level	B-Level	C-Level
3/4	0.47	0.27	0.31
5/6	0.42	0.29	0.27
7/8	0.46	0.29	0.32
11	0.44	0.40	0.35

Table 17. Average Inter-item Correlations In Math by Level and Grade Span

Grade Span	A-Level	B-Level	C-Level
3/4	0.39	0.37	0.27
5/6	0.37	0.33	0.26
7/8	0.33	0.32	0.31
11	0.40	0.36	0.32

Inter-item correlations address issues relating to a scale's fidelity of measurement, how well the instrument is measuring some construct (e.g., its internal consistency, Cronbach, 1951). When values are lower than .20, then the items may not be representative of the same content domain. Tables 18 and 19 provide a summary of the number of inter-item correlations (out of a total of 190 per level at each grade span) that fell below the threshold of 0.20. Reading test items in grade 3/4 Level B and grades 5/6 Level C, and Math test items in 3/4C, 5/6C, and 11C obviously require closer scrutiny.

Table 18. Number of inter-item correlations in Reading that fail to meet the 0.20 threshold per grade span and test level.

Grade span	Level A	Level B	Level C
3/4	--	27	2
5/6	--	13	34
7/8	--	11	12
11	1	--	3

Table 19. Number of inter-item correlations in Math that fail to meet the 0.20 threshold per grade span and test level.

Grade span	Level A	Level B	Level C
3/4	1	--	32
5/6	--	5	33
7/8	1	7	3
11	--	1	15

Finally, although this analysis confirms the previous finding that Level A Reading items measure a fairly homogeneous set of reading skills, inspection of the tables provided in Appendix C1 also indicates (with inter-item correlation values consistently higher than 0.40) that test items in Level A Reading are capturing only a small bandwidth of the reading construct. No such trend was seen in other levels of the Reading or the Math inter-item correlations.

Item performance varied systematically as a function of level of difficulty, but remained relatively consistent across grades. The mean and standard deviation for each item for each grade span appear in Appendix C2. Means and standard deviations for each item by grade were also computed.

Percentages of Items at Each Score Level

Appendix C3 shows the percentage of scores assigned for each item for each grade and level of difficulty for all students attempting a given task. In reading and mathematics, across grades and levels, scores of 'C' were the most prevalent, on average. Scores of 0 and 1 were not often earned.

These item-level statistics are used as a means of detecting items that deserve closer scrutiny, rather than being a mechanism for automatic rejection or retention of items. Towards this end, the test development committee used a set of criteria as a screening tool to identify items that needed a closer review. For an item to be flagged, the criteria included any of the following:

1. Correlation (Pearson's) of the item score to the total test score of less than .40
2. Percent of students scoring 'C' greater than 80% or less than 20%

3. Percent of students scoring 'S' greater than percent scoring 'C'

Applying the first criterion to the item-level data presented in Appendix C3, we explored whether participants who know the material taught to them got high scores on the test item as well as on the overall assessment. Participants who did not master the material should get low scores on the test items and lower overall assessment scores. This is the relationship that an item-total correlation provides to help evaluate the performance of test items. In Reading, there were 6 test items that did not perform as expected; in Math there were 3 items. All six reading items were on the Grade 3/4 reading test, two on Level B and four on Level C. Two of the three math items were on the 3/4 Level C math test; the remaining math item was from the grade 7/8 Level C math test. All nine of these items had point-biserial correlation between 0.30 and 0.39 indicating "good discrimination" but not as good as the remaining 1,031 items with point-biserial values over 0.4 indicating "very good discrimination." These data suggest that the *PASA* consists of a lot of highly discriminating items.

Applying the second criterion listed above to the item level data in Appendix C3 revealed 87 test items in reading (of the 520 across grade/spans and levels) that should be revised or discarded. Eighty-two of those items were designated as "too easy," 5 on A-level in the 3/4 grade span tests, 47 on B-level tests scattered across all grade levels, and 32 on C-level tests also scattered across all grade levels. Only three test items, all of them on the reading test at grade span 7/8, were identified as "too hard."

The math analysis revealed very similar results. Eighty-two Math items (of the 520 across grade/spans and levels) were identified as needing to be revised or discarded. Thirteen of those math items were "too hard" (fewer than 20% of students earning a 'C' score) and 69 of the math items were "too easy" (more than 80% of students earning a score of 'C'). Twelve of the thirteen math items that were too hard were on Level C tests; one was on the 11B test. Twenty one of the 69 math items that were too easy were scattered across the Level B tests; the remaining 48 math items that were too easy were on the Level C tests.

A surprising finding was that both 'old' test items and 'newly-aligned' items fell into both the 'too easy' or 'too hard' categories. Item developers appear to have overcompensated in their reduction of depth and breadth, especially at B and C levels of the *PASA* for grade spans 3/4 and 5/6, as they sought to align new reading and math items with the new, more rigorous, eligible content.

Tables 20 and 21 provide another way of looking at performance differences on test items carried over from earlier versions of the *PASA* and test items newly designed to be aligned to a piece of new, ore rigorous eligible content. The tables provide the means and standard deviations for aligned and not-aligned items at every grade level from 3 to 8 and 11. Our assumption in developing these tables was that performance of students on 'not-aligned' items would be higher than performance on the 'aligned items, and indeed, that seems to be the case. Although no tests of significance were applied, in

reading, 16 of the 21 comparisons show slightly lower average scores earned on aligned items (highlighted in yellow); in math, 14 of 21 comparisons show slightly lower mean scores on the aligned items.

Table 20. Mean scores assigned to student performances on ‘aligned’ and ‘not-aligned’ test items on PASA Reading in Grades 3-8 and 11.

Reading	Mean		Standard Deviation	
	Aligned	Not Aligned	Aligned	Not Aligned
3A	4.16	4.04	1.496	1.547
3B	4.02	4.61	1.279	0.917
3C	4.02	4.60	1.309	0.927
4A	4.14	4.02	1.508	1.557
4B	4.09	4.67	1.251	0.877
4C	4.19	4.64	1.250	1.003
5A	4.00	3.91	1.561	1.577
5B	4.21	4.61	1.163	0.915
5C	4.28	3.95	1.169	1.291
6A	3.94	3.88	1.610	1.622
6B	4.24	4.63	1.148	0.888
6C	4.37	4.06	1.105	1.257
7A	3.79	3.89	1.656	1.600
7B	4.26	4.49	1.169	1.047
7C	4.00	4.13	1.152	1.181
8A	3.75	3.86	1.641	1.576
8B	4.27	4.53	1.149	0.991
8C	4.04	4.18	1.227	1.244
11A	3.71	3.88	1.698	1.633
11B	4.27	4.56	1.262	1.105
11C	4.16	4.33	1.254	1.242

Table 21. Mean scores assigned to student performances on ‘aligned’ and ‘not-aligned’ test items on PASA Math in Grades 3-8 and 11.

Math	Mean		Standard Deviation	
	Aligned	Not Aligned	Aligned	Not Aligned
3A	3.95	3.87	1.518	1.566
3B	4.44	4.65	1.096	0.991
3C	4.06	3.40	1.214	1.389
4A	3.92	3.86	1.571	1.620
4B	4.51	4.72	1.011	0.885
4C	4.10	3.42	1.259	1.368
5A	3.51	3.97	1.667	1.559
5B	4.26	4.44	1.153	1.091
5C	4.16	4.11	1.144	1.205
6A	3.41	3.89	1.694	1.594
6B	4.31	4.47	1.139	1.092
6C	4.23	4.22	1.129	1.203
7A	3.11	3.87	1.637	1.599
7B	3.71	4.09	1.398	1.225
7C	3.72	3.78	1.335	1.302
8A	3.07	3.79	1.599	1.593
8B	3.78	4.13	1.360	1.198
8C	3.78	3.83	1.384	1.346
11A	3.24	3.83	1.720	1.649
11B	3.89	3.95	1.415	1.358
11C	3.85	3.46	1.410	1.444

The tables in Appendix C3 were also used to evaluate whether assessors (or other individuals) were adequately trained to administer the *PASA*. A score of 0 indicates that the person administering the test did not administer that test item. These 0 scores inevitably lower a student's final scores. Additional training to test administrators, with an explicit emphasis on administering the full set of items should reduce instances of 0 scores and improve students' outcomes. In reading, zero scores were assigned, on average, to 2% to 3% of the students tested; in math, slightly more zeros were scored, from 3% -4% of the population. Only one pattern emerged in the zero scores for 2015 *PASA*: test administrators need better training in presenting students with tasks that require measurement with a ruler. On those tasks, approximately 5% of students received zero scores. A revision of the on-line module that deals with administration of measurement test items, and mandatory training for *PASA* test administrators to be instituted for the 2015-16 school year should reduce significantly the rate of zero scores.

Differential Item Performance

“No-Vision Version/ Adapted *PASA*. During the 2006-07 year, differential item performance was studied in students whose visual impairment does not permit using vision as the input mode for the assessment. Performance on items was compared for students with significant visual impairments and those without visual impairments using a matched pairs Wilcoxon test. Items flagged as functioning differently for the groups were further examined by experts in vision to determine the source for the difference in item functioning. A qualitative review of items revealed additional areas of bias. For example, in some cases, students with visual impairments lacked familiarity with the content (e.g., things that refer to color), or items could not be altered to make them accessible to students with visual impairments (e.g., a complex picture of a playground). A replacement test was created and placed on the *PASA* website for use with students who do not have useable vision. However, despite broader advertising of its availability and an annual January Webinar on assessment of student with no usable vision, scorers determined that a large majority of test administrators did not take the time to download this more appropriate version of the *PASA*, and instead, made up their own adaptations in administering the test.

To correct for this tendency, for the 2015 test administration, if assessors indicated on the student enrollment form (or in the previous year's testing) that the target student had no usable vision, a *hard-copy alternate* test booklet was sent directly to the test administrator as well as an alternate Kit of manipulatives to facilitate the testing.

Scoring of the 'no-vision version' of the *PASA* is reserved for a set of scorers who, in addition to meeting the general criteria for scoring, receive an additional 2.5 hours of training from a vision studies consultant. These are the only individuals permitted to score these adapted tests.

Nonverbal Version/ Adapted PASA. In 2011 and 2012, a study was conducted to investigate how adaptations were being provided to students who are non-verbal on PASA test items that required constructed speech responses. For these students the PASA test developers designed an adapted, multiple choice version of the *PASA*; however, at least some test administrators used their own adaptation, instead.

Performances of students who are non-verbal were examined to determine whether students were being assessed using the PASA-provided Adapted Version or test-administrator-made adaptations and whether test administrator-made adaptations were appropriate accommodations or modifications that changed the nature of the skill being assessed. Additional information regarding the presentation format, response mode, and the use of assistive technology were also collected. The student performances were also scored and coded to examine the impact of adaptations on scores. Comparisons between the scores of students who are non-verbal and students who have functional speech were made using the Mann-Whitney *U* test. In addition, students who are non-verbal were matched to students with functional speech on the basis of the non-oral response test items, and their scores were compared as were the scores of students who were assessed using the PASA-provided Adapted Version and test administrator-made adaptations.

The results indicated that both PASA-provided Adapted Nonverbal Version and test administrator-made adaptations were being used. However, test administrator-made adaptations often led to modifications in what was being tested. Those with functional speech outperformed the students who are non-verbal, and those who were assessed using the PASA-provided Adapted Version received higher scores than those assessed using test administrator-made adaptations. The findings pointed to a need for greater professional development in accommodation methods for students who are non-verbal in order to more validly assess this population.

Scoring of the nonverbal version of the PASA is reserved for a set of scorers who, in addition to meeting the general criteria for scoring, receive an additional 2.5 hours of training from a special education specialist/consultant in education of students who are nonverbal. These are the only individuals permitted to score the adapted, nonverbal tests.

CHAPTER 9:

SETTING STANDARDS: PERFORMANCE LEVEL DESCRIPTIONS AND CUT SCORES

Standard Settings for the PASA Reading and Math

Three previous standard settings for the *PASA Reading and Math* have occurred since the inception of the assessment. The first took place after the first administration of the *PASA* and the second took place using data from the Spring 2006 administration. Three years later, with minor changes to the scoring rubric and literature related to including content into Performance Level Descriptors (PLDs), new standard setting workshops for the *PASA Reading and Math* were conducted in 2009-2010. A detailed summary of the standard setting workshops was provided in the 2010 *PASA* technical manual. The standard setting workshops were held over two weekends; the Performance Level Descriptors (PLDs) were revised during the first weekend of the standard setting workshop, and cut scores were established during the second weekend.

Due to the restructuring of the *PASA* in the 2013 administration, the cut scores had to be revised. The cut scores for the *PASA Reading and Math* had been based on 25 items. Beginning in 2014, all *PASA* tests had 20 items (plus field items not used in the calculation of final scores). All forms of the *PASA* for the 2015 administration consisted of 20 items. Upon consultation with the TAC and PDE, new standard setting workshops were not recommended at this time. Instead, mathematical adjustments to the existing cut scores, based on the items that were included in the 2014 administration of the *PASA*, were recommended.

As was stated, the final cut scores from the standard setting workshops were found by summing across items to obtain a single panelists' estimated cut scores, and then averaging across panelists to get each panel's estimated cut scores. When possible, the final item ratings established by the standard setting panelists for the exact items that were on the 2014 and 2015 administrations of the *PASA* were used to establish the revised cut scores. When exact items from the standard setting did not appear on the 2015 *PASA*, the estimated cut scores from items that had similar characteristics in terms of content, item difficulty, and item format to those from the standard setting were used. One additional adjustment was made to the 3/4 B Math form, where the cut score for proficient was changed from 97 to 93 in order to make the number of students at each of the performance levels comparable. The cut scores for the *PASA Reading and Math* for the 2015 administration are provided in Table 22.

Table 22. Score Ranges for the 2015 PASA Reading and Math

	Emerging	Novice	Proficient	Advanced
3/4 Reading				
A	0 - 70	71 - 87	88 - 100	-
B	0 - 59	60 - 83	84 - 100	-
C	0 - 68	69 - 81	82 - 89	90 - 100
3/4 Math				
A	0 - 73	74 - 85	86 - 100	-
B	0 - 84	85 - 92	93 - 100	-
C	0 - 68	69 - 79	80 - 91	92 - 100
5/6 Reading				
A	0 - 71	72 - 87	88 - 100	-
B	0 - 72	73 - 87	88 - 100	-
C	0 - 69	70 - 83	84 - 91	92 - 100
5/6 Math				
A	0 - 73	74 - 83	84 - 100	-
B	0 - 71	72 - 85	86 - 100	-
C	0 - 69	70 - 79	80 - 87	88 - 100
7/8 Reading				
A	0 - 70	71 - 84	85 - 100	-
B	0 - 63	64 - 84	85 - 100	-
C	0 - 69	70 - 79	80 - 89	90 - 100
7/8 Math				
A	0 - 63	64 - 77	78 - 100	-
B	0 - 69	70 - 85	86 - 100	-
C	0 - 61	62 - 77	78 - 88	89 - 100
11 Reading				
A	0 - 63	64 - 80	81 - 100	-
B	0 - 66	67 - 85	86 - 100	-
C	0 - 56	57 - 82	83 - 92	93 - 100
11 Math				
A	0 - 69	70 - 79	80 - 100	-
B	0 - 65	66 - 81	82 - 100	-
C	0 - 58	59 - 75	76 - 87	88 - 100

Tables 23 and 24 show the percentage of students falling at each performance level for the 2015 PASA in the content areas of Reading and Math respectively.

Table 23. Percentage of PASA Students at Each Performance Level for the 2015 PASA Reading

Level	Emerging	Novice	Proficient	Advanced
3A	25.4	19.1	55.4	-
3B	6.0	40.4	53.6	-
3C	20.4	27.8	25.3	26.5
3 ALL	18.6	27.0	51.9	2.6
4A	25.8	20.3	54.0	-
4B	4.6	34.9	60.5	-
4C	9.9	20.9	36.5	32.7
4 ALL	15.0	26.2	53.9	4.8
5A	28.6	24.9	46.5	-
5B	11.4	31.1	57.5	-
5C	13.3	30.2	37.0	19.5
5 ALL	18.2	28.6	49.6	3.6
6A	30.9	24.2	44.9	-
6B	11.6	30.1	58.3	-
6C	11.6	23.3	34.8	30.3
6 ALL	17.3	26.6	48.4	7.7
7A	30.2	25.5	44.3	-
7B	8.4	32.2	59.4	-
7C	16.6	29.3	37.2	16.9
7 ALL	16.7	29.6	49.3	4.4
8A	34.0	24.2	41.8	-
8B	7.1	33.6	59.2	-
8C	15.2	22.4	39.3	23.1
8 ALL	16.9	27.7	48.5	7.0
11A	26.2	22.0	51.7	-
11B	10.2	25.4	64.5	-
11C	6.4	33.1	43.7	16.8
11 ALL	15.3	26.0	54.6	4.0

Table 24. *Percentage of PASA Students at Each Performance Level for the 2015 PASA Math*

Level	Emerging	Novice	Proficient	Advanced
3A	35.1	20.8	44.0	-
3B	21.3	31.5	47.2	-
3C	18.1	32.7	41.6	7.5
3 ALL	28.8	25.6	44.8	0.8
4A	35.7	19.1	45.2	-
4B	18.3	26.9	54.8	-
4C	16.7	26.9	43.8	12.6
4 ALL	26.0	23.3	48.6	2.1
5A	41.0	21.6	37.4	-
5B	13.8	25.8	60.3	-
5C	16.8	22.9	27.9	32.4
5 ALL	25.6	23.5	44.3	6.6
6A	45.7	20.1	34.1	-
6B	13.5	21.9	64.6	-
6C	12.7	18.7	30.3	38.2
6 ALL	23.8	20.5	45.5	10.3
7A	30.8	30.0	39.2	-
7B	34.4	34.8	30.8	-
7C	24.6	39.4	26.6	9.3
7 ALL	30.6	34.6	32.2	2.6
8A	33.2	33.3	33.5	-
8B	31.3	35.4	33.4	-
8C	19.9	35.9	32.1	12.1
8 ALL	28.3	34.9	33.0	3.8
11A	37.9	18.8	43.3	-
11B	23.9	30.9	45.2	-
11C	22.6	33.5	29.8	14.1
11 ALL	29.1	26.7	41.2	3.0

CHAPTER 10

VALIDITY STUDIES OF THE PENNSYLVANIA ALTERNATE SYSTEM OF ASSESSMENT (PASA)

In order to address issues of validity, a supplemental report was developed to accompany the 2014 *PASA* Technical Report. The validity studies supplement provided summaries of the validity studies that were conducted for the *PASA Reading and Math* during the 2009-10, 2010-11, 2011-12, and 2012-13 school years, as well as all of the validity studies that have been conducted related to the *PASA Science*, which has been administered to students in grades 4, 8, and 11 the 2007-08 school year.

The validity studies outlined in Tables 25-27 present evidence that informs the validity argument being established for the *PASA*. The evidence-based argument links to the intended purposes of the test, which are:

- 1) to measure the degree to which students attain the knowledge and skills described in the statewide alternate eligible content, which is linked to the state academic content standards;
- 2) to provide information regarding district and school accountability; and
- 3) to improve curricular and instructional practice for students with significant cognitive disabilities and increase student learning.

Brief summaries of several of these studies were presented in the Supplemental Validity Report of 2012 and detailed summaries were presented in Appendices to that report (both available online). Additional studies have been summarized in previous technical reports, such as those related to standard setting and PLDs.

Table 24. Sources of Validity Evidence for the PASA Reading and Math

Description	Evidence	Validity Concern	Findings	Uses/Changes
Pilot Proficiency Study	Item frequencies of proficient A students taking B items and proficient B students taking C items	Construct	There were some items from higher level tests that students could do but students performed less well on items from higher test level than on items at their assigned test level.	Study provided preliminary information about student performance on higher level items, but only proficient students were assessed. Prompted a large-scale study as a follow up.
Proficiency Study 2011-12	Item frequencies of proficient A students taking B items and proficient B students taking C items	Construct	There were several items from each higher level test form that students could do, including some items for which a large percentage of students (e.g., above 60%) assigned to a lower test level could earn a score of 5.	Results were to be used in conjunction with results from the 2012-13 proficiency study to examine any needed restructuring of the PASA. Additional item level analyses were explored to further examine learning progressions.
Proficiency Study 2012-13	Item frequencies of students at each grade level on items within the same content strand across grades	Construct	Results from the Level B and Level C administrations clearly show an increased proficiency on all test items across the grade spans. The results of Level A testing demonstrate NO such trends, suggesting that students who are assigned Level A are a unique subgroup whose show virtually no growth in achievement over the years.	Results were to be used in conjunction with results from the 2011-12 proficiency study to restructure the PASA, assigning test items to grades and levels based more on student performance data than on ‘educated guesses’ about student competence and achievement across grades and levels.

Table 25. Sources of Validity Evidence for the PASA Reading and Math, cont'd

Description	Evidence	Validity Concern	Findings	Uses/Changes
LCI Study	LCI data from teachers who administered PASA in 2010-11. Utilized subset of LCI responses that could be linked by student ID to PASA scores	Consequential Construct	PASA students have similar learning characteristics to students taking AA-AAS across states. Some differences in learning characteristics of students taking PASA levels related to communication.	Methods for identifying students for the PASA will remain. Results suggest some differences in A, B and C level students. Information will be utilized with evidence from proficiency studies to inform any needed redesign of the PASA
Parent Score Report Study	Parent focus groups regarding score reports	Consequential	Parents would like to see specific information about tested content and preferred graphic displays over text-based explanations	Score report has been modified regularly based on feedback from TAC and earlier focus groups. Results from this study will inform future modifications.
Fidelity of Test Administration Study	Rescoring of 750 student assessments for fidelity of administration	General: Score interpretation and use	No systemic errors in administration were found.	Training of test administrators will be continued. No major changes to the process beyond the continuous improvement model that is implemented were deemed necessary.
Impact of Change to Scoring Rubric Study	Rescoring of 230 2008 student assessments using the revised 2009 scoring rubric	General: Score interpretation and use	Change in scoring rubric caused only some students to change performance level classifications.	The revised scoring rubric was maintained.

Table 25. Sources of Validity Evidence for the PASA Reading and Math, cont'd

Description	Evidence	Validity Concern	Findings	Uses/Changes
Score of 3 and 4 Study	Rescoring of items on that were assigned scores of 3 and 4 on a subset of student assessments	General: Score interpretation and use	The most common classification for scores of 4 was because the teacher repeated directions, and for scores of 3 was because the teacher made the task easier.	The scoring rubric remained the same. Training for administrators and scorers is continuously updated and was updated to reflect common errors.
Differential Item Functioning of Alternate Performance-Based Assessment Test Items for Students with Visual Impairments	Analysis of scores for students with severe cognitive disabilities <i>and</i> visual impairments compared to a matched group without visual impairments.	DIF	Significant differences between groups. Items with DIF included money, matching, or selecting size. Qualitative analyses, including of accommodations, identified potential reasons for differences.	More careful development of 'no-vision' version of PASA to reduce number of teacher-developed accommodations
Performance and Accommodations For Students Who Are Non-verbal Taking Pennsylvania's Statewide Alternate Assessment (PASA)	Analysis of administration techniques and scores of students who are non-verbal matched to students with functional speech on the basis of the non-oral response test items.	DIF	Those with functional speech outperformed students who are non-verbal significantly, and those who were assessed using the PASA-provided Adapted Non-Verbal Version of the PASA received higher scores than those assessed using test administrator-made adaptations (accommodations or modifications), which often changed the nature of the skill being assessed.	Additional professional development provided in accommodation methods for students who are non-verbal; wider usage of adapted non-verbal version of the PASA

Table 25. Additional Sources of Validity Evidence for PASA Reading

Description	Evidence	Validity Concern	Findings	Uses/Changes
Reading Screening Study	Supplemental reading test administered to students taking the Level B and C PASA to estimate reading level	Criterion	A wide range of reading ability was observed on the measures of word and passage reading. Children who take the AA-AAS are performing substantially below grade level in word and passage reading.	Results from this study were considered and will inform the amount and degree of difficulty of reading on the PASA.

Table 26. Sources of Evidence Related to Technical Quality of the Assessment Measuring Student Performance

Description	Evidence	Validity Concern	Findings	Uses/Changes
Technical Quality	PLD development	Construct	Panelists understood and had confidence in the process of PLD development and independent observations supported the procedural fidelity of the process	Used to set cut scores
	Standard setting	Construct	Panelists understood and had confidence in their participation in the standard setting process, across grade and test levels	Periodic recalibration of cut scores to assure accurate and reliable differentiation of groups of students into performance categories

Table 27. Sources of Evidence Related to Technical Quality of the Assessment Measuring Student Performance, cont'd

Description	Evidence	Validity Concern	Findings	Uses/Changes
	PLD analysis	Construct	Preliminary evaluation of definition and placement of PLDs within performance categories. Overall, students' performance on items matched that predicted by PLDs. Results continue to be tracked to inform whether item level data patterns should impact changes in PLDs.	Continuous analysis that informs item development and will inform future standard settings and potentially impact PLDs
	Reliability of Scoring	Reliability	Overall agreement in scoring from team to team and from team to standard consistently over 85%.	Re-evaluation of need for team scoring

Additional Validity Studies

Because the 2014-15 PASA was considered a test in transition, only partially revised and only partially aligned to the PA Core Standards and the Alternate Eligible Content, only the usual, item-level statistics reported in Chapter 9 were carried out. No new validity studies were implemented on the 2015 PASA tests.

CHAPTER 11

FUTURE ACTIVITIES

Clarifying expectations for grade-level PASA math tests

Several studies are underway, and will be reported in full in the 2016 Technical Report. Two surveys have been administered to teachers of students who are assessed using the *PASA*. The first was completed by 938 special education teachers, the second by 1,284 special education teachers. Both focused on the extent to which teachers of students with significant cognitive disabilities are familiar with the new PA Core Standards and the Alternate Eligible Content that define the parameters of the evolving *PASA* Math tests. Preliminary analysis of the survey data indicate that a majority of teachers of students with significant cognitive disabilities have primary responsibility for teaching math, and they do so in pullout or self-contained classrooms. They teach math to students in multi-age/grade groups and rarely, if ever, teach a math concept that is grade-appropriate (according to the new PA Core Standards) for all the students in the instructional group. Regardless of the grade-level of the students they teach (3rd grade through high school), these teachers rarely teach math content that, according to the new Core Standards, would be considered to be above the third-grade level. Furthermore, responses indicated that teachers are so unfamiliar with the grade-level expectation for math content that, given a math skill or concept, they cannot identify accurately at what grade it should be taught. All teachers agreed that since instructional expectations have changed considerably over the last very few years, intensive professional development is needed and the majority of teachers agreed that, if the revised *PASA* is based on grade-level learning expectations reflected in the Alternate Eligible Content, the test will quite validly demonstrate the extent to which students have NOT learned the grade level math content.

Instructional studies are also underway to explore how long it takes for students with significant cognitive disabilities to learn new grade-appropriate math content, how long they retain that new learning, and how many new math concepts or skills can be mastered in one academic year. Findings from the surveys, follow-up focus groups, and these instructional studies will be used to re-evaluate the alternate eligible content standards associated with the *PASA* math assessment, the math curriculum scope and sequence that should be in place year-by-year for students with significant cognitive disabilities, and, by extension, the content of the *PASA* math tests.

On-Line Submission and Scoring of Student Assessments

For the 2015-16 administration of the *PASA*, *PASA* will continue to encourage and evaluate the feasibility of online submission of student assessments. For the coming year, it is expected that several more service providers will attempt to submit student recordings on line, rather than through the mail. Programming efforts will continue to make the uploading process more efficient and user-friendly. It is anticipated that almost two-thirds of all student performances recorded for the *PASA* will be submitted on line in 2015-16.

Scoring Conferences

The experiment in 2015 with one-person scoring rather than 2-person teams scoring indicated that it was a good way to go. Feedback from the scorers was very positive. Productivity was greatly improved. And, scoring reliability data indicated no drop in the reliability of the scores assigned to student recordings. One-person scoring will be continued in the next year.

On-Line Training of Test Administrators

On-line training modules for administering the *PASA* are updated yearly and can be found at <http://www.pasatest.com>. The Bureau of Special Education/ PA Department of Education will advertise widely that test administrators **MUST** review the training modules before giving the 2016 *PASA test*.

Cautions regarding test security

An additional module has been added to the *PASA* test administration packet to remind those administering the *PASA* that test security and proper testing procedures must be enforced. Every test administrator will need to sign-off on a statement indicating that they have read and understood the test security procedures and the consequences of a failure to adhere to them.

New Standard Setting and Alignment Studies

Standard setting for the revised 2016 *PASA* is scheduled for end-of-May or early-June, 2016 to meet the Federal and State data reporting requirements. Alignment studies are also planned for spring and summer 2016 as we prepare documentation for Peer Review.

APPENDICES

Appendix A: Test Blueprints for the 2015 *PASA Reading and Math*

Appendix B: Scoring Rubric for *PASA Reading and Math*

Appendix C: Item-Level Statistics

C1: Item-to-Item Correlations

C2: Item Means and Standard Deviations

C3: Item Frequency Distributions and Item-to-Total Correlations

Appendix A: Test Blueprints for the 2015 PASA Reading and Math

PASA Test Blueprint: Math, Grades 3 and 4:

Level A: All items types are selected response

Level B: 14 test items are selected response; 6 are constructed response

Level C: 15 test items are selected response; 5 are constructed response

Content Category	Weight			PA Core Assessment Anchor
	A	B	C	
Foundational*	35%	35%	10%	
Numbers and Operations	10%	20%	35%	A: M04.A-T.1 Generalize place-value understanding for multi-digit whole numbers. A, B, C: M03.A-F.1 Develop an understanding of fractions as numbers. B, C: M03.A-T.1 Use place-value understanding and properties of operations to perform arithmetic.
Algebraic Concepts	5%	5%	15%	A, B, C: M03.B-O.3 Solve problems involving the four operations, and identify patterns in arithmetic. C: M03.B-O.1 Solve problems involving multiplication and division.
Geometry	5%	5%	--	A: M04.C-G.1 Identify lines and angles, and classify shapes by properties of their lines and angles.
Measurement, Data Analysis and Probability	45%	35%	40%	A, B, C: M03.D-M.1 Solve problems involving measurement and estimation of intervals of time, money, liquid volumes, masses, and lengths of objects. A, B, C: M03.D-M.2 Represent and interpret data.
Total	100%			

*Foundational: skills associated with an earlier grade level standard

PASA Test Blueprint: Math, Grades 5 and 6:

Level A: All items types are selected response

Level B: 13 test items are selected response; 7 are constructed response

Level C: 17 test items are selected response; 3 are constructed response

Content Category	Weight			PA Core Assessment Anchor
	A	B	C	
Foundational*	50%	40%	30%	
Numbers and Operations	25%	30%	35%	A, B, C: M05.A-T.1 Understand place-value A, B, C: M05.A-T.2 Perform operations with whole numbers and with decimals to tenths. A, B, C: M06.A-N.2 Compute with multi-digit numbers and find common factors and multiples. C: M06.A-N.3 Apply understandings of numbers to the system of rational numbers.
Algebraic Concepts	10%	10%	10%	A, B, C: M05.B-O.2 Analyze patterns. A, B, C: M06.B-E.2 Interpret and solve one-variable equations and inequalities.
Geometry	5%	5%	5%	A, B, C: M05.C-G.2 Classify two-dimensional figures into categories based on their properties.
Measurement, Data Analysis and Probability	10%	15%	20%	A, B, C: M05.D-M.2 Interpret data. B: M05.D-M.1 Convert like measurement units within a given measurement system. A, B, C: M06.D-S.1 Demonstrate understanding of statistical variability by summarizing and describing distributions.
Total	100%			

*Foundational: skills associated with an earlier grade level standard

APPENDIX A
TEST BLUEPRINTS

PASA Test Blueprint: Math, Grades 7 and 8:

Level A: All items types are selected response

Level B: 16 test items are selected response; 4 are constructed response

Level C: 16 test items are selected response; 4 are constructed response

Content Category	Weight			PA Core Assessment Anchor
	A	B	C	
Foundational*	60%	50%	30%	
Numbers and Operations	20%	35%	40%	A, B, C: M07.A-N.1 Apply previous understandings of operations to add, subtract, multiply, and divide rational numbers. C: M07.A-R.1 Demonstrate an understanding of proportional relationships. A, B, C: M08.A-N.1 Demonstrate an understanding of rational numbers.
Algebraic Concepts	--	5%	15%	C: M07.B-E.2 Solve real-world problems using numerical and algebraic expressions, equations, and inequalities. B, C: M08.B-F.2 Use functions to model relationships between quantities.
Geometry	10%	5%	5%	A, B, C: M07.C-G.2 Solve real-world problems involving circumference, area, and volume. B, C: M08.C-G.1 Demonstrate an understanding of geometric transformations.
Measurement, Data Analysis and Probability	10%	5%	10%	C: M07.D-S.3 Investigate chance processes and evaluate probability models. A, B, C: M08.D-S.1 Investigate patterns of association in bivariate data.
Total	100%			

*Foundational: skills associated with an earlier grade level standard

PASA Test Blueprint: Math, Grade 11

Level A: All items types are selected response

Level B: 16 test items are selected response; 4 are constructed response

Level C: 17 test items are selected response; 3 are constructed response

Content Category	Weight			PA Core Standard
	A	B	C	
Foundational*	65%	55%	40%	
Numbers and Operations	10%	5%	10%	A, B, C: CC.2.1.HS.F.4: Use units as a way to understand problems and to guide the solution of multi-step problems.
Algebraic Concepts	--	10%	15%	B, C: CC.2.2.HS.C.1: Use the concept and notation of functions to interpret and apply them in terms of their context. B, C: CC.2.2.HS.C.5: Construct and compare linear, quadratic, and exponential models to solve problems.
Geometry	5%	10%	15%	A, B, C: CC.2.2.HS.D.1: Interpret the structure of expressions to represent a quantity in terms of its context. B, C: CC.2.2.HS.D.7: Create and graph equations or inequalities to describe numbers or relationships. C: CC.2.2.HS.D.8: Apply inverse operations to solve equations or formulas for a given variable.
Measurement, Data, and Probability	20%	20%	20%	A, B, C: CC.2.4.HS.B.1: Summarize, represent, and interpret data on a single count or measurement variable. A, B, C: CC.2.4.HS.B.7: Apply the rules of probability to compute probabilities of compound events in a uniform probability model.
Total	100%			

*Foundational: skills associated with an earlier grade level standard

APPENDIX A
TEST BLUEPRINTS

PASA Test Blueprint: Reading, Grades 3 and 4:

Level A: All items types are selected response

Level B: 15 test items are selected response; 5 are constructed response

Level C: 12 test items are selected response; 8 are constructed response

Content Category	Weight			Alternate Eligible Content
	A	B	C	
Foundational*	40%	30%	15%	
LITERATURE TEXT				
Key Ideas and Details	30%	40%	70%	A, B, C: E03.A-K.1.1.1.a Answer literal questions about a text. B: E04.A-K.1.1.1.b Answer inferential questions about a text C: E03.A-K.1.1.1.c Identify evidence from the text to support answer C: E04.A-K.1.1.1.c Find details in the text to support answers to literal or inferential questions C: E03.A-K.1.1.2.a Identify the central message. C: E03.A-K.1.1.2.b Retell stories from literature C: E03.A-K.1.1.3.a Identify characters and what they do in events of a story B: E04.A-V.4.1.1.b Demonstrate understanding of general academic and domain-specific vocabulary in fiction E03.B-K.1.1.3.a Identify connections between events or steps in a grade-appropriate informational text B, C: E04.A-K.1.1.3.a Locate specific details from the text to answer questions related to the characters, setting, or events
Vocabulary Acquisition and Use	--	20%	10%	B, C: E03.A-V.4.1.2.a Identify the literal and nonliteral meaning of words or phrases. B: E04.A-V.4.1.2.b Relate words to their synonyms C: E04.A-V.4.1.2.c Relate words to their antonyms B: E03.A-V.4.1.1.a Use context or root word to determine the meaning of an unknown word B: E04.A-V.4.1.1.a Use context or root word to determine the meaning of an unknown word B, C: E03.A-V.4.1.1.b Demonstrate understanding of vocabulary in context of fiction. C: E04.A-V.4.1.1.b Demonstrate understanding of vocabulary in context of fiction B, C: E03.A-V.4.1.1.c Use context clues to determine the meaning of a multiple meaning word. C: E04.A-V.4.1.1.c Use context clues to determine the meaning of a multiple meaning word
INFORMATIONAL TEXT				
Key Ideas and Details	--	10%	5%	B: E03.B-K.1.1.1.a Answer literal questions about a text. B: E03.B-K.1.1.3.a Identify connections between events or steps in a grade-appropriate informational text
Vocabulary Acquisition and Use	30%	--	--	A: E03.B-V.4.1.1.b Demonstrate understanding of general academic and domain-specific vocabulary in nonfiction. B, C: E04.B-K.1.1.3.b Use signal words to identify each part in a series of events or steps in a grade-appropriate text
Total	100%			

*Foundational: skills associated with an earlier grade level standard

APPENDIX A
TEST BLUEPRINTS

PASA Test Blueprint: Reading, Grades 5 and 6:

Level A: All items types are selected response

Level B: 18 test items are selected response; 2 are constructed response

Level C: 6 test items are selected response; 14 are constructed response

Content Category	Weight			Alternate Eligible Content
	A	B	C	
Foundational*	45%	45%	25%	
LITERATURE TEXT				
Key Ideas and Details	30%	40%	50%	A, B, C: E05.A-K.1.1.1.a Locate information from the text to answer literal and inferential questions A, B, C: E06.A-K.1.1.1.a Identify details and evidence from the text to answer literal and inferential questions A: E06.A-K.1.1.2.b Summarize the text
Craft and Structure		5%		B: E06.A-C.2.1.2.a Identify where a sentence or scene fits in a sequence
INFORMATIONAL TEXT				
Key Ideas and Details			5%	C: E05.B-K.1.1.1.a Demonstrate understanding of key ideas and details in non-fiction C: E06.B-K.1.1.3.a Identify a key individual, event or idea
Craft and Structure		10%	15%	B: E06.B-C.2.1.1.a Identify information within the text to determine the author's point of view C: E06.B-C.3.1.1.a Identify the argument or claim that the author makes
Vocabulary Acquisition and Use	25%		5%	A: E05.B-V.4.1.1.c Identify grade-appropriate general academic and domain-specific words and phrases accurately A E06.B-V.4.1.1.c Determine the meaning of general academic and domain specific words and phrases related to a grade-appropriate text C: E06.B-V.4.1.1.a Use context to determine the meaning of unknown or multiple meaning words C: E05.B-V.4.1.1.a Use context to determine the meaning of unknown or multiple meaning words B: E05.B-K.1.1.1.a Demonstrate understanding of key ideas and details in non-fiction
Total	100%			

*Foundational: skills associated with an earlier grade level standard

PASA Test Blueprint: Reading, Grades 7 and 8:

Level A: All items types are selected response

Level B: 8 test items are selected response; 12 are constructed response

Level C: 7 test items are selected response; 13 are constructed response

Content Category	Weight			Alternate Eligible Content
	A	B	C	
Foundational*	45%	25%	40%	
LITERATURE TEXT				
Key Ideas and Details	45%	55%	30%	A, B, C: E07.A-K.1.1.1.a Quote details and evidence from the text to answer literal and inferential questions. A, B, C: E08.A-K.1.1.1.a Identify details and evidence from the text to answer literal and inferential questions. C: E08.A-K.1.1.2.a Determine the theme or central idea of a text. A, B, C: E08.A-K.1.1.2.b Summarize the plot of a literary text. A, B: E07.A-K.1.1.3.a Identify how two or more elements of a story interact. C: E07.A-K.1.1.2.a Identify key details of a text to determine a theme or central idea.
Vocabulary Acquisition and Use		10%	20%	B, C: E07.A-V.4.1.1.a Use context to determine the meaning of unknown or multiple meaning words. B, C: E08.A-V.4.1.1.a Use context to determine the meaning of unknown or multiple meaning words. C: E07.A-V.4.1.1.b Using root words and affixes, determine the meaning of an unknown word. C: E08.A-V.4.1.1.b Using root words and affixes, determine the meaning of an unknown word. C: E07.A-V.4.1.2.a Identify the meaning of words in context, such as figures of speech and figurative language. C: E08.A-V.4.1.2.a Identify the meaning of figures of speech in context.
INFORMATIONAL TEXT				
Key Ideas and Details				C: E07.B-K.1.1.2.b Summarize an informational text. B: E08.B-K.1.1.2.b Summarize an informational text.
Integration of Knowledge and Ideas		5%	10%	C: E07.B-C.3.1.1.a Identify an argument or claim that the author makes. C: E08.B-C.3.1.1.a Identify an argument or claim that the author makes. C: E07.B-C.3.1.1.b Identify the evidence that support the claim or argument. C: E08.B-C.3.1.1.b Identify the evidence that does or does not support the claim or argument. B: E08.B-C.2.1.2.a Identify the details in a paragraph of informational text.
Vocabulary Acquisition and Use	5%	5%		A, B: E07.B-V.4.1.1.c Determine the meaning of general academic and domain specific words and phrases
Total	100%			

*Foundational: skills associated with an earlier grade level standard

APPENDIX A
TEST BLUEPRINTS

PASA Test Blueprint: Reading, Grade 11

Level A: All items types are selected response

Level B: 13 test items are selected response; 7 are constructed response

Level C: 9 test items are selected response; 11 are constructed response

Content Category	Weight			Alternate Eligible Content
	A	B	C	
Foundational*	45%	25%	25%	
LITERATURE TEXT				
Key Ideas and Details	40%	55%	10%	B: CC.1.3.11-12.A.b Sequence main events in relation to 2 stated themes or central ideas. A, B, C: CC.1.3.11-12.B.a Locate details and evidence from the text to answer literal and inferential questions including conclusions or summaries of the plot B: CC.1.3.11-12.B.b Summarize a literary text.
INFORMATIONAL TEXT				
Key Ideas and Details		5%	20%	B, C: CC.1.2.11-12.B.a Identify details and evidence from the text to answer literal and inferential questions including conclusions or summaries. C: CC.1.2.11-12.C.a Identify connections between two events, ideas, individuals or steps in informational text. C: CC.1.2.11-12.E.a Identify a claim/argument in a text. C CC.1.2.11-12.E.b Identify the evidence that does or does not support the claim or argument.
Integration of Knowledge and Ideas			20%	C CC.1.2.11-12.L.a Read and answer a question about grade-appropriate informational material (e.g., schedules, maps, manuals).
Vocabulary Acquisition and Use	15%	15%	25%	A, B, C: CC.1.3.11-12.J.a Determine the meaning of general academic and career-related words and phrases related to grade-appropriate text A, B, C: CC.1.2.11-12.K.a Use context to determine the meaning of unknown or multiple meaning words. C CC.1.2.11-12.K.b Use root word to determine the meaning of an unknown word.
Total	100%			

*Foundational: skills associated with an earlier grade level standard

End of Appendix A

Appendix B: Scoring Rubric introduced in 2015

Correct and Independent (C)	Correct but with Support (S)	Not correct (N)	Omitted (O)
<i>Formerly 5/4</i>	<i>Formerly 4/3</i>	<i>Formerly 2/1</i>	<i>Formerly 0</i>
<p>Response (or all responses for multi-step test item) was performed correctly and independently on first attempt with only one or more repetitions of request for student to respond and, if needed, repetitions of words of encouragement. (Additional request or encouragement was provided prior to the student making a response or between responses on multi-step test items)</p> <p>As long as no additional information is provided, it is permissible for assessors to . . .</p> <ul style="list-style-type: none"> • redirect students to the test item • encourage students to start or to continue • clarify directions in response to a student's request 	<p>Response was eventually correct, after student gave an incorrect response and additional prompt(s) were provided</p> <ul style="list-style-type: none"> • the assessor continued to prompt student for correct response • the assessor did not acknowledge the student's incorrect response and the student tried again (silent prompt) <p>and/or</p> <p>Test item was made easier because</p> <p>Assessor</p> <ul style="list-style-type: none"> • reduced the array of answer choices (with at least 2 choices remaining) • gave hints • pointed while student read • named item that was not supposed to be named • helped student read the text (single word and sentences) turning the subsequent reading comprehension skill(s) to listening comprehension skills 	<p>Response was incorrect or student did not respond and assessor accepted it and moved on to next test item</p> <p>Or</p> <p>Response was ensured because assessor</p> <ul style="list-style-type: none"> • reduced the array to one choice • gave the answer; student repeated answer • demonstrated the correct response; student imitated response • pointed to correct answer; student pointed where assessor pointed • led student's hand to correct choice • stopped the student when his/her reached the correct number count 	<p>No part of the test item was video recorded (Test item skipped entirely - neither assessor nor student could be seen nor heard)</p> <p>All three criteria below were met:</p> <ol style="list-style-type: none"> 4. No materials were presented, 5. No request was made of the student, and 6. No student response could be seen nor heard

APPENDIX B
SCORING RUBRIC

	<p><i>Student</i></p> <ul style="list-style-type: none"> <i>correctly completed some, but not all, of the steps in the multi-step test item (e.g., student was supposed to provide 4 facts but only gave 3; was to count quantity aloud and name total, but just named total)</i> <p>Or</p> <p>Response was correct, but beginning prompt could not be seen nor heard due to recording</p> <p><i>(Does not pertain to situations in which the student seemed to know what to do and did not need a prompt to respond.)</i></p>	<p>Or</p> <p>Response demonstrated was completely different from the targeted skill (e.g. <i>student matched words instead of read words</i>)</p> <p>Or</p> <p>Response was not recorded or not able to be interpreted</p> <p><i>The test materials and/or directions were presented, but scorer was unable to tell if student's response was correct or incorrect because it was not recorded or hard to see or hear</i></p>	
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<p>Correct and Independent</p> <p>(C)</p>	
<p>Response (or all responses for multi-step test item) was performed correctly and independently on first attempt with only one or more repetitions of request for student to respond and, if needed, repetitions of words of encouragement. <i>(Additional request or encouragement was provided prior to the student making a response or between responses on multi-step test items)</i></p> <p>As long as no additional information is provided, it is permissible for assessors to . . .</p> <ul style="list-style-type: none"> • redirect students to the test item • encourage students to start or to continue • clarify directions in response to a student's request 	<p>Student responded correctly after the one or more beginning prompts or a “string” or prompts (i.e., a series of beginning prompts without a sufficient pause to give the student time to respond) before or between student responses</p> <p>Student sorted, described, or sequenced the required number of items, events, or details</p> <p>Student can ask for clarification before responding</p> <p>Student can self-correct</p> <p>Teacher can redirect students to the test item</p>

<p>Correct but with Support (S)</p>	
<p>Response was eventually correct, after student gave an incorrect response and additional prompt(s) were provided</p> <ul style="list-style-type: none"> • <i>the assessor continued to prompt student for correct response</i> • <i>the assessor did not acknowledge the student's incorrect response and the student tried again (silent prompt)</i> <p>and/or</p> <p>Test item was made easier because</p> <p><i>Assessor</i></p> <ul style="list-style-type: none"> • <i>reduced the array of answer choices (with at least 2 choices remaining)</i> • <i>gave hints</i> • <i>pointed while student read</i> • <i>named item that was not supposed to be named</i> • <i>helped student read the text (single word and sentences) turning the subsequent reading comprehension skill(s) to listening comprehension skills</i> <p><i>Student</i></p> <ul style="list-style-type: none"> • <i>correctly completed some, but not all, of the steps in the multi-step test item (e.g., student was supposed to provide 4 facts but only gave 3; was to count quantity aloud and name total, but just named total)</i> 	<p>Support because more prompts were provided by assessor who:</p> <ul style="list-style-type: none"> • pointed while student read or counted (except when told to do so). • corrected student's reading when student was to read independently. • named a material that was not supposed to be named. • presented materials in an ordered array instead of an unordered array as specified. • reduced the number in an array • eliminated or added space between materials to be counted, added, or subtracted. • presented easier question than specified <ul style="list-style-type: none"> - changed 'where' question to 'who' - changed inferential question to literal - changed open-ended question to fill-in-the- blank <p>Easier because student:</p> <ul style="list-style-type: none"> • answered question in a form easier than specified reread entire sentence instead of answering question in his or her own words. • completed some, but not all steps (sorted some, not all; gave 2 not 3 events) • answered open-ended question with a partially correct or a possible, but not likely, answer <p>Correct response:</p> <ul style="list-style-type: none"> • but scorer did not see nor hear what was presented nor said to the student so it is not known if the test item was made easier

<p>Or</p> <p>Response was correct, but beginning prompt could not be seen nor heard due to recording</p> <p><i>(Does not pertain to situations in which the student seemed to know what to do and did not need a prompt to respond.)</i></p>	
<p>Not correct</p> <p>(N)</p>	
<p>Response was incorrect or student did not respond and assessor accepted it and moved on to next test item</p> <p>Or</p> <p>Response was ensured because assessor</p> <ul style="list-style-type: none"> • <i>reduced the array to one choice</i> • <i>gave the answer; student repeated answer</i> • <i>demonstrated the correct response; student imitated response</i> • <i>pointed to correct answer; student pointed where assessor pointed</i> • <i>led student's hand to correct choice</i> • <i>stopped the student when his/her reached the correct number count</i> <p>Or</p> <p>Response demonstrated was completely different from the targeted skill (e.g. student matched words</p>	<p>Answer was wrong and no amount of prompting resulted in a correct response and assessor moved on to next test item</p> <p>The response was correct, but different and much easier that that which was asked for</p> <ul style="list-style-type: none"> • matched instead of read words • there was only one choice left from which to choose (because the array was reduced to 1) • student only repeated what the assessor said • student did not make a selection <ul style="list-style-type: none"> ○ student pointed to where assessor pointed ○ assessor placed hand on correct choice <p>Test item was presented, but the response was</p> <ul style="list-style-type: none"> • Not recorded • Could not be deciphered /understood

<p><i>instead of read words)</i></p> <p>Or</p> <p>Response was not recorded or not able to be interpreted</p> <p><i>The test materials and/or directions were presented, but scorer was unable to tell if student's response was correct or incorrect because it was not recorded or hard to see or hear</i></p>	
<p>Omitted</p> <p>(O)</p> <p>Formerly 0</p>	
<p>No part of the test item was video recorded (<i>Test item skipped entirely - neither assessor nor student could be seen nor heard</i>)</p> <p>All three criteria below were met:</p> <ol style="list-style-type: none"> 1. <i>No materials were presented,</i> 2. <i>No request was made of the student,</i> and 3. <i>No student response could be seen nor heard</i> 	<p>Record as O only if there was no evidence of the test item having been presented</p> <ul style="list-style-type: none"> • Assessor said nor presented anything • No materials were seen • No responses were seen

Scoring Notes

Score as a Response

A selection made by the student that appeared to be deliberate or implied intentionality

Not considered a response

Materials touched during exploration of choices or during flailing for which selection responses appeared accidental.

Types of responses acceptable when response is listed as “points to”

Pointing with finger

Using eye gaze

Picking up

Saying, signing, or typing out, only if “says” is listed as an acceptable form of response for the test item

Note difference . . .

Between student **who stops when the designated number of items requested is counted out**, and student **who stops when designated number of items is reached because the assessor stops** the student at that point. The latter is ensuring correct response and *Not Correct* (N) should be recorded. (e.g., student is asked to count out 10 paper clips when given 12 and student is stopped when he or she reaches 10.)

Between a student **who makes a deliberate selection** and is told that the select is wrong and then makes one or more choices and **a student who seems to randomly select choices and is stopped** by the test assessor when he or she gets to the correct choice. The former is an example of a response that is *Correct but with Support* (S) and and the latter an ensured response and *Not Correct* (N) should be recorded.

End of Appendix B

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 3/4 Level A PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	
R1	1.00																				
R2	0.57	1.00																			
R3	0.46	0.42	1.00																		
R4	0.46	0.49	0.37	1.00																	
R5	0.49	0.52	0.43	0.47	1.00																
R6	0.42	0.49	0.38	0.46	0.50	1.00															
R7	0.51	0.49	0.48	0.44	0.50	0.46	1.00														
R8	0.41	0.43	0.35	0.44	0.46	0.38	0.40	1.00													
R9	0.44	0.50	0.41	0.46	0.52	0.46	0.47	0.43	1.00												
R10	0.48	0.47	0.41	0.51	0.50	0.46	0.50	0.47	0.50	1.00											
R11	0.53	0.51	0.37	0.45	0.47	0.43	0.48	0.39	0.44	0.51	1.00										
R12	0.46	0.50	0.34	0.45	0.46	0.42	0.43	0.37	0.45	0.47	0.52	1.00									
R13	0.52	0.53	0.39	0.42	0.51	0.44	0.52	0.40	0.46	0.54	0.51	0.50	1.00								
R14	0.47	0.46	0.42	0.42	0.47	0.41	0.49	0.44	0.49	0.49	0.45	0.44	0.49	1.00							
R15	0.46	0.46	0.42	0.43	0.48	0.41	0.48	0.39	0.47	0.49	0.48	0.44	0.52	0.47	1.00						
R16	0.50	0.45	0.42	0.45	0.46	0.42	0.51	0.41	0.45	0.50	0.50	0.47	0.48	0.51	0.48	1.00					
R17	0.46	0.47	0.40	0.48	0.48	0.47	0.45	0.44	0.53	0.52	0.48	0.48	0.47	0.48	0.47	0.50	1.00				
R18	0.49	0.45	0.41	0.51	0.48	0.40	0.49	0.41	0.45	0.51	0.51	0.47	0.50	0.47	0.47	0.56	0.49	1.00			
R19	0.51	0.47	0.44	0.43	0.47	0.42	0.51	0.39	0.43	0.51	0.55	0.47	0.51	0.50	0.53	0.53	0.49	0.52	1.00		
R20	0.50	0.45	0.45	0.44	0.51	0.44	0.48	0.43	0.50	0.56	0.46	0.47	0.49	0.56	0.51	0.54	0.52	0.55	0.53	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 3/4 Level B PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20
R1	1.00																			
R2	0.24	1.00																		
R3	0.34	0.28	1.00																	
R4	0.26	0.28	0.33	1.00																
R5	0.22	0.28	0.28	0.26	1.00															
R6	0.36	0.29	0.48	0.36	0.34	1.00														
R7	0.30	0.24	0.37	0.32	0.22	0.42	1.00													
R8	0.21	0.25	0.30	0.27	0.24	0.33	0.27	1.00												
R9	0.31	0.23	0.35	0.26	0.25	0.38	0.33	0.26	1.00											
R10	0.12	0.25	0.20	0.22	0.20	0.19	0.17	0.24	0.16	1.00										
R11	0.18	0.28	0.26	0.27	0.24	0.30	0.27	0.34	0.24	0.29	1.00									
R12	0.36	0.30	0.47	0.30	0.31	0.46	0.34	0.38	0.38	0.21	0.29	1.00								
R13	0.21	0.24	0.30	0.32	0.26	0.28	0.26	0.26	0.23	0.22	0.34	0.32	1.00							
R14	0.16	0.13	0.16	0.17	0.16	0.18	0.17	0.10	0.14	0.12	0.08	0.18	0.17	1.00						
R15	0.22	0.27	0.28	0.30	0.24	0.29	0.25	0.36	0.23	0.24	0.38	0.35	0.28	0.10	1.00					
R16	0.18	0.28	0.25	0.27	0.25	0.25	0.21	0.30	0.24	0.31	0.34	0.29	0.24	0.10	0.34	1.00				
R17	0.23	0.24	0.22	0.21	0.22	0.27	0.23	0.18	0.21	0.25	0.23	0.27	0.24	0.15	0.22	0.28	1.00			
R18	0.32	0.32	0.40	0.34	0.33	0.47	0.38	0.42	0.38	0.23	0.32	0.55	0.31	0.15	0.35	0.31	0.29	1.00		
R19	0.24	0.20	0.26	0.23	0.27	0.28	0.25	0.20	0.21	0.19	0.26	0.30	0.25	0.16	0.24	0.25	0.23	0.27	1.00	
R20	0.26	0.26	0.32	0.31	0.26	0.35	0.32	0.33	0.25	0.23	0.33	0.36	0.35	0.19	0.31	0.29	0.30	0.42	0.30	1.00

APPENDIX C-1
INTER-ITEM CORRELATIONS

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20
R1	1.00																			
R2	0.21	1.00																		
R3	0.21	0.21	1.00																	
R4	0.38	0.20	0.24	1.00																
R5	0.33	0.23	0.23	0.32	1.00															
R6	0.42	0.27	0.35	0.35	0.31	1.00														
R7	0.38	0.31	0.26	0.34	0.33	0.48	1.00													
R8	0.36	0.22	0.30	0.36	0.38	0.35	0.42	1.00												
R9	0.36	0.30	0.27	0.35	0.38	0.34	0.35	0.37	1.00											
R10	0.21	0.25	0.26	0.24	0.27	0.34	0.34	0.28	0.37	1.00										
R11	0.34	0.27	0.25	0.36	0.37	0.37	0.37	0.36	0.40	0.49	1.00									
R12	0.28	0.25	0.26	0.25	0.27	0.28	0.26	0.25	0.37	0.39	0.38	1.00								
R13	0.28	0.21	0.19	0.28	0.23	0.25	0.25	0.28	0.29	0.26	0.31	0.31	1.00							
R14	0.33	0.25	0.28	0.30	0.22	0.33	0.29	0.26	0.25	0.22	0.27	0.22	0.26	1.00						
R15	0.27	0.31	0.21	0.29	0.34	0.32	0.37	0.31	0.36	0.35	0.37	0.37	0.32	0.32	1.00					
R16	0.53	0.18	0.29	0.33	0.30	0.38	0.38	0.35	0.40	0.24	0.37	0.28	0.31	0.32	0.30	1.00				
R17	0.23	0.31	0.25	0.31	0.26	0.35	0.26	0.24	0.27	0.24	0.31	0.24	0.24	0.20	0.34	0.25	1.00			
R18	0.34	0.28	0.24	0.33	0.31	0.37	0.39	0.32	0.36	0.29	0.37	0.25	0.27	0.32	0.38	0.32	0.32	1.00		
R19	0.34	0.32	0.30	0.31	0.30	0.40	0.36	0.34	0.34	0.29	0.33	0.25	0.28	0.31	0.32	0.37	0.28	0.44	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

R20	0.28	0.36	0.30	0.30	0.31	0.31	0.29	0.28	0.33	0.31	0.40	0.29	0.28	0.27	0.38	0.24	0.32	0.35	0.35	1.00
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Grade 3/4 Level C PASA Reading Inter-Item Correlations

Grade 5/6 Level A PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20
R1	1.00																			
R2	0.42	1.00																		
R3	0.53	0.43	1.00																	
R4	0.41	0.43	0.39	1.00																
R5	0.39	0.40	0.40	0.39	1.00															
R6	0.44	0.47	0.41	0.40	0.41	1.00														
R7	0.40	0.38	0.45	0.45	0.38	0.42	1.00													
R8	0.43	0.41	0.43	0.34	0.38	0.39	0.41	1.00												
R9	0.52	0.44	0.51	0.41	0.40	0.43	0.46	0.53	1.00											
R10	0.46	0.42	0.46	0.44	0.40	0.46	0.47	0.43	0.50	1.00										
R11	0.45	0.39	0.42	0.43	0.37	0.49	0.43	0.39	0.48	0.51	1.00									
R12	0.39	0.41	0.43	0.44	0.41	0.41	0.41	0.37	0.40	0.47	0.45	1.00								
R13	0.36	0.32	0.38	0.28	0.36	0.32	0.32	0.38	0.42	0.35	0.34	0.37	1.00							
R14	0.46	0.41	0.46	0.38	0.39	0.47	0.43	0.42	0.47	0.45	0.44	0.42	0.38	1.00						
R15	0.48	0.35	0.45	0.41	0.36	0.39	0.43	0.46	0.48	0.46	0.45	0.50	0.41	0.46	1.00					
R16	0.40	0.39	0.39	0.39	0.41	0.43	0.43	0.42	0.44	0.46	0.44	0.44	0.38	0.44	0.45	1.00				
R17	0.45	0.45	0.41	0.43	0.33	0.44	0.38	0.39	0.44	0.46	0.51	0.41	0.34	0.45	0.45	0.41	1.00			
R18	0.45	0.41	0.41	0.45	0.35	0.42	0.42	0.37	0.44	0.47	0.48	0.42	0.34	0.45	0.45	0.44	0.50	1.00		

APPENDIX C-1
INTER-ITEM CORRELATIONS

R19	0.23	0.28	0.40	0.29	0.28	0.29	0.38	0.23	0.32	0.32	0.17	0.28	0.46	0.27	0.45	0.30	0.31	0.26	1.00	
R20	0.20	0.28	0.20	0.25	0.26	0.21	0.14	0.30	0.23	0.27	0.25	0.24	0.19	0.30	0.29	0.33	0.31	0.30	0.23	1.00

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 5/6 Level C PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	
R1	1.00																				
R2	0.21	1.00																			
R3	0.25	0.35	1.00																		
R4	0.28	0.38	0.34	1.00																	
R5	0.24	0.28	0.27	0.33	1.00																
R6	0.22	0.25	0.35	0.38	0.30	1.00															
R7	0.23	0.37	0.34	0.36	0.30	0.39	1.00														
R8	0.25	0.33	0.37	0.44	0.30	0.43	0.49	1.00													
R9	0.22	0.34	0.38	0.40	0.33	0.39	0.40	0.51	1.00												
R10	0.19	0.25	0.25	0.31	0.25	0.32	0.32	0.37	0.41	1.00											
R11	0.30	0.22	0.18	0.22	0.24	0.22	0.27	0.24	0.27	0.24	1.00										
R12	0.14	0.14	0.12	0.20	0.10	0.15	0.19	0.19	0.20	0.15	0.21	1.00									
R13	0.19	0.18	0.16	0.16	0.14	0.19	0.19	0.18	0.20	0.22	0.19	0.23	1.00								
R14	0.24	0.23	0.29	0.27	0.25	0.32	0.37	0.33	0.32	0.26	0.27	0.24	0.28	1.00							
R15	0.27	0.26	0.28	0.36	0.38	0.32	0.34	0.32	0.38	0.27	0.26	0.19	0.25	0.34	1.00						
R16	0.19	0.22	0.21	0.26	0.22	0.28	0.24	0.30	0.27	0.25	0.19	0.17	0.24	0.31	0.33	1.00					
R17	0.24	0.26	0.26	0.28	0.23	0.39	0.38	0.38	0.32	0.32	0.25	0.19	0.23	0.34	0.36	0.31	1.00				
R18	0.23	0.29	0.26	0.34	0.22	0.34	0.37	0.34	0.29	0.32	0.23	0.16	0.20	0.29	0.30	0.28	0.41	1.00			
R19	0.17	0.23	0.14	0.23	0.18	0.24	0.20	0.26	0.18	0.23	0.23	0.13	0.15	0.23	0.23	0.19	0.24	0.23	1.00		
R20	0.22	0.25	0.24	0.34	0.33	0.38	0.30	0.38	0.39	0.30	0.31	0.14	0.17	0.30	0.39	0.29	0.37	0.30	0.27	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 7/8 Level A PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	
R1	1.00																				
R2	0.53	1.00																			
R3	0.52	0.45	1.00																		
R4	0.45	0.50	0.44	1.00																	
R5	0.37	0.39	0.38	0.45	1.00																
R6	0.44	0.51	0.45	0.46	0.42	1.00															
R7	0.50	0.54	0.45	0.59	0.44	0.44	1.00														
R8	0.54	0.55	0.54	0.48	0.41	0.47	0.55	1.00													
R9	0.36	0.43	0.37	0.45	0.38	0.40	0.47	0.46	1.00												
R10	0.41	0.46	0.39	0.41	0.35	0.46	0.51	0.48	0.45	1.00											
R11	0.38	0.40	0.42	0.37	0.31	0.39	0.37	0.47	0.32	0.35	1.00										
R12	0.37	0.47	0.39	0.44	0.45	0.46	0.50	0.45	0.46	0.44	0.33	1.00									
R13	0.48	0.54	0.45	0.56	0.41	0.47	0.57	0.54	0.49	0.47	0.36	0.53	1.00								
R14	0.52	0.51	0.48	0.45	0.40	0.46	0.52	0.57	0.41	0.46	0.46	0.43	0.53	1.00							
R15	0.46	0.51	0.46	0.58	0.39	0.49	0.61	0.54	0.49	0.53	0.36	0.53	0.65	0.51	1.00						
R16	0.55	0.52	0.52	0.46	0.40	0.45	0.52	0.61	0.40	0.50	0.43	0.45	0.52	0.63	0.52	1.00					
R17	0.47	0.51	0.45	0.43	0.40	0.48	0.50	0.54	0.41	0.46	0.40	0.43	0.51	0.53	0.51	1.00					
R18	0.35	0.41	0.33	0.35	0.34	0.42	0.37	0.35	0.35	0.40	0.29	0.36	0.41	0.39	0.39	0.40	1.00				
R19	0.47	0.53	0.48	0.51	0.35	0.48	0.51	0.56	0.40	0.49	0.44	0.46	0.52	0.57	0.56	0.62	0.50	1.00			
R20	0.43	0.51	0.42	0.42	0.42	0.49	0.47	0.47	0.40	0.47	0.38	0.48	0.52	0.50	0.47	0.52	0.54	0.43	0.49	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 7/8 Level B PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	
R1	1.00																				
R2	0.29	1.00																			
R3	0.40	0.19	1.00																		
R4	0.29	0.33	0.14	1.00																	
R5	0.32	0.28	0.30	0.31	1.00																
R6	0.33	0.30	0.19	0.30	0.27	1.00															
R7	0.29	0.35	0.22	0.28	0.38	0.31	1.00														
R8	0.29	0.29	0.22	0.28	0.29	0.33	0.32	1.00													
R9	0.27	0.25	0.17	0.25	0.26	0.29	0.29	0.32	1.00												
R10	0.16	0.22	0.15	0.18	0.26	0.23	0.24	0.21	0.24	1.00											
R11	0.24	0.21	0.21	0.21	0.24	0.25	0.23	0.23	0.29	0.20	1.00										
R12	0.32	0.36	0.28	0.27	0.38	0.28	0.41	0.30	0.31	0.30	0.27	1.00									
R13	0.33	0.39	0.21	0.34	0.34	0.34	0.35	0.34	0.34	0.25	0.24	0.42	1.00								
R14	0.31	0.18	0.28	0.21	0.27	0.23	0.21	0.23	0.21	0.18	0.24	0.27	0.27	1.00							
R15	0.26	0.28	0.18	0.29	0.39	0.24	0.34	0.32	0.27	0.27	0.23	0.40	0.36	0.23	1.00						
R16	0.29	0.28	0.26	0.23	0.36	0.26	0.34	0.28	0.26	0.26	0.26	0.42	0.34	0.28	0.35	1.00					
R17	0.32	0.25	0.36	0.24	0.37	0.23	0.32	0.24	0.25	0.26	0.30	0.43	0.37	0.31	0.33	0.41	1.00				
R18	0.31	0.36	0.24	0.25	0.34	0.29	0.41	0.33	0.28	0.27	0.23	0.46	0.42	0.28	0.40	0.39	0.37	1.00			
R19	0.29	0.32	0.16	0.34	0.27	0.33	0.29	0.31	0.30	0.24	0.28	0.31	0.39	0.23	0.34	0.32	0.25	0.34	1.00		
R20	0.30	0.39	0.20	0.29	0.29	0.28	0.32	0.32	0.25	0.24	0.22	0.39	0.44	0.25	0.33	0.32	0.28	0.44	0.43	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 7/8 Level C PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20
R1	1.00																			
R2	0.26	1.00																		
R3	0.23	0.42	1.00																	
R4	0.23	0.49	0.59	1.00																
R5	0.26	0.31	0.34	0.34	1.00															
R6	0.25	0.42	0.39	0.46	0.44	1.00														
R7	0.20	0.43	0.44	0.51	0.30	0.46	1.00													
R8	0.29	0.23	0.25	0.27	0.29	0.29	0.29	1.00												
R9	0.36	0.22	0.23	0.23	0.25	0.24	0.22	0.31	1.00											
R10	0.15	0.27	0.27	0.28	0.19	0.27	0.32	0.25	0.19	1.00										
R11	0.18	0.43	0.41	0.48	0.30	0.43	0.55	0.28	0.26	0.29	1.00									
R12	0.27	0.18	0.20	0.17	0.24	0.21	0.23	0.26	0.34	0.18	0.17	1.00								
R13	0.19	0.32	0.38	0.46	0.35	0.47	0.41	0.32	0.21	0.28	0.41	0.20	1.00							
R14	0.21	0.26	0.29	0.35	0.29	0.32	0.32	0.30	0.26	0.24	0.34	0.21	0.38	1.00						
R15	0.27	0.30	0.31	0.30	0.29	0.33	0.31	0.30	0.31	0.20	0.35	0.23	0.36	0.33	1.00					
R16	0.20	0.28	0.18	0.22	0.22	0.24	0.29	0.27	0.29	0.24	0.28	0.23	0.22	0.26	0.27	1.00				
R17	0.21	0.37	0.38	0.49	0.33	0.42	0.45	0.30	0.24	0.29	0.45	0.21	0.52	0.41	0.36	0.25	1.00			
R18	0.33	0.31	0.41	0.41	0.32	0.42	0.41	0.34	0.33	0.24	0.37	0.25	0.42	0.33	0.38	0.27	0.43	1.00		
R19	0.19	0.42	0.44	0.53	0.30	0.44	0.53	0.29	0.25	0.33	0.55	0.23	0.49	0.41	0.35	0.30	0.55	0.48	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

R20	0.19	0.42	0.39	0.46	0.30	0.40	0.51	0.26	0.23	0.30	0.51	0.20	0.42	0.39	0.33	0.28	0.49	0.40	0.63	1.00
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e 11 Level A PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20
R1	1.00																			
R2	0.47	1.00																		
R3	0.59	0.45	1.00																	
R4	0.45	0.45	0.47	1.00																
R5	0.45	0.42	0.38	0.38	1.00															
R6	0.51	0.48	0.62	0.40	0.44	1.00														
R7	0.54	0.47	0.54	0.66	0.40	0.48	1.00													
R8	0.51	0.53	0.44	0.54	0.38	0.44	0.51	1.00												
R9	0.28	0.25	0.31	0.26	0.25	0.33	0.26	0.28	1.00											
R10	0.48	0.42	0.45	0.47	0.39	0.42	0.50	0.45	0.31	1.00										
R11	0.51	0.43	0.53	0.37	0.39	0.55	0.44	0.42	0.34	0.40	1.00									
R12	0.42	0.38	0.38	0.41	0.36	0.39	0.43	0.39	0.22	0.46	0.38	1.00								
R13	0.48	0.53	0.47	0.48	0.41	0.42	0.49	0.55	0.22	0.40	0.43	0.42	1.00							
R14	0.50	0.43	0.53	0.46	0.41	0.52	0.53	0.52	0.30	0.44	0.51	0.47	0.49	1.00						
R15	0.34	0.43	0.31	0.39	0.34	0.31	0.41	0.45	0.17	0.35	0.34	0.32	0.46	0.37	1.00					
R16	0.54	0.43	0.57	0.50	0.33	0.50	0.56	0.45	0.28	0.51	0.51	0.42	0.42	0.48	0.32	1.00				
R17	0.55	0.48	0.48	0.65	0.42	0.49	0.68	0.56	0.23	0.50	0.43	0.42	0.53	0.48	0.44	0.59	1.00			
R18	0.40	0.38	0.39	0.35	0.38	0.36	0.38	0.41	0.32	0.46	0.44	0.37	0.43	0.51	0.37	0.43	0.43	1.00		
R19	0.53	0.43	0.60	0.52	0.39	0.50	0.57	0.42	0.33	0.51	0.51	0.43	0.48	0.49	0.33	0.66	0.57	0.41	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

R20	0.50	0.42	0.55	0.51	0.41	0.55	0.54	0.49	0.36	0.43	0.53	0.44	0.43	0.59	0.31	0.56	0.51	0.44	0.57	1.00
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APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 11 Level B PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20
R1	1.00																			
R2	0.35	1.00																		
R3	0.37	0.44	1.00																	
R4	0.32	0.35	0.35	1.00																
R5	0.45	0.36	0.51	0.34	1.00															
R6	0.36	0.41	0.44	0.44	0.41	1.00														
R7	0.44	0.41	0.54	0.37	0.50	0.46	1.00													
R8	0.37	0.34	0.51	0.26	0.49	0.39	0.48	1.00												
R9	0.36	0.44	0.39	0.43	0.45	0.53	0.53	0.43	1.00											
R10	0.29	0.34	0.37	0.40	0.29	0.42	0.41	0.34	0.41	1.00										
R11	0.39	0.44	0.39	0.37	0.39	0.47	0.43	0.37	0.48	0.38	1.00									
R12	0.40	0.37	0.51	0.38	0.45	0.46	0.49	0.48	0.44	0.39	0.44	1.00								
R13	0.36	0.39	0.40	0.39	0.38	0.43	0.44	0.37	0.47	0.35	0.37	0.45	1.00							
R14	0.36	0.43	0.44	0.36	0.38	0.42	0.47	0.42	0.47	0.40	0.43	0.50	0.54	1.00						
R15	0.36	0.31	0.37	0.34	0.29	0.35	0.37	0.36	0.35	0.32	0.36	0.39	0.40	0.34	1.00					
R16	0.38	0.44	0.29	0.41	0.38	0.42	0.36	0.33	0.39	0.39	0.40	0.40	0.39	0.39	0.37	1.00				
R17	0.38	0.32	0.36	0.24	0.35	0.31	0.35	0.44	0.35	0.28	0.35	0.39	0.39	0.37	0.40	0.34	1.00			
R18	0.49	0.42	0.55	0.37	0.54	0.53	0.54	0.54	0.52	0.41	0.49	0.62	0.51	0.54	0.42	0.45	1.00			
R19	0.23	0.28	0.29	0.33	0.25	0.26	0.27	0.26	0.26	0.23	0.27	0.31	0.27	0.23	0.35	0.30	0.24	0.30	1.00	
R20	0.39	0.42	0.41	0.40	0.40	0.50	0.44	0.38	0.44	0.36	0.46	0.47	0.45	0.48	0.41	0.47	0.39	0.54	0.33	1.00

APPENDIX C-1
INTER-ITEM CORRELATIONS

rade 11 Level C PASA Reading Inter-Item Correlations

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20
R1	1.00																			
R2	0.43	1.00																		
R3	0.39	0.36	1.00																	
R4	0.31	0.36	0.39	1.00																
R5	0.24	0.28	0.30	0.40	1.00															
R6	0.23	0.23	0.31	0.25	0.35	1.00														
R7	0.24	0.26	0.34	0.39	0.36	0.29	1.00													
R8	0.26	0.32	0.30	0.34	0.33	0.22	0.27	1.00												
R9	0.24	0.23	0.30	0.37	0.34	0.29	0.32	0.26	1.00											
R10	0.32	0.36	0.38	0.44	0.35	0.26	0.44	0.35	0.34	1.00										
R11	0.28	0.31	0.37	0.34	0.30	0.27	0.33	0.29	0.34	0.45	1.00									
R12	0.32	0.41	0.35	0.40	0.37	0.33	0.34	0.32	0.36	0.44	0.41	1.00								
R13	0.22	0.26	0.30	0.34	0.33	0.23	0.34	0.28	0.35	0.29	0.30	0.35	1.00							
R14	0.23	0.24	0.28	0.29	0.24	0.17	0.21	0.19	0.29	0.32	0.33	0.32	0.19	1.00						
R15	0.24	0.34	0.34	0.39	0.35	0.20	0.37	0.29	0.39	0.38	0.33	0.39	0.30	0.33	1.00					
R16	0.33	0.36	0.44	0.41	0.33	0.31	0.43	0.32	0.44	0.44	0.49	0.42	0.34	0.36	0.56	1.00				
R17	0.31	0.36	0.38	0.41	0.35	0.31	0.40	0.33	0.36	0.44	0.40	0.47	0.30	0.35	0.47	0.61	1.00			
R18	0.33	0.33	0.35	0.42	0.42	0.30	0.44	0.25	0.37	0.36	0.28	0.35	0.27	0.31	0.42	0.47	0.44	1.00		
R19	0.28	0.28	0.33	0.37	0.36	0.26	0.41	0.31	0.39	0.42	0.35	0.43	0.29	0.31	0.49	0.51	0.45	0.48	1.00	
R20	0.28	0.34	0.36	0.38	0.40	0.32	0.44	0.33	0.38	0.38	0.39	0.44	0.28	0.25	0.44	0.57	0.57	0.55	0.51	1.00

APPENDIX C-1
INTER-ITEM CORRELATIONS

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 3/4 Level A PASA Math Inter-Item Correlations

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
M1	1.00																			
M2	0.33	1.00																		
M3	0.40	0.31	1.00																	
M4	0.39	0.35	0.33	1.00																
M5	0.27	0.21	0.33	0.21	1.00															
M6	0.51	0.35	0.43	0.40	0.29	1.00														
M7	0.50	0.36	0.44	0.38	0.26	0.48	1.00													
M8	0.40	0.32	0.41	0.35	0.27	0.42	0.46	1.00												
M9	0.32	0.30	0.37	0.31	0.27	0.35	0.36	0.38	1.00											
M10	0.44	0.42	0.40	0.38	0.26	0.44	0.44	0.43	0.35	1.00										
M11	0.46	0.31	0.43	0.34	0.26	0.48	0.51	0.41	0.37	0.41	1.00									
M12	0.38	0.37	0.46	0.34	0.34	0.41	0.47	0.43	0.41	0.45	0.43	1.00								
M13	0.43	0.39	0.39	0.36	0.25	0.44	0.45	0.39	0.31	0.46	0.43	0.42	1.00							
M14	0.36	0.51	0.37	0.36	0.21	0.41	0.45	0.39	0.34	0.51	0.38	0.46	0.48	1.00						
M15	0.37	0.37	0.40	0.39	0.27	0.40	0.48	0.41	0.45	0.42	0.44	0.46	0.38	0.44	1.00					
M16	0.36	0.41	0.38	0.38	0.23	0.39	0.45	0.38	0.32	0.41	0.40	0.43	0.43	0.46	0.45	1.00				
M17	0.32	0.16	0.31	0.28	0.25	0.32	0.37	0.28	0.30	0.28	0.36	0.30	0.32	0.22	0.37	0.32	1.00			
M18	0.40	0.34	0.41	0.34	0.27	0.42	0.46	0.40	0.49	0.39	0.48	0.39	0.38	0.38	0.56	0.42	0.40	1.00		
M19	0.38	0.37	0.43	0.35	0.27	0.44	0.49	0.41	0.32	0.47	0.43	0.46	0.46	0.46	0.43	0.45	0.38	0.45	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

M20	0.40	0.34	0.44	0.35	0.22	0.45	0.50	0.40	0.33	0.44	0.45	0.43	0.46	0.44	0.46	0.45	0.37	0.46	0.47	1.00
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Grade 3/4 Level B PASA Math Inter-Item Correlations

M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	
M1	1.00																			
M2	0.39	1.00																		
M3	0.36	0.42	1.00																	
M4	0.35	0.32	0.30	1.00																
M5	0.40	0.42	0.37	0.38	1.00															
M6	0.44	0.43	0.45	0.37	0.49	1.00														
M7	0.32	0.39	0.34	0.20	0.34	0.36	1.00													
M8	0.42	0.44	0.44	0.36	0.41	0.48	0.33	1.00												
M9	0.29	0.42	0.42	0.26	0.30	0.42	0.39	0.39	1.00											
M10	0.49	0.42	0.38	0.36	0.39	0.41	0.33	0.43	0.30	1.00										
M11	0.27	0.35	0.32	0.26	0.28	0.33	0.32	0.30	0.37	0.29	1.00									
M12	0.44	0.41	0.36	0.32	0.47	0.46	0.38	0.40	0.32	0.47	0.33	1.00								
M13	0.38	0.39	0.37	0.33	0.40	0.42	0.29	0.38	0.38	0.41	0.32	0.40	1.00							
M14	0.43	0.58	0.40	0.34	0.51	0.48	0.38	0.46	0.40	0.45	0.33	0.48	0.49	1.00						
M15	0.22	0.27	0.23	0.21	0.28	0.28	0.25	0.24	0.24	0.23	0.22	0.26	0.30	0.32	1.00					
M16	0.35	0.45	0.41	0.28	0.37	0.41	0.34	0.39	0.42	0.34	0.35	0.38	0.43	0.50	0.26	1.00				
M17	0.35	0.39	0.37	0.28	0.31	0.36	0.33	0.32	0.34	0.36	0.28	0.35	0.37	0.43	0.27	0.35	1.00			
M18	0.45	0.36	0.32	0.29	0.34	0.35	0.23	0.33	0.22	0.43	0.24	0.42	0.39	0.45	0.23	0.35	0.33	1.00		
M19	0.37	0.48	0.39	0.32	0.38	0.46	0.32	0.44	0.46	0.40	0.35	0.43	0.41	0.52	0.27	0.42	0.41	0.40	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

M20	0.40	0.46	0.57	0.32	0.43	0.47	0.39	0.52	0.44	0.43	0.31	0.46	0.48	0.55	0.31	0.47	0.43	0.43	0.50	1.00
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Grade 3/4 Level C PASA Math Inter-Item Correlations

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
M1	1.00																			
M2	0.39	1.00																		
M3	0.33	0.37	1.00																	
M4	0.49	0.54	0.45	1.00																
M5	0.28	0.35	0.32	0.48	1.00															
M6	0.18	0.25	0.17	0.26	0.26	1.00														
M7	0.24	0.24	0.28	0.30	0.23	0.27	1.00													
M8	0.39	0.40	0.42	0.53	0.37	0.25	0.34	1.00												
M9	0.28	0.22	0.35	0.31	0.24	0.24	0.33	0.28	1.00											
M10	0.23	0.30	0.45	0.33	0.25	0.21	0.24	0.37	0.33	1.00										
M11	0.24	0.36	0.35	0.41	0.33	0.22	0.30	0.43	0.31	0.40	1.00									
M12	0.17	0.19	0.27	0.26	0.18	0.24	0.23	0.27	0.25	0.27	0.29	1.00								
M13	0.19	0.14	0.16	0.19	0.21	0.29	0.24	0.24	0.21	0.18	0.20	0.27	1.00							
M14	0.12	0.25	0.23	0.23	0.16	0.19	0.22	0.21	0.22	0.28	0.24	0.28	0.23	1.00						
M15	0.15	0.15	0.26	0.23	0.22	0.19	0.26	0.30	0.32	0.35	0.28	0.19	0.18	0.31	1.00					
M16	0.23	0.32	0.33	0.36	0.35	0.23	0.30	0.34	0.34	0.33	0.38	0.21	0.17	0.21	0.29	1.00				
M17	0.16	0.13	0.14	0.22	0.19	0.15	0.22	0.24	0.22	0.26	0.21	0.24	0.23	0.16	0.23	0.26	1.00			
M18	0.23	0.25	0.35	0.31	0.27	0.19	0.31	0.30	0.45	0.38	0.34	0.26	0.17	0.29	0.36	0.41	0.32	1.00		

APPENDIX C-1
INTER-ITEM CORRELATIONS

M19	0.28	0.28	0.27	0.32	0.35	0.21	0.20	0.39	0.24	0.27	0.35	0.19	0.20	0.15	0.22	0.37	0.18	0.31	1.00	
M20	0.20	0.20	0.18	0.25	0.22	0.19	0.24	0.29	0.34	0.28	0.28	0.24	0.24	0.22	0.28	0.32	0.28	0.36	0.30	1.00

Grade 5/6 Level A PASA Math Inter-Item Correlations

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
M1	1.00																			
M2	0.37	1.00																		
M3	0.38	0.46	1.00																	
M4	0.50	0.40	0.39	1.00																
M5	0.31	0.29	0.38	0.32	1.00															
M6	0.31	0.28	0.24	0.33	0.30	1.00														
M7	0.36	0.32	0.38	0.37	0.38	0.29	1.00													
M8	0.42	0.35	0.41	0.45	0.38	0.32	0.43	1.00												
M9	0.41	0.31	0.32	0.43	0.31	0.29	0.31	0.36	1.00											
M10	0.40	0.34	0.37	0.41	0.39	0.31	0.42	0.44	0.39	1.00										
M11	0.38	0.36	0.33	0.37	0.34	0.29	0.35	0.40	0.38	0.42	1.00									
M12	0.34	0.36	0.35	0.37	0.36	0.28	0.43	0.41	0.35	0.43	0.40	1.00								
M13	0.47	0.34	0.33	0.49	0.31	0.30	0.36	0.56	0.43	0.45	0.39	0.37	1.00							
M14	0.46	0.39	0.39	0.45	0.35	0.28	0.40	0.45	0.43	0.42	0.40	0.43	0.47	1.00						
M15	0.45	0.36	0.33	0.44	0.29	0.33	0.30	0.37	0.31	0.37	0.31	0.43	0.40	0.40	1.00					
M16	0.42	0.36	0.36	0.47	0.35	0.28	0.41	0.43	0.44	0.49	0.41	0.49	0.47	0.51	0.37	1.00				
M17	0.32	0.32	0.36	0.38	0.38	0.29	0.35	0.44	0.31	0.40	0.37	0.36	0.39	0.41	0.33	0.38	1.00			
M18	0.37	0.28	0.25	0.38	0.33	0.33	0.29	0.39	0.35	0.36	0.38	0.33	0.42	0.34	0.36	0.36	0.38	1.00		

APPENDIX C-1
INTER-ITEM CORRELATIONS

M19	0.37	0.32	0.38	0.45	0.36	0.32	0.35	0.50	0.32	0.40	0.34	0.36	0.47	0.41	0.39	0.39	0.41	0.41	1.00	
M20	0.39	0.31	0.30	0.41	0.30	0.24	0.30	0.35	0.42	0.37	0.35	0.37	0.40	0.43	0.31	0.47	0.34	0.35	0.33	1.00

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 5/6 Level B PASA Math Inter-Item Correlations

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
M1	1.00																			
M2	0.33	1.00																		
M3	0.28	0.30	1.00																	
M4	0.33	0.37	0.34	1.00																
M5	0.34	0.31	0.29	0.32	1.00															
M6	0.29	0.34	0.38	0.38	0.37	1.00														
M7	0.34	0.41	0.35	0.42	0.39	0.46	1.00													
M8	0.35	0.45	0.38	0.39	0.38	0.42	0.53	1.00												
M9	0.32	0.31	0.32	0.39	0.35	0.46	0.46	0.39	1.00											
M10	0.38	0.39	0.31	0.32	0.32	0.29	0.36	0.42	0.28	1.00										
M11	0.32	0.33	0.28	0.42	0.41	0.40	0.45	0.38	0.44	0.32	1.00									
M12	0.25	0.20	0.23	0.33	0.31	0.33	0.31	0.24	0.38	0.19	0.39	1.00								
M13	0.41	0.37	0.28	0.32	0.31	0.32	0.37	0.44	0.35	0.40	0.36	0.26	1.00							
M14	0.29	0.32	0.31	0.25	0.25	0.29	0.29	0.34	0.24	0.27	0.25	0.15	0.28	1.00						
M15	0.33	0.37	0.25	0.34	0.33	0.36	0.38	0.39	0.33	0.36	0.36	0.26	0.37	0.30	1.00					
M16	0.27	0.33	0.28	0.34	0.31	0.34	0.44	0.37	0.37	0.31	0.38	0.28	0.30	0.25	0.37	1.00				
M17	0.33	0.33	0.27	0.35	0.34	0.38	0.40	0.38	0.31	0.38	0.39	0.26	0.35	0.30	0.40	0.36	1.00			
M18	0.20	0.26	0.19	0.25	0.24	0.24	0.31	0.31	0.30	0.19	0.32	0.26	0.26	0.17	0.32	0.29	0.24	1.00		
M19	0.32	0.29	0.30	0.32	0.33	0.51	0.40	0.38	0.43	0.29	0.36	0.30	0.32	0.28	0.35	0.36	0.39	0.26	1.00	
M20	0.27	0.31	0.21	0.38	0.30	0.29	0.40	0.34	0.35	0.28	0.46	0.32	0.29	0.20	0.36	0.38	0.35	0.31	0.34	1.00

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 5/6 Level C PASA Math Inter-Item Correlations

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	
M1	1.00																				
M2	0.35	1.00																			
M3	0.35	0.28	1.00																		
M4	0.32	0.37	0.37	1.00																	
M5	0.28	0.30	0.30	0.33	1.00																
M6	0.24	0.23	0.27	0.28	0.28	1.00															
M7	0.25	0.33	0.25	0.37	0.32	0.33	1.00														
M8	0.18	0.18	0.22	0.21	0.22	0.24	0.26	1.00													
M9	0.18	0.23	0.20	0.23	0.26	0.29	0.27	0.23	1.00												
M10	0.20	0.25	0.29	0.35	0.34	0.32	0.33	0.30	0.31	1.00											
M11	0.25	0.16	0.27	0.19	0.20	0.28	0.23	0.24	0.26	0.26	1.00										
M12	0.26	0.18	0.23	0.24	0.23	0.29	0.24	0.21	0.27	0.27	0.33	1.00									
M13	0.16	0.31	0.21	0.32	0.31	0.28	0.36	0.21	0.24	0.41	0.17	0.24	1.00								
M14	0.21	0.22	0.23	0.26	0.22	0.17	0.28	0.24	0.26	0.32	0.18	0.17	0.40	1.00							
M15	0.18	0.22	0.18	0.20	0.20	0.17	0.25	0.21	0.20	0.25	0.17	0.18	0.36	0.28	1.00						
M16	0.25	0.18	0.27	0.28	0.38	0.27	0.28	0.21	0.26	0.35	0.28	0.26	0.29	0.27	0.25	1.00					
M17	0.20	0.23	0.23	0.23	0.25	0.43	0.31	0.27	0.26	0.35	0.30	0.25	0.37	0.32	0.30	0.29	1.00				
M18	0.17	0.22	0.18	0.23	0.19	0.19	0.28	0.24	0.23	0.28	0.20	0.23	0.30	0.36	0.32	0.26	0.33	1.00			
M19	0.21	0.21	0.24	0.24	0.46	0.23	0.26	0.23	0.24	0.33	0.21	0.22	0.38	0.31	0.26	0.46	0.34	0.28	1.00		
M20	0.11	0.07	0.13	0.04	0.13	0.29	0.18	0.17	0.24	0.18	0.28	0.19	0.14	0.17	0.18	0.21	0.30	0.22	0.23	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 7/8 Level A PASA Math Inter-Item Correlations

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
M1	1.00																			
M2	0.38	1.00																		
M3	0.48	0.36	1.00																	
M4	0.39	0.30	0.40	1.00																
M5	0.38	0.28	0.33	0.28	1.00															
M6	0.45	0.35	0.41	0.38	0.31	1.00														
M7	0.22	0.23	0.30	0.26	0.26	0.25	1.00													
M8	0.47	0.27	0.39	0.44	0.34	0.43	0.24	1.00												
M9	0.28	0.32	0.32	0.33	0.36	0.29	0.30	0.31	1.00											
M10	0.48	0.28	0.44	0.44	0.33	0.43	0.22	0.50	0.30	1.00										
M11	0.39	0.32	0.44	0.40	0.34	0.34	0.25	0.35	0.35	0.38	1.00									
M12	0.35	0.27	0.33	0.31	0.37	0.30	0.25	0.38	0.28	0.39	0.36	1.00								
M13	0.39	0.31	0.37	0.33	0.31	0.40	0.28	0.36	0.28	0.39	0.35	0.31	1.00							
M14	0.21	0.28	0.26	0.30	0.25	0.26	0.28	0.27	0.43	0.24	0.30	0.21	0.26	1.00						
M15	0.32	0.28	0.35	0.38	0.25	0.31	0.25	0.36	0.34	0.39	0.35	0.29	0.32	0.31	1.00					
M16	0.23	0.18	0.23	0.24	0.31	0.22	0.27	0.22	0.24	0.26	0.25	0.27	0.24	0.29	0.24	1.00				
M17	0.45	0.33	0.44	0.51	0.31	0.42	0.29	0.49	0.35	0.45	0.40	0.32	0.36	0.33	0.45	1.00				
M18	0.29	0.32	0.35	0.29	0.33	0.28	0.42	0.29	0.35	0.32	0.33	0.28	0.32	0.31	0.31	0.27	1.00			
M19	0.35	0.37	0.36	0.30	0.28	0.36	0.32	0.31	0.32	0.31	0.33	0.31	0.36	0.24	0.26	0.20	0.40	1.00		
M20	0.31	0.32	0.36	0.36	0.37	0.32	0.31	0.33	0.46	0.32	0.37	0.30	0.35	0.37	0.27	0.40	0.39	0.38	1.00	

APPENDIX C-1
INTER-ITEM CORRELATIONS

Grade 7/8 Level B PASA Math Inter-Item Correlations

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
M1	1.00																			
M2	0.37	1.00																		
M3	0.21	0.24	1.00																	
M4	0.30	0.39	0.30	1.00																
M5	0.21	0.26	0.33	0.37	1.00															
M6	0.24	0.21	0.21	0.30	0.23	1.00														
M7	0.37	0.30	0.24	0.35	0.24	0.28	1.00													
M8	0.21	0.24	0.31	0.32	0.41	0.25	0.19	1.00												
M9	0.19	0.18	0.23	0.29	0.31	0.29	0.15	0.27	1.00											
M10	0.24	0.34	0.31	0.53	0.39	0.32	0.30	0.39	0.34	1.00										
M11	0.37	0.42	0.24	0.41	0.30	0.29	0.38	0.28	0.25	0.38	1.00									
M12	0.40	0.33	0.17	0.33	0.24	0.25	0.34	0.19	0.21	0.24	0.38	1.00								
M13	0.34	0.42	0.27	0.50	0.31	0.23	0.35	0.29	0.28	0.44	0.45	0.32	1.00							
M14	0.29	0.30	0.41	0.35	0.31	0.30	0.35	0.32	0.24	0.36	0.35	0.28	0.37	1.00						
M15	0.22	0.31	0.32	0.44	0.42	0.30	0.30	0.36	0.37	0.46	0.41	0.26	0.39	0.39	1.00					
M16	0.23	0.33	0.32	0.42	0.63	0.27	0.26	0.42	0.36	0.45	0.36	0.28	0.36	0.38	0.48	1.00				
M17	0.32	0.33	0.26	0.36	0.30	0.30	0.34	0.28	0.22	0.35	0.48	0.30	0.38	0.35	0.37	0.38	1.00			
M18	0.32	0.24	0.24	0.30	0.25	0.33	0.36	0.27	0.21	0.32	0.33	0.30	0.34	0.34	0.33	0.38	1.00			
M19	0.28	0.37	0.26	0.59	0.32	0.25	0.31	0.26	0.24	0.43	0.40	0.28	0.48	0.35	0.38	0.40	0.38	1.00		

APPENDIX C-1
INTER-ITEM CORRELATIONS

M20	0.19	0.21	0.20	0.31	0.31	0.26	0.17	0.28	0.59	0.36	0.29	0.25	0.29	0.27	0.38	0.37	0.29	0.24	0.33	1.00
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Grade 7/8 Level C PASA Math Inter-Item Correlations

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
M1	1.00																			
M2	0.25	1.00																		
M3	0.24	0.29	1.00																	
M4	0.32	0.30	0.32	1.00																
M5	0.31	0.22	0.24	0.24	1.00															
M6	0.31	0.28	0.19	0.34	0.21	1.00														
M7	0.21	0.23	0.25	0.29	0.20	0.32	1.00													
M8	0.33	0.28	0.30	0.27	0.38	0.27	0.25	1.00												
M9	0.27	0.29	0.25	0.23	0.40	0.23	0.22	0.44	1.00											
M10	0.34	0.29	0.22	0.32	0.24	0.40	0.30	0.41	0.34	1.00										
M11	0.18	0.27	0.24	0.25	0.18	0.31	0.29	0.24	0.27	0.26	1.00									
M12	0.33	0.23	0.22	0.24	0.29	0.29	0.23	0.37	0.35	0.34	0.23	1.00								
M13	0.36	0.32	0.24	0.43	0.25	0.38	0.29	0.36	0.27	0.38	0.29	0.36	1.00							
M14	0.39	0.30	0.26	0.33	0.28	0.44	0.29	0.40	0.28	0.40	0.22	0.40	0.43	1.00						
M15	0.30	0.31	0.29	0.33	0.33	0.31	0.30	0.47	0.38	0.36	0.25	0.34	0.46	0.40	1.00					
M16	0.28	0.28	0.27	0.36	0.32	0.28	0.28	0.43	0.37	0.33	0.29	0.30	0.41	0.34	0.50	1.00				
M17	0.29	0.25	0.26	0.22	0.41	0.25	0.24	0.47	0.43	0.29	0.21	0.35	0.28	0.37	0.40	0.36	1.00			
M18	0.22	0.27	0.23	0.35	0.20	0.41	0.31	0.28	0.23	0.36	0.29	0.29	0.38	0.35	0.36	0.35	0.29	1.00		

APPENDIX C-1
INTER-ITEM CORRELATIONS

M19	0.27	0.29	0.24	0.35	0.28	0.40	0.27	0.35	0.27	0.37	0.29	0.36	0.44	0.45	0.43	0.37	0.35	0.42	1.00	
M20	0.24	0.25	0.21	0.20	0.29	0.21	0.27	0.34	0.32	0.27	0.23	0.28	0.29	0.28	0.36	0.36	0.35	0.26	0.33	1.00

Grade 11 Level A PASA Math Inter-Item Correlations

M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	
M1	1.00																			
M2	0.50	1.00																		
M3	0.47	0.43	1.00																	
M4	0.57	0.53	0.52	1.00																
M5	0.47	0.38	0.34	0.39	1.00															
M6	0.33	0.33	0.43	0.40	0.24	1.00														
M7	0.53	0.42	0.40	0.50	0.50	0.30	1.00													
M8	0.34	0.34	0.31	0.36	0.33	0.26	0.33	1.00												
M9	0.53	0.37	0.49	0.53	0.42	0.31	0.45	1.00												
M10	0.40	0.44	0.39	0.45	0.40	0.37	0.43	0.30	1.00											
M11	0.58	0.43	0.47	0.54	0.52	0.31	0.56	0.32	0.54	1.00										
M12	0.33	0.33	0.39	0.37	0.31	0.41	0.35	0.28	0.38	0.33	1.00									
M13	0.40	0.39	0.39	0.44	0.35	0.35	0.41	0.31	0.44	0.39	0.33	1.00								
M14	0.57	0.45	0.47	0.53	0.48	0.29	0.50	0.34	0.38	0.59	0.33	0.42	1.00							
M15	0.44	0.39	0.40	0.46	0.45	0.38	0.46	0.30	0.47	0.50	0.37	0.41	0.51	1.00						
M16	0.33	0.36	0.43	0.38	0.38	0.43	0.31	0.43	0.42	0.36	0.39	0.43	0.36	0.43	1.00					
M17	0.22	0.26	0.32	0.27	0.33	0.29	0.32	0.28	0.29	0.31	0.32	0.33	0.30	0.33	0.38	1.00				

APPENDIX C-1
INTER-ITEM CORRELATIONS

M18	0.43	0.48	0.42	0.50	0.41	0.34	0.44	0.35	0.44	0.47	0.33	0.44	0.49	0.45	0.39	0.23	1.00			
M19	0.40	0.34	0.35	0.42	0.37	0.35	0.42	0.27	0.39	0.42	0.32	0.42	0.41	0.42	0.31	0.25	0.46	1.00		
M20	0.41	0.35	0.44	0.47	0.35	0.41	0.39	0.27	0.49	0.39	0.37	0.46	0.37	0.48	0.45	0.40	0.35	0.43	0.39	1.00

Grade 11 Level B PASA Math Inter-Item Correlations

M1	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
M1	1.00																			
M2	0.40	1.00																		
M3	0.34	0.34	1.00																	
M4	0.33	0.30	0.34	1.00																
M5	0.39	0.39	0.31	0.32	1.00															
M6	0.47	0.45	0.34	0.33	0.42	1.00														
M7	0.37	0.38	0.42	0.36	0.44	0.46	1.00													
M8	0.49	0.44	0.36	0.39	0.44	0.47	0.47	1.00												
M9	0.25	0.28	0.40	0.31	0.35	0.34	0.37	0.36	1.00											
M10	0.37	0.33	0.29	0.30	0.37	0.35	0.36	0.41	0.37	1.00										
M11	0.44	0.38	0.36	0.35	0.45	0.49	0.50	0.53	0.36	0.39	1.00									
M12	0.21	0.23	0.28	0.24	0.15	0.24	0.27	0.26	0.27	0.27	0.22	1.00								
M13	0.26	0.28	0.36	0.28	0.33	0.35	0.42	0.32	0.39	0.32	0.30	0.33	1.00							
M14	0.31	0.29	0.28	0.28	0.29	0.36	0.37	0.37	0.34	0.33	0.40	0.24	0.34	1.00						
M15	0.39	0.30	0.43	0.30	0.34	0.38	0.40	0.38	0.33	0.32	0.40	0.22	0.28	0.33	1.00					
M16	0.35	0.43	0.41	0.30	0.42	0.50	0.53	0.42	0.37	0.32	0.47	0.24	0.36	0.38	0.37	1.00				

APPENDIX C-1
INTER-ITEM CORRELATIONS

M17	0.30	0.34	0.35	0.26	0.37	0.42	0.45	0.37	0.30	0.29	0.39	0.22	0.37	0.31	0.34	0.49	1.00			
M18	0.34	0.36	0.33	0.33	0.37	0.45	0.48	0.47	0.33	0.32	0.46	0.24	0.33	0.31	0.40	0.47	0.40	1.00		
M19	0.33	0.37	0.38	0.29	0.49	0.45	0.49	0.39	0.42	0.31	0.45	0.22	0.40	0.36	0.34	0.53	0.44	0.45	1.00	
M20	0.23	0.33	0.31	0.26	0.29	0.34	0.33	0.32	0.34	0.28	0.29	0.26	0.32	0.31	0.27	0.38	0.35	0.34	0.39	1.00

Grade 11 Level C PASA Math Inter-Item Correlations

M1	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
M1	1.00																			
M2	0.33	1.00																		
M3	0.32	0.22	1.00																	
M4	0.25	0.17	0.27	1.00																
M5	0.36	0.25	0.37	0.29	1.00															
M6	0.20	0.15	0.26	0.18	0.33	1.00														
M7	0.36	0.20	0.37	0.24	0.45	0.31	1.00													
M8	0.34	0.23	0.36	0.21	0.39	0.30	0.44	1.00												
M9	0.29	0.22	0.36	0.27	0.59	0.31	0.45	0.42	1.00											
M10	0.27	0.17	0.33	0.24	0.54	0.36	0.46	0.41	0.49	1.00										
M11	0.27	0.18	0.33	0.19	0.45	0.37	0.40	0.45	0.30	0.42	1.00									
M12	0.30	0.21	0.30	0.20	0.40	0.34	0.41	0.39	0.42	0.40	0.40	1.00								
M13	0.27	0.18	0.37	0.23	0.63	0.31	0.46	0.39	0.56	0.54	0.40	0.49	1.00							
M14	0.37	0.22	0.28	0.28	0.46	0.27	0.39	0.32	0.50	0.44	0.29	0.37	0.41	1.00						
M15	0.29	0.21	0.24	0.19	0.37	0.33	0.34	0.30	0.36	0.34	0.31	0.32	0.38	0.31	1.00					

APPENDIX C-1
INTER-ITEM CORRELATIONS

M16	0.15	0.21	0.22	0.20	0.34	0.19	0.29	0.27	0.34	0.39	0.24	0.30	0.33	0.26	0.26	1.00				
M17	0.26	0.17	0.28	0.16	0.41	0.37	0.36	0.36	0.36	0.39	0.41	0.32	0.38	0.34	0.48	0.29	1.00			
M18	0.28	0.20	0.22	0.18	0.40	0.30	0.40	0.31	0.34	0.38	0.34	0.38	0.34	0.38	0.39	0.29	0.47	1.00		
M19	0.25	0.27	0.30	0.25	0.30	0.22	0.27	0.28	0.33	0.33	0.18	0.26	0.37	0.29	0.24	0.23	0.24	0.25	1.00	
M20	0.24	0.21	0.29	0.12	0.33	0.41	0.31	0.33	0.27	0.35	0.41	0.30	0.36	0.27	0.44	0.28	0.48	0.45	0.23	1.00

Item Means and Standard Deviations - PASA READING

Grade 3/4 Level A PASA
Reading (n=2580)

Item #	M	SD
Reading_1	4.42	1.254
Reading_2	4.28	1.329
Reading_3	4.14	1.376
Reading_4	4.18	1.434
Reading_5	4.12	1.485
Reading_6	4.01	1.528
Reading_7	4.19	1.508
Reading_8	3.89	1.571
Reading_9	3.78	1.637
Reading_10	4.1	1.564
Reading_11	4.37	1.461
Reading_12	4.03	1.599
Reading_13	4.16	1.591
Reading_14	3.87	1.635
Reading_15	4.16	1.549
Reading_16	4.11	1.598
Reading_17	3.87	1.632
Reading_18	4.15	1.557
Reading_19	4.31	1.48
Reading_20	3.94	1.64
MEAN	4.10	

Grade 3/4 Level B PASA
Reading (n=1816)

Item #	M	SD
Reading_1	4.66	0.92
Reading_2	4.13	1.179
Reading_3	4.75	0.814
Reading_4	4.33	1.13
Reading_5	4.23	1.204
Reading_6	4.81	0.744
Reading_7	4.62	0.952
Reading_8	4.36	1.231
Reading_9	4.6	0.957
Reading_10	2.93	1.46
Reading_11	3.86	1.522
Reading_12	4.78	0.824
Reading_13	4.17	1.225
Reading_14	3.5	1.315
Reading_15	4.03	1.462
Reading_16	3.56	1.55
Reading_17	4.11	1.275
Reading_18	4.72	0.891
Reading_19	4.13	1.277
Reading_20	4.34	1.144
MEAN	4.23	

Grade 3/4 Level C PASA
Reading (n=618)

Item #	M	SD
Reading_1	4.82	0.776
Reading_2	3.44	1.472
Reading_3	4.01	1.434
Reading_4	4.39	1.129
Reading_5	4.39	1.109
Reading_6	4.51	1.136
Reading_7	4.55	1.121
Reading_8	4.49	1.078
Reading_9	4.38	1.173
Reading_10	4.23	1.247
Reading_11	4.52	1.063
Reading_12	4.09	1.4
Reading_13	4.08	1.337
Reading_14	3.88	1.266
Reading_15	3.78	1.37
Reading_16	4.68	0.987
Reading_17	3.57	1.5
Reading_18	4.19	1.323
Reading_19	4.23	1.329
Reading_20	3.68	1.4
MEAN	4.20	

Grade 5/6 Level A PASA
Reading (n=1687)

Item #	M	SD
Reading_1	4.31	1.288
Reading_2	3.98	1.391
Reading_3	4.07	1.385
Reading_4	3.97	1.528
Reading_5	3.87	1.547
Reading_6	3.88	1.61
Reading_7	4	1.613
Reading_8	3.71	1.648
Reading_9	4.08	1.607
Reading_10	3.98	1.61
Reading_11	4.03	1.632
Reading_12	3.87	1.654
Reading_13	3.7	1.642
Reading_14	4.03	1.611
Reading_15	4.03	1.643
Reading_16	3.82	1.642
Reading_17	3.85	1.681
Reading_18	3.89	1.695
Reading_19	3.64	1.691
Reading_20	4.02	1.671
MEAN	3.94	

Grade 5/6 Level B PASA
Reading (n=2237)

Item #	M	SD
Reading_1	4.07	1.207
Reading_2	4.67	0.884
Reading_3	4.73	0.792
Reading_4	4.47	1.058
Reading_5	4.41	1.063
Reading_6	4.7	0.851
Reading_7	4.57	0.951
Reading_8	4.3	1.349
Reading_9	4.76	0.815
Reading_10	4.68	0.889
Reading_11	3.64	1.268
Reading_12	4.08	1.222
Reading_13	4.78	0.783
Reading_14	4.46	1.084
Reading_15	4.84	0.722
Reading_16	4.25	1.198
Reading_17	4.25	1.213
Reading_18	3.89	1.274
Reading_19	4.66	0.937
Reading_20	3.83	1.264
MEAN	4.40	

Grade 5/6 Level C PASA
Reading (n=1107)

Item #	M	SD
Reading_1	4.38	1.159
Reading_2	4.36	1.128
Reading_3	4.5	1.043
Reading_4	4.38	1.199
Reading_5	4.43	1.084
Reading_6	4.48	1.028
Reading_7	4.46	1.116
Reading_8	4.48	1.13
Reading_9	4.6	1.061
Reading_10	4.03	1.237
Reading_11	3.85	1.414
Reading_12	3.58	1.332
Reading_13	3.9	1.284
Reading_14	4.59	0.989
Reading_15	4.55	1.031
Reading_16	4.25	1.162
Reading_17	4.57	1.014
Reading_18	4.27	1.205
Reading_19	3.28	1.486
Reading_20	4.42	1.131
MEAN	4.27	

Grade 7/8 Level A PASA
Reading (n=1416)

Item #	M	SD
Reading_1	4.05	1.423
Reading_2	4.09	1.429
Reading_3	3.94	1.45
Reading_4	4.09	1.55
Reading_5	3.57	1.586
Reading_6	3.8	1.622
Reading_7	4.03	1.614
Reading_8	3.89	1.662
Reading_9	3.56	1.672
Reading_10	3.83	1.647
Reading_11	3.46	1.678
Reading_12	3.64	1.687
Reading_13	4.04	1.654
Reading_14	3.79	1.701
Reading_15	3.99	1.657
Reading_16	3.86	1.692
Reading_17	3.78	1.654
Reading_18	3.43	1.655
Reading_19	3.76	1.717
Reading_20	3.76	1.677
MEAN	3.82	

Grade 7/8 Level B PASA
Reading (2254)

Item #	M	SD
Reading_1	4.77	0.775
Reading_2	4.49	1.033
Reading_3	4.24	1.317
Reading_4	4.45	1.069
Reading_5	4.08	1.282
Reading_6	4.69	0.863
Reading_7	4.35	1.145
Reading_8	4.37	1.076
Reading_9	4.31	1.166
Reading_10	3.55	1.456
Reading_11	4.11	1.207
Reading_12	4.34	1.218
Reading_13	4.54	0.945
Reading_14	4.3	1.201
Reading_15	4.07	1.293
Reading_16	4.31	1.281
Reading_17	3.66	1.212
Reading_18	4.56	1.049
Reading_19	4.65	0.953
Reading_20	4.66	0.954
MEAN	4.32	

Grade 7/8 Level C PASA
Reading (n=1446)

Item #	M	SD
Reading_1	3.09	1.581
Reading_2	4.7	0.92
Reading_3	4.58	1.052
Reading_4	4.72	0.905
Reading_5	3.8	1.467
Reading_6	4.4	1.23
Reading_7	4.63	1.033
Reading_8	3.39	1.465
Reading_9	2.88	1.424
Reading_10	4.02	1.296
Reading_11	4.7	0.957
Reading_12	2.27	1.215
Reading_13	4.47	1.2
Reading_14	4.1	1.302
Reading_15	3.93	1.326
Reading_16	3.97	1.333
Reading_17	4.49	1.078
Reading_18	4.1	1.349
Reading_19	4.7	0.973
Reading_20	4.71	0.974
MEAN	4.08	

Grade 11 Level A PASA Reading
(n=835)

Item #	M	SD
Reading_1	4.16	1.406
Reading_2	3.95	1.478
Reading_3	4.06	1.469
Reading_4	4.16	1.522
Reading_5	3.86	1.564
Reading_6	3.88	1.671
Reading_7	4.06	1.645
Reading_8	3.96	1.689
Reading_9	3.02	1.654
Reading_10	3.67	1.712
Reading_11	3.66	1.76
Reading_12	3.63	1.731
Reading_13	3.87	1.751
Reading_14	3.77	1.746
Reading_15	3.44	1.746
Reading_16	3.75	1.788
Reading_17	3.95	1.739
Reading_18	3.34	1.739
Reading_19	3.8	1.785
Reading_20	3.75	1.783
MEAN	3.79	

Grade 11 Level B PASA Reading
(n=836)

Item #	M	SD
Reading_1	4.58	1.147
Reading_2	4.37	1.199
Reading_3	4.68	1.002
Reading_4	3.87	1.441
Reading_5	4.73	0.983
Reading_6	4.37	1.27
Reading_7	4.58	1.041
Reading_8	4.68	1.03
Reading_9	4.32	1.277
Reading_10	3.9	1.396
Reading_11	4.31	1.313
Reading_12	4.6	1.096
Reading_13	4.37	1.269
Reading_14	4.46	1.257
Reading_15	4.03	1.36
Reading_16	4.13	1.298
Reading_17	4.26	1.321
Reading_18	4.7	1.02
Reading_19	3.56	1.466
Reading_20	4.38	1.266
MEAN	4.34	

Grade 11 Level C PASA Reading (n=531)

Item #	M	SD
Reading_1	3.44	1.549
Reading_2	4.09	1.338
Reading_3	4.34	1.211
Reading_4	4.61	1.052
Reading_5	4.17	1.309
Reading_6	3.43	1.373
Reading_7	4.51	1.149
Reading_8	4.26	1.265
Reading_9	4.27	1.265
Reading_10	4.26	1.094
Reading_11	4.19	1.297
Reading_12	4.36	1.309
Reading_13	3.8	1.38
Reading_14	3.78	1.464
Reading_15	4.48	1.239
Reading_16	4.5	1.176
Reading_17	4.64	1.083
Reading_18	4.28	1.133
Reading_19	4.43	1.234
Reading_20	4.61	1.095
MEAN	4.22	

Item Means and Standard Deviations - PASA MATHEMATICS

Grade 3/4 Level A PASA Math
(n=2576)

Item #	M	SD
Math_1	4.52	1.168
Math_2	3.69	1.532
Math_3	4	1.447
Math_4	3.91	1.572
Math_5	3.26	1.538
Math_6	4.19	1.52
Math_7	4.18	1.516
Math_8	3.82	1.577
Math_9	3.66	1.651
Math_10	3.89	1.618
Math_11	4.29	1.506
Math_12	3.68	1.634
Math_13	4.09	1.578
Math_14	3.74	1.687
Math_15	3.88	1.625
Math_16	3.63	1.643
Math_17	3.85	1.57
Math_18	3.96	1.637
Math_19	3.87	1.62
Math_20	4.12	1.542
MEAN	3.91	

Grade 3/4 Level B PASA Math
(n=1745)

Item #	M	SD
Math_1	4.74	0.86
Math_2	4.67	0.923
Math_3	4.51	1.069
Math_4	4.65	0.926
Math_5	4.75	0.832
Math_6	4.78	0.817
Math_7	4.22	1.2
Math_8	4.65	0.891
Math_9	4.31	1.252
Math_10	4.68	0.902
Math_11	4.15	1.215
Math_12	4.72	0.908
Math_13	4.64	0.979
Math_14	4.78	0.849
Math_15	3.99	1.255
Math_16	4.49	1.08
Math_17	4.38	1.178
Math_18	4.67	1.045
Math_19	4.6	1.047
Math_20	4.67	0.985
MEAN	4.55	

Grade 3/4 Level C PASA Math
(n=694)

Item #	M	SD
Math_1	4.54	1.026
Math_2	4.57	1.102
Math_3	4.34	1.204
Math_4	4.78	0.9
Math_5	4.47	1.133
Math_6	3.41	1.376
Math_7	3.86	1.324
Math_8	4.71	0.98
Math_9	3.61	1.332
Math_10	4.2	1.247
Math_11	4.59	1.089
Math_12	3.69	1.432
Math_13	2.96	1.276
Math_14	3.4	1.557
Math_15	3.61	1.481
Math_16	4.42	1.165
Math_17	3.71	1.423
Math_18	3.88	1.354
Math_19	4.32	1.175
Math_20	3.88	1.372
MEAN	4.05	

Grade 5/6 Level A PASA Math
(n=1847)

Item #	M	SD
Math_1	4.28	1.351
Math_2	4.03	1.387
Math_3	3.81	1.483
Math_4	3.94	1.584
Math_5	3.46	1.596
Math_6	3.56	1.578
Math_7	3.47	1.644
Math_8	3.83	1.669
Math_9	3.37	1.648
Math_10	3.58	1.644
Math_11	3.64	1.678
Math_12	3.38	1.642
Math_13	3.89	1.695
Math_14	3.31	1.78
Math_15	4.15	1.671
Math_16	3.41	1.717
Math_17	3.6	1.735
Math_18	3.8	1.659
Math_19	3.99	1.674
Math_20	3.39	1.707
MEAN	3.69	

Grade 5/6 Level B PASA Math
(n=1995)

Item #	M	SD
Math_1	4.75	0.894
Math_2		0.888
Math_3	4.52	1.011
Math_4	4.46	1.087
Math_5	4.48	1.157
Math_6	4.4	1.138
Math_7	4.47	1.139
Math_8	4.68	0.927
Math_9	3.98	1.326
Math_10	4.77	0.8
Math_11	4.21	1.206
Math_12	3.24	1.501
Math_13	4.6	0.971
Math_14	4.56	1.173
Math_15	4.56	1.025
Math_16	4.25	1.311
Math_17	4.6	1.007
Math_18	3.62	1.402
Math_19	4.27	1.257
Math_20	3.99	1.27
MEAN	4.34	

Grade 5/6 Level C PASA Math
(n=1189)

Item #	M	SD
Math_1	4.21	1.317
Math_2	4.72	0.937
Math_3	4.03	1.288
Math_4	4.61	0.955
Math_5	4.35	1.206
Math_6	3.94	1.283
Math_7	4.62	0.967
Math_8	4.03	1.246
Math_9	4.01	1.247
Math_10	4.37	1.127
Math_11	2.9	1.257
Math_12	3.17	1.526
Math_13	4.73	0.873
Math_14	4.68	0.912
Math_15	4.47	1.026
Math_16	3.99	1.365
Math_17	4.39	1.132
Math_18	4.54	1.037
Math_19	4.5	1.148
Math_20	3.59	1.287
MEAN	4.19	

Grade 7/8 Level A PASA Math
(n=1547)

Item #	M	SD
Math_1	4.22	1.367
Math_2	3.68	1.486
Math_3	3.91	1.412
Math_4	3.93	1.583
Math_5	3.28	1.605
Math_6	3.96	1.683
Math_7	2.64	1.573
Math_8	4.05	1.693
Math_9	3.28	1.626
Math_10	3.93	1.668
Math_11	3.54	1.632
Math_12	3.52	1.659
Math_13	3.6	1.679
Math_14	3.09	1.598
Math_15	3.75	1.655
Math_16	2.76	1.52
Math_17	3.98	1.646
Math_18	2.9	1.68
Math_19	3.44	1.654
Math_20	3.26	1.688
MEAN	3.54	

Grade 7/8 Level B PASA Math
(n=2056)

Item #	M	SD
Math_1	4.82	0.744
Math_2	4.56	1.1
Math_3	3.36	1.413
Math_4	3.81	1.472
Math_5	2.98	1.479
Math_6	4.08	1.22
Math_7	4.53	1.006
Math_8	3.02	1.383
Math_9	3.74	1.342
Math_10	3.31	1.467
Math_11	4.33	1.158
Math_12	4.52	1.132
Math_13	4.21	1.323
Math_14	4.1	1.355
Math_15	3.33	1.501
Math_16	3.44	1.615
Math_17	4.31	1.188
Math_18	4.25	1.159
Math_19	3.88	1.479
Math_20	3.93	1.386
MEAN	3.93	

Grade 7/8 Level C PASA Math
(n=1513)

Item #	M	SD
Math_1	3.79	1.414
Math_2	4.26	1.235
Math_3	3.99	1.305
Math_4	4.36	1.221
Math_5	2.36	1.323
Math_6	4.42	1.205
Math_7	4.29	1.235
Math_8	3.12	1.386
Math_9	2.97	1.336
Math_10	3.89	1.395
Math_11	4.32	1.263
Math_12	3.46	1.469
Math_13	4.14	1.386
Math_14	3.83	1.493
Math_15	3.64	1.495
Math_16	3.65	1.434
Math_17	2.65	1.441
Math_18	4.55	1.131
Math_19	4.14	1.384
Math_20	3.56	1.477
MEAN	3.77	

Grade 11 Level A PASA Math
(n=862)

Item #	M	SD
Math_1	4.31	1.376
Math_2	3.92	1.505
Math_3	4.04	1.468
Math_4	3.96	1.569
Math_5	3.62	1.626
Math_6	3.23	1.668
Math_7	3.78	1.713
Math_8	3.47	1.648
Math_9	3.96	1.707
Math_10	3.03	1.733
Math_11	3.93	1.756
Math_12	3.27	1.764
Math_13	3.39	1.729
Math_14	4.09	1.696
Math_15	3.48	1.761
Math_16	3.44	1.79
Math_17	3.06	1.699
Math_18	3.54	1.753
Math_19	3.18	1.768
Math_20	3.84	1.743
MEAN	3.63	

Grade 11 Level B PASA Math
(n=880)

Item #	M	SD
Math_1	4.57	1.109
Math_2	4.24	1.318
Math_3	3.67	1.352
Math_4	4.13	1.311
Math_5	4.12	1.43
Math_6	4.28	1.313
Math_7	3.78	1.51
Math_8	4.58	1.091
Math_9	3.72	1.437
Math_10	4.32	1.272
Math_11	4.34	1.245
Math_12	3.24	1.446
Math_13	2.9	1.392
Math_14	3.8	1.498
Math_15	4.18	1.384
Math_16	3.77	1.53
Math_17	3.31	1.624
Math_18	4.04	1.395
Math_19	3.78	1.558
Math_20	3.69	1.456
MEAN	3.92	

Grade 11 Level C PASA Math
(n=460)

Item #	M	SD
Math_1	4.02	1.405
Math_2	3.63	1.544
Math_3	3.79	1.423
Math_4	2.11	1.247
Math_5	3.56	1.497
Math_6	4.07	1.34
Math_7	4.04	1.454
Math_8	4.15	1.388
Math_9	3.42	1.521
Math_10	3.47	1.463
Math_11	3.95	1.404
Math_12	3.83	1.469
Math_13	3.67	1.53
Math_14	3.29	1.541
Math_15	4.13	1.406
Math_16	2.88	1.549
Math_17	4.38	1.294
Math_18	4.03	1.44
Math_19	2.97	1.351
Math_20	4.48	1.21
MEAN	3.69	

Item Level: Frequency Distributions of Scores and Technical Adequacy

3A Reading (n=1,375)

Item #	skill assessed	Ignored?	C	S	N	D	More than 20% of students scored C?	Lower than 20% of students scored C?	Correlation	Correlation > .40?
1	selects object named - all choices look different from one another	X	3.0	8.1	7.0	.9	Yes	100 easy	0.723	Yes
2	selects object by function - all choices are conceptually unrelated	X	3.9	4.0	10.1	.0	Yes	Yes	0.726	Yes
3	answers literal 'who' question by selecting object - all choices are conceptually unrelated	X	9.9	7.2	10.9	.0	Yes	Yes	0.612	Yes
4	matches identical objects - all choices look different from one another		2.4	5.3	10.0	.2	Yes	Yes	0.689	Yes
5	selects picture of item with a part named - all choices are conceptually related		2.3	4.6	11.0	.1	Yes	Yes	0.730	Yes
6	selects object by feature - all choices are conceptually unrelated		5.1	9.6	13.1	.2	Yes	Yes	0.661	Yes
7	answers literal 'what' question by selecting object - all choices are conceptually unrelated	X	6.4	1.4	9.7	.5	Yes	Yes	0.722	Yes
8	matches identical words - all choices have same beginning and ending letters - words 4-5 letters in length		1.0	2.7	13.7	.6	Yes	Yes	0.635	Yes
9	selects category of object - all choices are conceptually unrelated	X	0.0	9.3	18.5	.3	Yes	Yes	0.701	Yes
10	selects related object - all choices are conceptually unrelated		3.6	2.4	11.5	.5	Yes	Yes	0.745	Yes
11	selects object named - all choices look different from one another	X	4.6	7.2	5.2	.1	Yes	100 easy	0.719	Yes
12	answers literal 'where' question by selecting picture - all choices are conceptually related	X	0.3	3.6	13.7	.5	Yes	Yes	0.690	Yes
13	selects object by function - all choices are conceptually unrelated	X	6.0	1.3	9.1	.6	Yes	Yes	0.756	Yes
14	selects word to describe action in a complex picture	X	4.9	6.6	15.8	.7	Yes	Yes	0.709	Yes
15	answers literal 'who' question by selecting object - all choices are conceptually unrelated	X	5.6	3.1	8.1	.2	Yes	Yes	0.696	Yes
16	selects category of object - all choices are conceptually unrelated	X	4.4	1.6	10.7	.3	Yes	Yes	0.727	Yes
17	selects picture through association - all choices are conceptually related		2.2	9.6	15.3	.9	Yes	Yes	0.721	Yes
18	matches identical objects - all choices look different from one another		4.4	3.6	9.0	.0	Yes	Yes	0.741	Yes
19	answers literal 'what' question by selecting object - all choices are conceptually unrelated	X	2.1	9.5	5.7	.7	Yes	100 easy	0.719	Yes
20	selects related object - all choices are conceptually unrelated		7.6	5.1	14.2	.1	Yes	Yes	0.752	Yes

3B Reading (n=821)

Skill #	Skill assessed	Ignored?	C	S	N	D	More than 10% of students scored C?	Less than 80% students scored C?	Correlation	Correlation above .40?
1	selects picture with beginning sound named		2.3	2.7	3.8	.2	yes	100% easy	0.449	yes
2	selects picture of a word that rhymes with a picture		4.0	5.9	8.9	.2	yes	yes	0.521	yes
3	atches identical words - all choices have same beginning and ending letters - words 4-5 letters in length		6.8	9.4	2.6	.2	yes	100% easy	0.532	yes
4	answers literal 'what' question by selecting picture - all choices are conceptually related	X	7.1	4.4	7.6	.0	yes	yes	0.568	yes
5	selects word that can replace a word or phrase in context	X	4.6	3.9	10.4	.2	yes	yes	0.488	yes
6	selects picture named - all choices are conceptually related		1.2	5.1	1.6	.1	yes	100% easy	0.618	yes
7	answers literal 'where' question by selecting picture - all choices are conceptually related	X	2.3	2.7	3.5	.5	yes	100% easy	0.521	yes
8	names action in a complex picture - open-ended response	X	7.1	1.4	10.4	.1	yes	yes	0.593	yes
9	selects picture showing the meaning of a multiple-meaning word in context	X	9.7	5.0	3.9	.5	yes	yes	0.525	yes
10	answers literal 'what' question - open-ended response	X	0.2	1.4	16.5	.8	yes	yes	0.480	yes
11	answers inferential 'how' question - open-ended response	X	7.7	7.9	22.5	.8	yes	yes	0.589	yes
12	selects picture through association - all choices are conceptually related		0.0	5.7	1.7	.6	yes	100% easy	0.626	yes
13	answers literal 'who' question by selecting picture - all choices are conceptually related	X	0.7	6.9	10.8	.6	yes	yes	0.552	yes
14	selects synonym of a word	X	0.9	6.8	21.0	.3	yes	yes	0.389	100% correlation
15	names action in a complex picture - open-ended response	X	3.3	4.1	21.2	.3	yes	yes	0.591	yes
16	answers literal question about the sequence of events in an informational text	X	3.1	4.7	29.7	.4	yes	yes	0.590	yes
17	selects evidence to answer a question about the sequence of events in an informational text	X	6.6	8.1	13.4	.8	yes	yes	0.482	yes
18	selects category of a picture - all choices are conceptually unrelated		7.0	8.3	3.3	.5	yes	100% easy	0.658	yes
19	selects phrase that explains the meaning of a word in context	X	9.7	5.9	12.8	.6	yes	yes	0.501	yes
20	answers literal 'who' question by selecting picture - all choices are conceptually related	X	7.0	3.5	7.9	.6	yes	yes	0.597	yes

3C Reading n=245)

Item #	Skill assessed	Ignored?	C	S	N	D	More than 20% of students ignored C?	Less than 80% of students ignored C?	Correlation	Correlation above .40?
1	selects 1 word named with all choices having same 2 beginning letters		4.3	4.1	1.2	.4	yes	too easy	0.359	< .40 correlation
2	answers literal 'when' question after hearing 3 sentences	X	3.9	1.8	33.5	.8	yes	yes	0.491	yes
3	answers literal 'who' question after hearing 3 sentences	X	6.3	1.6	19.6	.4	yes	yes	0.526	yes
4	selects meaning of a multiple-meaning word in context	X	7.8	3.3	7.8	.2	yes	yes	0.498	yes
5	selects synonym of a word	X	2.2	1.2	5.3	.2	yes	yes	0.543	yes
6	answers literal 'where' question after hearing 3 sentences	X	2.7	6.3	8.6	.4	yes	yes	0.603	yes
7	answers literal 'what' question after hearing 3 sentences	X	9.6	1.4	7.3	.6	yes	yes	0.618	yes
8	selects evidence to support an inference about a text	X	5.9	7.1	5.3	.6	yes	yes	0.544	yes
9	selects word within the same conceptual category as another word		7.8	1.6	9.0	.6	yes	yes	0.623	yes
10	selects a character to answer a question about a text	X	2.9	3.7	11.4	.0	yes	yes	0.549	yes
11	selects a detail from the text to answer a literal question	X	3.9	8.4	6.1	.6	yes	yes	0.588	yes
12	selects a character to answer a question about a text	X	2.4	2.0	13.1	.4	yes	yes	0.546	yes
13	selects antonym of a word	X	6.3	8.2	12.7	.9	yes	yes	0.471	yes
14	names a character from a text and an action/state associated with that character	X	0.8	4.1	12.2	.9	yes	yes	0.537	yes
15	orders 3 pictures based on a text	X	1.6	6.3	20.0	.0	yes	yes	0.652	yes
16	selects 1 word with beginning sound named		4.9	0.6	2.0	.4	yes	too easy	0.543	yes
17	answers literal 'who' question after hearing 3 sentences	X	8.4	8.6	31.0	.0	yes	yes	0.618	yes
18	answers literal 'what' question after hearing 3 sentences	X	8.0	4.9	14.7	.4	yes	yes	0.563	yes
19	answers literal 'when' question after hearing 3 sentences	X	0.8	2.9	14.3	.0	yes	yes	0.589	yes
20	orders words representing main events from a text	X	8.0	8.4	21.6	.0	yes	yes	0.598	yes

4A Reading (n=1,093)

APPENDIX C-3

Skill #	Skill assessed	Ignored?	C	S	N	D	More than 10% of students ignored C?	Is than 80% students ignored C?	Correlation	Correlation above .40?
1	selects object named - all choices look different from one another	X	80.6	0.0	7.8	.6	Yes	no easy	0.705	Yes
2	selects object by function - all choices are conceptually unrelated	X	77.3	2.3	8.7	.7	Yes	Yes	0.705	Yes
3	answers literal 'who' question by selecting object - all choices are conceptually unrelated	X	57.2	0.0	1.1	.7	Yes	Yes	0.635	Yes
4	matches identical objects - all choices look different from one another		73.9	4.7	9.8	.6	Yes	Yes	0.667	Yes
5	selects picture of item with a part named - all choices are conceptually related		70.4	6.9	0.9	.8	Yes	Yes	0.719	Yes
6	selects object by feature - all choices are conceptually unrelated		57.2	9.5	1.3	.1	Yes	Yes	0.660	Yes
7	answers literal 'what' question by selecting object - all choices are conceptually unrelated	X	75.4	3.6	8.8	.2	Yes	Yes	0.704	Yes
8	matches identical words - all choices have same beginning and ending letters - words 4-5 letters in length		60.9	3.2	4.0	.8	Yes	Yes	0.626	Yes
9	selects category of object - all choices are conceptually unrelated	X	59.3	0.4	8.4	.9	Yes	Yes	0.714	Yes
10	selects related object - all choices are conceptually unrelated		71.8	5.0	1.0	.2	Yes	Yes	0.734	Yes
11	selects object named - all choices look different from one another	X	85.4	5.4	5.1	.1	Yes	no easy	0.692	Yes
12	answers literal 'where' question by selecting picture - all choices are conceptually related	X	71.0	4.5	2.4	.2	Yes	Yes	0.675	Yes
13	selects object by function - all choices are conceptually unrelated	X	77.5	0.9	7.4	.2	Yes	Yes	0.677	Yes
14	selects word to describe action in a complex picture	X	62.2	9.5	6.2	.1	Yes	Yes	0.718	Yes
15	answers literal 'who' question by selecting object - all choices are conceptually unrelated	X	74.5	3.9	9.0	.7	Yes	Yes	0.705	Yes
16	selects category of object - all choices are conceptually unrelated	X	75.5	0.9	1.2	.5	Yes	Yes	0.712	Yes
17	selects picture through association - all choices are conceptually related		64.4	8.1	5.1	.4	Yes	Yes	0.720	Yes
18	matches identical objects - all choices look different from one another		76.2	1.5	9.7	.6	Yes	Yes	0.697	Yes
19	answers literal 'what' question by selecting object - all choices are conceptually unrelated	X	80.8	0.3	5.2	.7	Yes	no easy	0.723	Yes
20	selects related object - all choices are conceptually unrelated		57.0	6.3	3.8	.9	Yes	Yes	0.729	Yes

4B Reading (n=998)

APPENDIX C-3

Item #	Skill assessed	Ignored?	C	S	N	D	More than 20% of students scored C?	Is than 80% students scored C?	Correlation	Correlation above .40?
1	selects picture with beginning sound named		86.3	9.7	2.6	.4	Yes	100 easy	0.524	Yes
2	selects picture of a word that rhymes with a picture		88.5	1.6	3.4	.5	Yes	Yes	0.537	Yes
3	atches identical words - all choices have same beginning and ending letters - words 4-5 letters in length		89.6	3.1	0.9	.4	Yes	100 easy	0.635	Yes
4	answers literal 'what' question by selecting picture - all choices are conceptually related	X	88.8	3.0	5.5	.6	Yes	Yes	0.560	Yes
5	selects word that can replace a word or phrase in context	X	84.4	5.7	3.5	.4	Yes	Yes	0.561	Yes
6	selects picture named - all choices are conceptually related		92.2	5.6	0.8	.4	Yes	100 easy	0.620	Yes
7	answers literal 'where' question by selecting picture - all choices are conceptually related	X	82.7	2.8	3.1	.4	Yes	100 easy	0.567	Yes
8	names action in a complex picture - open-ended response	X	72.8	4.9	0.8	.4	Yes	Yes	0.551	Yes
9	selects picture showing the meaning of a multiple-meaning word in context	X	82.0	4.0	2.6	.4	Yes	100 easy	0.512	Yes
10	answers literal 'what' question - open-ended response	X	85.2	4.9	7.5	.5	Yes	Yes	0.488	Yes
11	answers inferential 'how' question - open-ended response	X	88.3	8.7	0.1	.8	Yes	Yes	0.600	Yes
12	selects picture through association - all choices are conceptually related		92.8	4.0	1.5	.7	Yes	100 easy	0.644	Yes
13	answers literal 'who' question by selecting picture - all choices are conceptually related	X	81.6	8.2	3.7	.5	Yes	Yes	0.565	Yes
14	selects synonym of a word	X	81.4	6.1	0.8	.7	Yes	Yes	0.314	Yes correlation
15	names action in a complex picture - open-ended response	X	86.0	4.2	8.2	.5	Yes	Yes	0.583	Yes
16	answers literal question about the sequence of events in an informational text	X	87.0	7.5	2.3	.2	Yes	Yes	0.555	Yes
17	selects evidence to answer a question about the sequence of events in an informational text	X	81.8	7.7	3.8	.7	Yes	Yes	0.525	Yes
18	selects category of a picture - all choices are conceptually unrelated		90.0	5.7	1.6	.7	Yes	100 easy	0.655	Yes
19	selects phrase that explains the meaning of a word in context	X	82.1	6.3	3.9	.7	Yes	Yes	0.522	Yes
20	answers literal 'who' question by selecting picture - all choices are conceptually related	X	70.4	2.5	5.3	.7	Yes	Yes	0.622	Yes

4C Reading (n=372)

APPENDIX C-3

Item #	Skill assessed	Ignored?	C	S	N	O	More than 20% of students ignored C?	More than 80% of students ignored C?	Correlation	Correlation above .40?
1	selects 1 word named with all choices having same 2 beginning letters		93.8	2.4	1.6	2.2	yes	no easy	0.693	yes
2	answers literal 'when' question after hearing 3 sentences	X	89.2	4.9	3.1	2.7	yes	yes	0.546	yes
3	answers literal 'who' question after hearing 3 sentences	X	83.4	2.3	0.8	3.5	yes	yes	0.498	yes
4	selects meaning of a multiple-meaning word in context	X	73.9	9.1	4.8	2.2	yes	yes	0.624	yes
5	selects synonym of a word	X	59.6	3.1	5.1	2.2	yes	yes	0.588	yes
6	answers literal 'where' question after hearing 3 sentences	X	84.4	0.5	2.4	2.7	yes	no easy	0.663	yes
7	answers literal 'what' question after hearing 3 sentences	X	84.7	3.6	4.0	2.7	yes	no easy	0.624	yes
8	selects evidence to support an inference about a text	X	77.7	6.4	3.8	2.2	yes	yes	0.622	yes
9	selects word within the same conceptual category as another word		75.5	6.9	5.4	2.2	yes	yes	0.633	yes
10	selects a character to answer a question about a text	X	56.7	4.7	5.9	2.7	yes	yes	0.584	yes
11	selects a detail from the text to answer a literal question	X	81.5	4.0	2.2	2.4	yes	no easy	0.688	yes
12	selects a character to answer a question about a text	X	53.2	2.0	0.8	4.0	yes	yes	0.574	yes
13	selects antonym of a word	X	51.6	6.9	3.3	3.2	yes	yes	0.560	yes
14	names a character from a text and an action/state associated with that character	X	47.5	2.5	5.7	3.2	yes	yes	0.523	yes
15	orders 3 pictures based on a text	X	48.7	5.5	3.4	2.4	yes	yes	0.608	yes
16	selects 1 word with beginning sound named		89.0	7.0	1.1	3.0	yes	no easy	0.611	yes
17	answers literal 'who' question after hearing 3 sentences	X	45.7	2.3	9.1	3.0	yes	yes	0.492	yes
18	answers literal 'what' question after hearing 3 sentences	X	71.5	9.1	5.5	3.0	yes	yes	0.663	yes
19	answers literal 'when' question after hearing 3 sentences	X	73.9	5.9	7.0	3.2	yes	yes	0.635	yes
20	orders words representing main events from a text	X	44.9	7.1	5.1	3.0	yes	yes	0.610	yes

5A Reading (n=877)

APPENDIX C-3

skill	skill assessed	aligned	C	S	N	O	More than 80% of students scored C?	Less than 80% of students scored C?	Correlation	Correlation above .40?
1	selects object named - one choice looks similar to the target and one choice looks different from the target	X	79.0	12.1	8.2	0.7	Yes	Yes	0.699	yes
2	selects object by feature - one choice is conceptually related to the target and one choice is conceptually unrelated to the target		61.9	23.7	13.5	0.9	Yes	Yes	0.645	yes
3	answers literal 'what' question by selecting object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	64.8	21.2	13.2	0.8	Yes	Yes	0.679	yes
4	matches identical objects - one choice looks similar to the target and one choice looks different from the target		64.0	22.5	12.3	1.3	Yes	Yes	0.647	yes
5	selects complex picture showing 1 feature named		59.7	27.0	12.0	1.3	Yes	Yes	0.611	yes
6	answer literal 'who' question by selecting object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	63.1	23.9	11.4	1.6	Yes	Yes	0.647	yes
7	selects category of object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	70.9	16.5	10.9	1.6	Yes	Yes	0.652	yes
8	answers literal 'what' question by selecting picture - all choices are conceptually related	X	58.8	23.5	15.7	1.9	Yes	Yes	0.643	yes
9	selects object by function - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	75.4	12.1	10.7	1.8	Yes	Yes	0.710	yes
10	selects related object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target		69.4	19.2	9.8	1.6	Yes	Yes	0.689	yes
11	selects object named - one choice looks similar to the target and one choice looks different from the target	X	74.1	13.9	9.7	2.3	Yes	Yes	0.683	yes
12	selects category of picture - all choices are conceptually related		63.1	21.6	13.3	2.1	Yes	Yes	0.666	yes
13	selects object by feature - one choice is conceptually related to the target and one choice is conceptually unrelated to the target		54.7	29.3	14.3	1.7	Yes	Yes	0.572	yes
14	answers literal 'who' question by selecting object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	71.3	18.2	8.6	1.9	Yes	Yes	0.701	yes
15	matches identical objects - one choice looks similar to the target and one choice looks different from the target		72.3	15.2	10.0	2.5	Yes	Yes	0.702	yes
16	selects picture of fast word missing in sentence using clue from picture - all choices are conceptually related	X	60.2	25.3	12.5	1.9	Yes	Yes	0.645	yes

APPENDIX C-3

17	answers literal 'what' question by selecting object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	64.2	21.8	10.8	3.2	yes	yes	0.650	yes
18	selects category of object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	68.2	16.2	13.3	2.3	yes	yes	0.682	yes
19	selects word named - all choices have different beginning and ending letters		54.6	26.1	17.0	2.3	yes	yes	0.588	yes
20	selects related object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target		75.5	11.9	10.1	2.5	yes	yes	0.649	yes

5B Reading (n=1,096)

APPENDIX C-3

sk #	skill assessed	align ned?	C	S	N	O	More than 20% of students scored C?	Less than 80% of students scored C?	Correlati on	Correlati on above .40?
1	selects picture of word that does not rhyme		53.3	34.	11	1.1	yes	yes	0.473	yes
2	answers literal 'what' question by selecting picture - all choices are conceptually related	X	83.7	12.	3.	1.2	yes	too easy	0.595	yes
3	matches identical words - all choices differ by one letter only - words 4-5 letters in length		85.4	11.	1.	1.0	yes	too easy	0.577	yes
4	names complex picture - synthesizes information to give noun - open-ended response		73.1	19.	6.	1.0	yes	yes	0.579	yes
5	answers literal 'who' question by selecting picture - all choices are conceptually related	X	70.6	22.	6.	1.1	yes	yes	0.559	yes
6	selects category of picture - all choices are conceptually related		85.2	10.	2.	1.1	yes	too easy	0.528	yes
7	selects 1 word named with all choices having same beginning 2 letters		78.1	17.	2.	1.2	yes	yes	0.488	yes
8	answers literal 'when' question - open-ended response	X	73.5	14.	7.	4.4	yes	yes	0.568	yes
9	selects picture of last word missing in sentence using clue from picture - all choices are conceptually related		90.6	6.2	1.	1.4	yes	too easy	0.612	yes
10	answers literal 'what' question by selecting picture	X	85.1	10.	2.	1.6	yes	too easy	0.583	yes
11	answers literal question about chronology in a text by selecting picture	X	32.2	49.	17	1.4	yes	yes	0.468	yes
12	selects meaning of a multiple-meaning word used in context	X	55.2	33.	9.	1.6	yes	yes	0.505	yes
13	selects word named - all choices have different beginning and ending letters		90.4	7.0	1.	1.6	yes	too easy	0.637	yes
14	answers literal 'who' question by selecting picture - all choices are conceptually related	X	73.5	19.	5.	1.9	yes	yes	0.607	yes
15	selects complex picture showing 1 feature named		94.1	3.6	0.	1.6	yes	too easy	0.692	yes
16	selects evidence that identifies a viewpoint presented in an informational text	X	64.7	24.	9.	1.6	yes	yes	0.625	yes

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17	selects evidence that identifies a viewpoint presented in an informational text	X	66.9	23.	8.	1.5	yes	yes	0.612	yes
18	selects complex picture showing first or last event in story	X	45.3	40.	12	1.6	yes	yes	0.506	yes
19	selects 1 word named with all choices having same beginning 2 letters		84.9	11.	2.	1.9	yes	too easy	0.585	yes
20	answers literal 'where' question by selecting picture - all choices are conceptually related	X	42.4	42.	13	1.7	yes	yes	0.532	yes

5C Reading (n=469)

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#	skill	skill assessed	aligned	C	S	N	O	More than 20% of students scored C?	Less than 20% of students scored C?	Correlation	Correlation above .40?
1		supplies word missing in a sentence using clue from picture		71.6	20.0	7.0	1.3	yes	yes	0.478	yes
2		answers literal 'where' question	X	69.1	23.2	6.4	1.3	yes	yes	0.524	yes
3		answers literal 'when' question	X	74.0	19.2	5.5	1.3	yes	yes	0.550	yes
4		answers literal 'how' question	X	71.0	17.3	10.2	1.5	yes	yes	0.597	yes
5		names 1 fact from an informational text	X	69.5	20.9	8.5	1.1	yes	yes	0.480	yes
6		orders words representing main events from a text	X	70.8	22.6	4.9	1.7	yes	yes	0.596	yes
7		answers literal 'who' question	X	74.0	17.1	7.0	1.9	yes	yes	0.624	yes
8		answers literal 'what' question	X	77.4	12.8	7.9	1.9	yes	yes	0.665	yes
9		answers literal 'where' question	X	82.3	9.4	6.2	2.1	yes	yes	0.634	yes
10		answers literal 'when' question	X	46.3	42.9	9.2	1.7	yes	yes	0.551	yes
11		supplies word missing in a sentence using clue from picture		48.2	29.9	20.0	1.9	yes	yes	0.494	yes
12		selects meaning of a multiple-meaning word in context	X	35.2	43.9	19.2	1.7	yes	yes	0.345	low correlation
13		selects claim the author makes in a text	X	47.5	36.9	13.6	1.9	yes	yes	0.444	yes
14		selects word to complete a sentence about a key detail of a text	X	78.5	16.0	3.8	1.7	yes	yes	0.571	yes
15		describes 1 event from narrative text		76.3	17.1	4.5	2.1	yes	yes	0.634	yes
16		answers literal 'where' question	X	59.9	32.8	4.3	3.0	yes	yes	0.503	yes
17		answers literal 'when' question	X	76.1	16.6	5.1	2.1	yes	yes	0.587	yes
18		answers literal 'how' question	X	66.5	24.1	6.8	2.6	yes	yes	0.533	yes
19		supplies word missing in a sentence using clue from picture		30.7	32.2	34.8	2.3	yes	yes	0.433	yes
20		names 1 fact from an informational text	X	72.7	19.2	5.8	2.3	yes	yes	0.647	yes

APPENDIX C-3

6A READING (N=700)

#	ski	skill assessed	align	C	S	N	O	More than 20% of students scored C?	Less than 80% of students scored C?	Correlation	Correlation above .40?
1		selects object named - one choice looks similar to the target and one choice looks different from the target	X	76.	13.	8.7	1.4	yes	yes	0.674	yes
2		selects object by feature - one choice is conceptually related to the target and one choice is conceptually unrelated to the target		60.	24.	12.	1.7	yes	yes	0.641	yes
3		answers literal 'what' question by selecting object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	70.	16.	11.	1.4	yes	yes	0.685	yes
4		matches identical objects - one choice looks similar to the target and one choice looks different from the target		66.	21.	9.9	2.6	yes	yes	0.646	yes
5		selects complex picture showing 1 feature named		59.	25.	13.	1.9	yes	yes	0.616	yes
6		answer literal 'who' question by selecting object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	63.	19.	14.	2.3	yes	yes	0.699	yes
7		selects category of object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	68.	16.	12.	2.6	yes	yes	0.666	yes
8		answers literal 'what' question by selecting picture - all choices are conceptually related	X	54.	25.	18.	2.0	yes	yes	0.668	yes
9		selects object by function - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	73.	14.	10.	2.1	yes	yes	0.729	yes
10		selects related object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target		67.	17.	12.	2.6	yes	yes	0.727	yes
11		selects object named - one choice looks similar to the target and one choice looks different from the target	X	71.	15.	11.	2.3	yes	yes	0.719	yes
12		selects category of picture - all choices are conceptually related		67.	16.	13.	2.1	yes	yes	0.675	yes

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13	selects object by feature - one choice is conceptually related to the target and one choice is conceptually unrelated to the target		54.	27.	15.	2.7	yes	yes	0.594	yes
14	answers literal 'who' question by selecting object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	71.	17.	8.6	2.9	yes	yes	0.678	yes
15	matches identical objects - one choice looks similar to the target and one choice looks different from the target		74.	14.	9.0	2.4	yes	yes	0.693	yes
16	selects picture of last word missing in sentence using clue from picture - all choices are conceptually related	X	61.	23.	13.	2.1	yes	yes	0.707	yes
17	answers literal 'what' question by selecting object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	64.	19.	14.	2.6	yes	yes	0.707	yes
18	selects category of object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	68.	15.	13.	2.7	yes	yes	0.693	yes
19	selects word named - all choices have different beginning and ending letters		55.	24.	18.	2.3	yes	yes	0.617	yes
20	selects related object - one choice is conceptually related to the target and one choice is conceptually unrelated to the target		73.	12.	12.	2.4	yes	yes	0.682	yes

6B READING (n=1,138)

#	ski	skill assessed	align	C	S	N	O	More than 20% of students scored C?	Less than 80% of students scored C?	Correlation	Correlation above .40?
1		selects picture of word that does not rhyme		5 4	3 8	9.6	1.1	yes	yes	0.454	yes
2		answers literal 'what' question by selecting picture - all choices are conceptually related	X	8 2	1 2	2.5	1.1	yes	too easy	0.576	yes
3		matches identical words - all choices differ by one letter only - words 4-5 letters in length		8 2	9.	1.5	1.0	yes	too easy	0.561	yes
4		names complex picture - synthesizes information to give noun - open-ended response		7 2	1 .3	5.4	1.1	yes	yes	0.600	yes
5		answers literal 'who' question by selecting picture - all choices are conceptually related	X	7 2	2 .3	5.5	1.0	yes	yes	0.544	yes
6		selects category of picture - all choices are conceptually related		8 3	9.	2.1	1.1	yes	too easy	0.584	yes
7		selects 1 word named with all choices having same beginning 2 letters		7 8	1 4	3.7	1.1	yes	yes	0.506	yes
8		answers literal 'when' question - open-ended response	X	7 0	1 .1	8.3	3.5	yes	yes	0.565	yes
9		selects picture of last word missing in sentence using clue from picture - all choices are conceptually related		8 3	8. 3	2.3	1.0	yes	too easy	0.614	yes
10		answers literal 'what' question by selecting picture	X	8 1	1 3	2.4	1.1	yes	too easy	0.584	yes
11		answers literal question about chronology in a text by selecting picture	X	3 4	4 8	16.	1.1	yes	yes	0.441	yes
12		selects meaning of a multiple-meaning word used in context	X	5	3	11.	1.1	yes	yes	0.508	yes

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			0	0														
13	selects word named - all choices have different beginning and ending letters		2	9	7.	1.4	1.1	yes	too easy	0.562	yes							
14	answers literal 'who' question by selecting picture - all choices are conceptually related	X	8	7	1	6.1	1.0	yes	yes	0.586	yes							
15	selects complex picture showing 1 feature named		5	9	4.	1.1	1.1	yes	too easy	0.659	yes							
16	selects evidence that identifies a viewpoint presented in an informational text	X	8	6	2	8.5	1.1	yes	yes	0.629	yes							
17	selects evidence that identifies a viewpoint presented in an informational text	X	1	6	2	9.9	1.5	yes	yes	0.611	yes							
18	selects complex picture showing first or last event in story	X	9	4	3	13.	1.5	yes	yes	0.559	yes							
19	selects 1 word named with all choices having same beginning 2 letters		5	8	1	2.5	1.6	yes	too easy	0.567	yes							
20	answers literal 'where' question by selecting picture - all choices are conceptually related	X	5	4	4	13.	1.4	yes	yes	0.543	yes							

sk #	skill assessed	aligne ?	C	S	N	O	More than 20% of students scored C?	Less than 80% of students scored C?	Correl tion	Corre tion above 10?
1	supplies word missing in a sentence using clue from picture		73.8	15.9	9.1	1.3	yes	yes	0.480	yes
2	answers literal 'where' question	X	69.5	22.0	6.9	1.6	yes	yes	0.557	yes
3	answers literal 'when' question	X	77.8	16.3	4.5	1.4	yes	yes	0.517	yes
4	answers literal 'how' question	X	76.7	13.6	8.3	1.4	yes	yes	0.632	yes
5	names 1 fact from an informational text	X	76.4	17.5	5.0	1.1	yes	yes	0.558	yes
6	orders words representing main events from a text	X	77.5	17.3	4.1	1.1	yes	yes	0.616	yes
7	answers literal 'who' question	X	77.5	15.2	6.1	1.3	yes	yes	0.632	yes
8	answers literal 'what' question	X	78.6	13.8	6.3	1.4	yes	yes	0.660	yes
9	answers literal 'where' question	X	86.4	7.7	4.2	1.7	yes	too easy	0.641	yes
10	answers literal 'when' question	X	56.9	31.9	8.6	2.7	yes	yes	0.571	yes
11	supplies word missing in a sentence using clue from picture		54.4	26.3	18.	1.4	yes	yes	0.531	yes
12	selects meaning of a multiple-meaning word in context	X	35.8	42.0	21.	1.1	yes	yes	0.432	yes
13	selects claim the author makes in a text	X	48.4	36.9	13.	1.1	yes	yes	0.436	yes
14	selects word to complete a sentence about a key detail of a text	X	83.1	11.4	4.4	1.1	yes	too easy	0.575	yes
15	describes 1 event from narrative text		82.2	12.5	3.9	1.4	yes	too easy	0.581	yes
16	answers literal 'where' question	X	64.8	27.3	5.8	2.0	yes	yes	0.528	yes
17	answers literal 'when' question	X	84.1	11.4	3.3	1.3	yes	too easy	0.610	yes
18	answers literal 'how' question	X	66.3	24.1	8.0	1.7	yes	yes	0.612	yes
19	supplies word missing in a sentence using clue from picture		34.4	33.9	30.	1.6	yes	yes	0.489	yes
20	names 1 fact from an informational text	X	73.8	19.2	5.2	1.9	yes	yes	0.559	yes

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7A READING (n=671)

sk #	skill assessed	aligned	C	S	N	O	More than 20% of students scored C?	Less than 80% of students scored C?	Correlations	Correlati n above .40?
1	selects photograph named - all choices look different from one another		68.	18.	12.	1.8	Yes	Yes	0.697	Yes
2	answers literal 'what' question by selecting picture - all choices are conceptually unrelated	X	71.	16.	10.	2.2	Yes	Yes	0.751	Yes
3	selects picture by feature - all choices are conceptually unrelated		63.	22.	12.	2.1	Yes	Yes	0.696	Yes
4	matches identical pictures - all choices look different from one another		74.	13.	10.	2.5	Yes	Yes	0.726	Yes
5	selects complex picture showing 2 features named		46.	35.	15.	2.5	Yes	Yes	0.608	Yes
6	answers literal 'who' question by selecting photograph - all choices are conceptually unrelated	X	61.	24.	11.	2.7	Yes	Yes	0.676	Yes
7	selects category of photograph - all choices are conceptually unrelated	X	72.	14.	10.	2.7	Yes	Yes	0.736	Yes
8	answers literal 'where' question by selecting photograph - all choices are conceptually unrelated	X	65.	19.	12.	2.5	Yes	Yes	0.748	Yes
9	selects word with same beginning sound as target picture named		52.	28.	16.	2.8	Yes	Yes	0.644	Yes
10	selects similar picture - all choices are conceptually unrelated		63.	22.	11.	2.8	Yes	Yes	0.680	Yes
11	selects complex picture to summarize a narrative text	X	49.	28.	19.	2.7	Yes	Yes	0.577	Yes
12	answers literal 'who' question by selecting picture - all choices are conceptually unrelated	X	56.	24.	16.	2.8	Yes	Yes	0.699	Yes
13	selects picture named - all choices look different from one another		76.	12.	8.9	2.8	Yes	Yes	0.762	Yes
14	answers literal 'why' question	X	63.	20.	13.	2.7	Yes	Yes	0.738	Yes
15	selects related picture - all choices are conceptually unrelated		71.	16.	9.8	2.7	Yes	Yes	0.768	Yes

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16	answers literal 'where' question by selecting picture - all choices are conceptually unrelated	X	67.	17.	12.	3.0	yes	yes	0.768	yes
17	selects picture by function - all choices are conceptually unrelated		60.	24.	11.	2.7	yes	yes	0.709	yes
18	answers literal 'when' question	X	43.	34.	18.	3.0	yes	yes	0.564	yes
19	selects category of picture - all choices are conceptually unrelated	X	63.	18.	14.	3.0	yes	yes	0.731	yes
20	answers literal 'what' question by selecting photograph - all choices are conceptually unrelated	X	61.	25.	10.	3.1	yes	yes	0.686	yes

sk #	skill assessed	aligned?	C	S	N	O	More than 20% of students scored 5?	Less than 80% of students scored 5?	Correlations	Correlation above 10?
1	selects word named - all choices have same beginning and different ending letters		89.8	7.1	1.9	1.2	yes	too easy	0.541	yes
2	answers literal 'where' question - open-ended response	X	74.7	18.	5.2	1.4	yes	yes	0.594	yes
3	reads 1 word with a complex picture		68.7	15.	14.	1.3	yes	yes	0.487	yes
4	selects complex picture to identify main event from narrative text	X	74.6	18.	5.9	1.3	yes	yes	0.530	yes
5	answers literal 'who' question - open-ended response	X	58.1	26.	14.	1.3	yes	yes	0.637	yes
6	selects category of a word - all choices are conceptually related		85.1	11.	2.2	1.3	yes	too easy	0.539	yes
7	answers literal 'what' question - open-ended response	X	69.7	22.	6.8	1.4	yes	yes	0.605	yes
8	selects complex picture showing next event in story	X	69.4	23.	5.5	1.3	yes	yes	0.551	yes
9	selects the sentence in which a multiple meaning word matches the given definition	X	71.2	20.	7.6	1.2	yes	yes	0.556	yes
1	answers literal 'why' question - open-ended response	X	38.9	34.	24.	2.6	yes	yes	0.481	yes
1	selects synonym of a word used to describe a character	X	57.7	30.	10.	1.1	yes	yes	0.489	yes
1	answers literal 'why' question - open-ended response	X	71.6	17.	9.7	1.2	yes	yes	0.672	yes
1	names 2 activities in a complex picture - open-ended response		76.2	19.	3.5	1.1	yes	yes	0.652	yes
1	selects last word missing in sentence using clue from picture - all choices are conceptually related		68.6	20.	10.	1.2	yes	yes	0.488	yes

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1	answers literal 'when' question - open-ended response	X	57.3	28.	13.	1.3	yes	0.599	yes
1	identifies the main idea of an informational text	X	72.8	14.	11.	1.7	yes	0.609	yes
1	names 4 facts from expository text	X	33.5	51.	14.	1.4	yes	0.623	yes
1	answers literal 'what' question - open-ended response	X	80.9	12.	6.0	1.2	yes	0.637	yes
1	selects complex picture to identify main event from narrative text	X	85.7	9.7	3.2	1.3	yes	0.580	yes
2	answers literal 'where' question - open-ended response	X	86.2	8.9	3.5	1.5	yes	0.608	yes

7C READING (n=675)

sk #	skill assessed	aligne ?	C	S	N	O	More than 20% of students scored 5?	Less than 10% of students scored 5?	Correlation	Correlati n above 10?
1	supplies word missing in a paragraph		28.9	22.8	46.8	1.5	yes	yes	0.509	yes
2	selects word that matches the definition stated	X	85.8	9.9	3.0	1.3	yes	too easy	0.572	yes
3	answers literal 'why' question - reading comprehension		79.4	14.7	4.3	1.6	yes	yes	0.604	yes
4	answers literal 'how' question - reading comprehension		86.4	9.9	2.2	1.5	yes	too easy	0.659	yes
5	identifies the claim the author makes in an informational text	X	46.8	30.5	19.7	3.0	yes	yes	0.554	yes
6	names detail from an informational text that supports the author's claim	X	72.4	17.8	7.1	2.7	yes	yes	0.630	yes
7	selects sentence that includes signal word(s) that match the type of transition stated		84.7	10.7	2.7	1.9	yes	too easy	0.633	yes
8	answers literal 'when' question - reading comprehension		33.5	36.6	27.9	2.1	yes	yes	0.525	yes

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9	answers inferential 'where' question - reading comprehension	X	16.4	37.6	43.9	2.1	too hard	yes	0.521	yes
1	selects evidence to support an inference about a text	X	55.0	33.3	9.9	1.8	yes	yes	0.415	yes
1	selects definition of figurative language used in context	X	88.3	8.9	1.3	1.5	yes	too easy	0.593	yes
1	identifies the theme of a text	X	7.3	28.3	62.8	1.6	too hard	yes	0.418	yes
1	answers literal 'where' question - reading comprehension		77.3	13.9	7.1	1.6	yes	yes	0.601	yes
1	answers inferential 'who' question - reading comprehension		59.6	27.3	11.7	1.5	yes	yes	0.565	yes
1	answers inferential 'when' question - reading comprehension		47.0	37.8	13.8	1.5	yes	yes	0.533	yes
1	selects meaning of a word in context	X	50.5	34.1	13.9	1.5	yes	yes	0.436	yes
1	answers literal 'what' question - reading comprehension		75.3	20.0	3.1	1.6	yes	yes	0.627	yes
1	answers inferential 'what' question - reading comprehension	X	57.8	27.0	13.2	2.1	yes	yes	0.628	yes
1	selects evidence to support an inference about a text	X	89.8	7.1	1.5	1.6	yes	too easy	0.649	yes
2	selects word that matches the definition stated	X	88.7	7.7	1.8	1.8	yes	too easy	0.616	yes

Item #	Skill assessed	aligne ?	C	S	N	O	More than 0% of students scored 5?	Less than 0% of students scored 5?	Correlat ions	Correl tion above .40?
1	selects photograph named - all choices look different from one another		66.2	18.6	13.5	1.7	yes	yes	0.673	yes
2	answers literal 'what' question by selecting picture - all choices are conceptually unrelated	X	68.3	16.8	13.2	1.7	yes	yes	0.715	yes
3	selects picture by feature - all choices are conceptually unrelated		60.5	22.4	15.5	1.7	yes	yes	0.648	yes
4	matches identical pictures - all choices look different from one another		71.8	15.8	10.5	2.0	yes	yes	0.672	yes
5	selects complex picture showing 2 features named		46.2	33.2	18.6	2.0	yes	yes	0.608	yes
6	answers literal 'who' question by selecting photograph - all choices are conceptually unrelated	X	56.8	25.2	15.6	2.4	yes	yes	0.702	yes
7	selects category of photograph - all choices are conceptually unrelated	X	70.8	15.3	11.8	2.1	yes	yes	0.752	yes
8	answers literal 'where' question by selecting photograph - all choices are conceptually unrelated	X	67.0	15.0	15.6	2.4	yes	yes	0.767	yes
9	selects word with same beginning sound as target picture named		48.6	26.8	22.0	2.6	yes	yes	0.636	yes
1	selects similar picture - all choices are conceptually unrelated		60.6	21.8	15.3	2.3	yes	yes	0.681	yes
1	selects complex picture to summarize a narrative text	X	44.1	30.0	23.0	2.9	yes	yes	0.607	yes
1	answers literal 'who' question by selecting picture - all choices are conceptually unrelated	X	53.2	24.5	19.5	2.7	yes	yes	0.654	yes
1	selects picture named - all choices look different from one another		72.9	11.8	12.4	2.9	yes	yes	0.743	yes

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1	answers literal 'why' question	X	62.0	18.2	16.7	3.2	Yes	Yes	0.742	Yes
1	selects related picture - all choices are conceptually unrelated		70.9	14.4	11.5	3.2	Yes	Yes	0.743	Yes
1	answers literal 'where' question by selecting picture - all choices are conceptually unrelated	X	63.3	19.8	13.3	3.5	Yes	Yes	0.741	Yes
1	selects picture by function - all choices are conceptually unrelated		57.6	25.8	13.5	3.2	Yes	Yes	0.727	Yes
1	answers literal 'when' question	X	42.6	34.7	19.4	3.3	Yes	Yes	0.613	Yes
1	selects category of picture - all choices are conceptually unrelated	X	60.9	19.1	16.7	3.3	Yes	Yes	0.753	Yes
2	answers literal 'what' question by selecting photograph - all choices are conceptually unrelated	X	56.8	24.4	14.8	3.9	Yes	Yes	0.722	Yes

sk #	skill assessed	align d?	C	S	N	O	More than 0% of students scored 5?	Less than 80% of students scored 5?	Correlat ions	Correlati on above 10?
1	selects word named - all choices have same beginning and different ending letters		89.6	8.0	1.4	1.	Yes	too easy	0.576	Yes
2	answers literal 'where' question - open-ended response	X	76.2	18.	4.5	1.	Yes	Yes	0.516	Yes
3	reads 1 word with a complex picture		72.0	13.	13.	1.	Yes	Yes	0.472	Yes
4	selects complex picture to identify main event from narrative text	X	73.6	19.	5.6	1.	Yes	Yes	0.501	Yes
5	answers literal 'who' question - open-ended response	X	58.9	28.	11.	1.	Yes	Yes	0.595	Yes
6	selects category of a word - all choices are conceptually related		85.5	11.	2.4	1.	Yes	too easy	0.520	Yes
7	answers literal 'what' question - open-ended response	X	69.5	21.	7.8	1.	Yes	Yes	0.610	Yes
8	selects complex picture showing next event in story	X	68.0	25.	5.4	1.	Yes	Yes	0.568	Yes
9	selects the sentence in which a multiple meaning word matches the given definition	X	65.0	25.	8.5	1.	Yes	Yes	0.514	Yes
1	answers literal 'why' question - open-ended response	X	41.8	33.	23.	1.	Yes	Yes	0.500	Yes
1	selects synonym of a word used to describe a character	X	56.7	33.	9.0	1.	Yes	Yes	0.501	Yes
1	answers literal 'why' question - open-ended response	X	72.7	16.	9.7	1.	Yes	Yes	0.668	Yes
1	names 2 activities in a complex picture - open-ended response		76.0	21.	1.8	1.	Yes	Yes	0.630	Yes
1	selects last word missing in sentence using clue from picture - all choices are conceptually related		70.0	20.	8.3	1.	Yes	Yes	0.516	Yes

APPENDIX C-3

1	answers literal 'when' question - open-ended response	X	59.8	26.	12.	1.	Yes	Yes	0.615	Yes
1	identifies the main idea of an informational text	X	72.9	14.	10.	1.	Yes	Yes	0.619	Yes
1	names 4 facts from expository text	X	33.0	51.	14.	1.	Yes	Yes	0.603	Yes
1	answers literal 'what' question - open-ended response	X	81.4	12.	5.4	1.	Yes	too easy	0.649	Yes
1	selects complex picture to identify main event from narrative text	X	84.8	9.9	4.0	1.	Yes	too easy	0.564	Yes
2	answers literal 'where' question - open-ended response	X	84.7	10.	3.1	1.	Yes	too easy	0.580	Yes

sk #	skill assessed	align d?	C	S	I	O	More than 5% of students scored 5?	Less than 5% of students scored 5?	Correlation	Correlation above 0.4?
1	supplies word missing in a paragraph		37.4	21.9	38.6	2.1	yes	yes	0.479	yes
2	selects word that matches the definition stated	X	88.4	7.4	2.1	2.1	yes	too easy	0.607	yes
3	answers literal 'why' question - reading comprehension		85.1	8.6	4.0	2.3	yes	too easy	0.619	yes
4	answers literal 'how' question - reading comprehension		91.0	5.1	1.6	2.3	yes	too easy	0.672	yes
5	identifies the claim the author makes in an informational text	X	55.3	25.3	16.4	3.0	yes	yes	0.589	yes
6	names detail from an informational text that supports the author's claim	X	78.4	13.2	4.8	3.5	yes	yes	0.679	yes
7	selects sentence that includes signal word(s) that match the type of transition stated		85.2	9.4	2.2	3.2	yes	too easy	0.683	yes
8	answers literal 'when' question - reading comprehension		34.8	37.4	24.4	3.4	yes	yes	0.589	yes
9	answers inferential 'where' question - reading comprehension	X	22.2	36.6	37.9	3.2	yes	yes	0.527	yes
1	selects evidence to support an inference about a text	X	53.6	33.0	10.0	3.2	yes	yes	0.542	yes
1	selects definition of figurative language used in context	X	87.9	7.1	1.7	3.2	yes	too easy	0.687	yes
1	identifies the theme of a text	X	7.4	27.5	61.7	3.4	too hard	yes	0.472	yes
1	answers literal 'where' question - reading comprehension		81.2	9.6	5.8	3.4	yes	too easy	0.680	yes
1	answers inferential 'who' question - reading comprehension		60.0	27.7	9.4	3.0	yes	yes	0.599	yes
1	answers inferential 'when' question - reading comprehension		55.1	30.5	11.4	3.0	yes	yes	0.630	yes

APPENDIX C-3

1	selects meaning of a word in context	X	56.4	29.6	11.0	3.0	yes	yes	0.546	yes
1	answers literal 'what' question - reading comprehension		76.2	18.2	2.2	3.4	yes	yes	0.693	yes
1	answers inferential 'what' question - reading comprehension	X	64.7	22.7	9.2	3.4	yes	yes	0.691	yes
1	selects evidence to support an inference about a text	X	88.2	6.8	1.6	3.5	yes	too easy	0.740	yes
2	selects word that matches the definition stated	X	90.3	4.7	1.8	3.2	yes	too easy	0.676	yes

Item #	skill assessed	align id?	C	S	N	O	More than 20% of students scored 5?	Less than 10% of students scored 5?	Correlation	Correlation above 0.40?
1	selects picture named - all choices look similar to one another		74.0	13.2	10.9	1.8	yes	yes	0.731	yes
2	answers literal 'what' question by selecting picture - all choices are conceptually related	X	64.2	19.6	14.2	2.1	yes	yes	0.677	yes
3	selects picture by function - all choices are conceptually related		71.0	13.8	13.4	1.8	yes	yes	0.734	yes
4	matches identical photographs - all choices look similar to one another		76.9	12.1	8.6	2.5	yes	yes	0.702	yes
5	selects complex picture showing 3 features named		59.7	26.2	11.7	2.3	yes	yes	0.607	yes
6	answers literal 'who' question by selecting photograph - all choices are conceptually related	X	66.8	16.9	13.6	2.7	yes	yes	0.710	yes
7	selects category of photograph - one choice is conceptually related to the target and one choice is not conceptually related to the target	X	76.0	12.1	9.5	2.5	yes	yes	0.753	yes
8	answers literal 'where' question by selecting picture - all choices are conceptually related	X	71.3	14.9	11.0	2.7	yes	yes	0.708	yes
9	selects word to complete a sentence - 3-4 letters in length and regularly decodable	X	30.8	36.2	29.9	3.1	yes	yes	0.464	yes
1	selects similar picture - one choice is conceptually related to the target and one choice is conceptually unrelated to the target		57.4	25.1	14.7	2.9	yes	yes	0.682	yes
1	answers literal 'who' question by selecting picture - all choices are conceptually related	X	59.9	20.4	16.8	3.0	yes	yes	0.693	yes
1	selects complex picture to summarize a narrative text	X	56.4	25.6	14.9	3.1	yes	yes	0.623	yes
1	selects picture by feature - all choices are conceptually related		69.9	15.3	11.7	3.1	yes	yes	0.694	yes

APPENDIX C-3

1	answers literal 'what' question by selecting photograph - all choices are conceptually related	X	63.9	20.4	12.5	3.2	yes	yes	0.733	yes
1	selects word named - all choices have same beginning and ending letters		48.3	29.7	18.4	3.5	yes	yes	0.567	yes
1	selects related picture - all choices are conceptually related		65.6	16.5	14.4	3.5	yes	yes	0.734	yes
1	matches identical complex pictures - all choices look different from one another		73.1	13.9	9.6	3.4	yes	yes	0.757	yes
1	answers literal 'who' question	X	44.2	31.8	20.4	3.6	yes	yes	0.635	yes
1	selects category of picture - one choice is conceptually related to the target and one choice is conceptually unrelated to the target	X	68.2	14.8	13.5	3.5	yes	yes	0.750	yes
2	answers literal 'where' question by selecting photograph - all choices are conceptually related	X	64.9	17.8	13.5	3.8	yes	yes	0.741	yes

skill	skill assessed	align	C	S	N	O	More than 20% of students scored	Less than 5% of students scored	Correlation	Correlation > .40?
1	reads 1 word in isolation - common sight words		86.4	4.5	6.9	2.2	yes	too easy	0.609	yes
2	answers literal 'who' question - open-ended response	X	72.6	17.9	7.3	2.2	yes	yes	0.633	yes
3	selects complex picture to identify main event from narrative text	X	88.5	6.1	3.0	2.4	yes	too easy	0.666	yes
4	answers literal 'when' question - open-ended response	X	53.6	26.3	17.7	2.4	yes	yes	0.618	yes
5	selects word named - all choices have same beginning and ending letters		91.0	4.4	1.6	3.0	yes	too easy	0.640	yes
6	answers literal 'why' question - open-ended response	X	76.2	12.2	9.2	2.4	yes	yes	0.691	yes
7	selects complex picture showing 3 features named		81.5	13.2	3.0	2.4	yes	too easy	0.699	yes
8	selects last word missing in sentence using clue from picture - all choices are conceptually related		88.9	5.0	3.7	2.4	yes	too easy	0.640	yes
9	answers literal 'where' question - open-ended response	X	71.7	17.7	7.5	3.1	yes	yes	0.702	yes
1	orders 3 complex pictures based on text	X	53.1	29.2	15.2	2.5	yes	yes	0.607	yes
1	answers literal 'what' question - open-ended response	X	73.1	14.6	9.4	2.9	yes	yes	0.669	yes
1	selects meaning of a word in context	X	85.2	8.3	3.7	2.9	yes	too easy	0.705	yes
1	answers literal 'what' question - open-ended response	X	74.6	15.4	6.5	3.5	yes	yes	0.673	yes
1	answers literal 'what' question -	X	80.3	10.5	5.3	3.9	yes	too easy	0.683	yes

APPENDIX C-3

	open-ended response																		
1	selects meaning of a word in context	X	57.8	27.3	12.2	2.8	yes	yes	0.610	yes									
1	answers literal 'when' question - open-ended response	X	60.4	27.9	8.7	3.0	yes	yes	0.644	yes									
1	selects last word missing in sentence using clue from picture - all choices are conceptually related		70.2	17.2	9.7	2.9	yes	yes	0.590	yes									
1	answers literal 'why' question - open-ended response	X	90.1	5.0	1.7	3.2	yes	too easy	0.770	yes									
1	selects meaning of general academic word	X	40.2	34.8	22.0	3.0	yes	yes	0.495	yes									
2	answers literal 'where' question - open-ended response	X	75.6	14.4	6.7	3.3	yes	yes	0.701	yes									

sk #	skill assessed	align d?	C	S	N	O	More than % of students scored 5?	Less than % of students scored 5?	Correlation	Correlation above .40?
1	answers inferential 'what' question - reading comprehension	X	41.	26.7	29.9	2.3	yes	yes	0.542	yes
2	answers inferential 'where' question - reading comprehension	X	60.	25.8	11.3	2.6	yes	yes	0.581	yes
3	answers inferential 'when' question - reading comprehension	X	70.	19.6	7.3	2.3	yes	yes	0.616	yes
4	selects word that matches the definition stated	X	84.	10.2	3.0	2.6	yes	too easy	0.642	yes
5	selects detail that does not support the author's claim in an informational text	X	64.	23.0	10.4	2.4	yes	yes	0.601	yes
6	selects meaning of a word in context	X	30.	44.8	21.8	2.6	yes	yes	0.504	yes
7	locates words by function in display of 30-50 words or in real materials - inferential question	X	80.	11.3	5.6	2.4	yes	too easy	0.611	yes
8	selects evidence to support an inference about a text		68.	20.9	8.7	2.4	yes	yes	0.533	yes
9	selects evidence to support an inference about a text		68.	20.3	8.7	2.4	yes	yes	0.599	yes
10	selects 2 pieces of evidence to answer a literal question about an informational text	X	59.	35.0	2.4	2.6	yes	yes	0.658	yes
11	selects statement that presents an accurate connection between two ideas in an informational text	X	64.	24.5	8.5	3.0	yes	yes	0.616	yes
12	selects sentence that presents a fact/opinion in an informational text		76.	12.2	8.1	3.4	yes	yes	0.671	yes
13	selects definition of figurative language used in context	X	46.	35.2	15.4	2.6	yes	yes	0.538	yes
14	identifies the claim the author makes in an informational text	X	50.	27.9	19.0	2.6	yes	yes	0.515	yes
15	supplies missing word in a paragraph		80.	10.7	4.7	4.0	yes	too easy	0.644	yes

APPENDIX C-3

16	selects meaning of a word in context	X	80.	12.1	4.1	3.4	yes	too easy	0.735	yes										
17	selects word that matches the definition stated	X	87.	7.0	2.8	3.2	yes	too easy	0.697	yes										
18	answers literal 'what' question - reading comprehension		62.	32.2	2.3	3.2	yes	yes	0.653	yes										
19	answers inferential 'what' question - reading comprehension	X	77.	13.7	5.6	3.4	yes	yes	0.664	yes										
20	selects evidence to support an inference about a text	X	85.	8.9	2.4	3.4	yes	too easy	0.687	yes										

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sk #	skill assessed	align d?	C	S	N	O	More than 20% of students scored 5?	Less than 20% of students scored 5?	Correlation	Correlation above 0?
1	selects clock - all items differ in appearance	X	86.	6.7	5.0	1.5	yes	too easy	0.607	yes
2	selects set with most/least - difference between target and closest choice is 12 units - sets are cut to size		52.	23.4	23.3	1.2	yes	yes	0.576	yes
3	selects shape with biggest/smallest area	X	64.	18.9	15.5	1.3	yes	yes	0.657	yes
4	matches items with same capacity		60.	22.3	14.0	2.9	yes	yes	0.554	yes
5	selects picture of item that is a specified length/width ≤ 5 - picture affixed to a ruler without numbers	X	32.	37.0	28.7	1.8	yes	yes	0.454	yes
6	selects coin - all items differ in appearance	X	75.	13.8	8.3	2.9	yes	yes	0.685	yes
7	selects number ≤ 5 named	X	76.	11.9	9.8	2.2	yes	yes	0.692	yes
8	selects object that completes an ABAB repeating pattern - both distracter choices are not objects in the pattern	X	56.	25.7	15.5	2.2	yes	yes	0.623	yes
9	matches 2 sets of items with 1 item each - difference between target and closest choice is 12 units - sets are cut to size		53.	23.4	21.1	2.3	yes	yes	0.558	yes
1	selects measurement tool that is appropriate for the situation described - distracters are not measurement tools	X	62.	19.6	14.9	2.7	yes	yes	0.670	yes

APPENDIX C-3

1	sorts 1 object into 1 of 3 existing groups - all groups differ in appearance	X	82.	7.7	7.2	2.7	yes	too easy	0.650	yes
1	selects the number of pieces into which an item is divided - denominator ≤ 5	X	52.	26.3	18.2	2.6	yes	yes	0.690	yes
1	selects object with biggest/smallest area	X	72.	14.7	9.6	3.1	yes	yes	0.659	yes
1	selects longest/shortest picture of item - difference between target and closest choice is 12 inches	X	60.	17.0	19.6	2.6	yes	yes	0.662	yes
1	matches pictures of items of same size		62.	18.6	16.5	2.3	yes	yes	0.675	yes
1	selects largest/smallest value from graph without numbers - ordered display	X	51.	25.6	19.9	2.6	yes	yes	0.653	yes
1	selects set with most/least - difference between target and closest choice is 12 units - sets are cut to size		56.	28.2	12.4	2.5	yes	yes	0.521	yes
1	matches photographs of items of same length - difference between target and closest choice is 12 inches		67.	15.1	15.0	2.6	yes	yes	0.669	yes
1	selects the number of fractional pieces remaining - numerator ≤ 5	X	62.	19.6	15.3	2.5	yes	yes	0.684	yes
2	selects biggest/smallest object		73.	15.0	9.1	2.6	yes	yes	0.675	yes

Item #	skill assessed	align d?	C	S	N	O	More than 20% of students scored 5?	Less than 10% of students scored 5?	Correlation	Correlation above 0.70?
1	counts aloud ≤ 5 items in unordered array		89.2	6.9	2.4	1.5	yes	too easy	0.672	yes
2	matches numeral to quantity ≤ 5 - the target and 1 set are within ± 5		82.7	12.	3.4	1.6	yes	too easy	0.698	yes
3	locates number ≤ 5 described in a one-variable display with 4 entries with teacher assistance in locating the appropriate row		75.9	16.	6.4	1.8	yes	yes	0.667	yes
4	selects measurement tool that is appropriate for the situation described - distracters are measurement tools	X	83.7	11.	3.4	1.6	yes	too easy	0.549	yes
5	selects two-digit number ≤ 19 named	X	86.1	9.9	2.3	1.8	yes	too easy	0.633	yes
6	selects longest/shortest item		90.7	5.5	2.0	1.8	yes	too easy	0.696	yes
7	determines the number of pieces into which an item is divided - denominator ≤ 9	X	61.7	26.	9.8	1.6	yes	yes	0.579	yes
8	matches digital time at 30-minute intervals	X	80.8	14.	3.0	1.6	yes	too easy	0.670	yes
9	measures length/width of item affixed to a ruler with 1-inch markings ≤ 5	X	70.1	16.	12.1	1.9	yes	yes	0.641	yes
1	counts aloud one-dollar bills or pennies $\leq \$5$ or 5¢	X	84.3	10.	3.3	1.8	yes	too easy	0.657	yes
1	selects pictograph that shows the data ≤ 5 displayed in a table	X	58.8	29.	9.8	1.8	yes	yes	0.574	yes
1	measures item area by counting ≤ 5 units	X	87.2	8.5	2.3	2.0	yes	too easy	0.701	yes
1	sorts 3 items based on their attributes - preexisting groups of shapes	X	83.2	11.	2.4	2.6	yes	too easy	0.643	yes
1	matches numeral to quantity ≤ 5 - the target and 1 set are within ± 5		89.7	5.7	2.5	2.1	yes	too easy	0.741	yes
1	rounds number between 11 and 19 to the nearest ten in situation described	X	49.9	37.	10.4	2.4	yes	yes	0.502	yes

APPENDIX C-3

1	selects shape that is missing in an ABCABC pattern - distracters include all choices in the pattern	X	76.8	16.	5.0	2.0	yes	yes	0.659	yes
1	determines the number of fractional pieces remaining - numerator ≤ 9	X	71.4	19.	7.2	2.0	yes	yes	0.620	yes
1	counts aloud ≤ 5 items in unordered array		87.4	6.8	1.9	3.9	yes	too easy	0.591	yes
1	measures length/width of item affixed to a ruler with 1-inch markings ≤ 5	X	83.2	10.	4.3	2.3	yes	too easy	0.718	yes
2	locates number ≤ 5 described in a one-variable display with 4 entries with teacher assistance in locating the appropriate row		85.3	8.2	4.8	1.8	yes	too easy	0.732	yes

sk #	skill assessed	align d?	C	S	N	O	More than 20% of students scored 5?	Less than 10% of students scored 5?	Correlation	Correlation above 0.40?
1	counts aloud one-dollar bills or pennies ≤ \$9 or 9¢	X	74.6	21.4	2.1	1.8	yes	yes	0.366	low prelation
2	reads digital time at 15-minute intervals	X	81.1	11.4	5.4	2.1	yes	too easy	0.520	yes
3	adds 2 sets of items with sum ≤ 9 by counting	X	70.7	20.7	6.8	1.8	yes	yes	0.555	yes
4	selects two-digit number ≤ 99 named	X	91.8	5.0	1.1	2.1	yes	too easy	0.546	yes
5	selects appropriate unit of measure for situation described	X	71.4	21.4	5.0	2.1	yes	yes	0.449	yes
6	locates number ≤ 9 described in 5-6 item display with teacher assistance in locating the appropriate row		31.4	41.4	25.4	1.8	yes	yes	0.395	low prelation
7	measures item area by counting ≤ 19 units	X	43.6	41.4	13.2	1.8	yes	yes	0.494	yes
8	selects the symbol to complete a number sentence that represents a math problem with numbers ≤ 9	X	91.1	5.0	1.4	2.5	yes	too easy	0.564	yes
9	sorts 9 two-dimensional shapes based on their attributes	X	34.6	44.6	18.9	1.8	yes	yes	0.544	yes
1	subtracts 2 prices ≤ \$9 by counting one-dollar bills	X	62.9	26.4	9.3	1.4	yes	yes	0.545	yes
1	selects a picture showing halves, fourths, or eighths	X	84.3	10.4	4.3	1.1	yes	too easy	0.515	yes
1	selects next 3 terms to extend a pattern with numbers ≤ 19 - additive pattern (2s)	X	43.9	36.4	17.9	1.8	yes	yes	0.456	yes
1	selects the decimal that is equivalent to a fraction - denominator of 10	X	10.4	53.6	34.6	1.4	too hard	yes	0.318	low prelation
1	reads analog time at half-hour intervals	X	38.2	27.9	32.5	1.4	yes	yes	0.479	yes
1	measures length/width of item using a ruler with 1-inch markings	X	39.3	35.0	21.4	4.3	yes	yes	0.559	yes
1	multiplies by 2s with product ≤ 20 by	X	72.1	20.0	6.1	1.8	yes	yes	0.517	yes

APPENDIX C-3

	counting																	
1	selects bar graph that shows the data ≤ 9 displayed in a table	X	44.3	35.0	18.9	1.8	yes	yes	0.360	low correlation								
1	orders 4 consecutive numbers ≤ 9	X	46.4	37.5	13.9	2.1	yes	yes	0.621	yes								
1	selects the numerator in a fraction to represent the figure shown	X	68.6	23.9	5.7	1.8	yes	yes	0.455	yes								
2	rounds two-digit number ≤ 49 up to the nearest ten	X	45.0	38.6	14.3	2.1	yes	yes	0.474	yes								

sk #	skill assessed	align d?	C	S	N	O	More than % of students scored 5?	Less than % of students scored 5?	Correlation	Correlation above 1.0?
1	selects clock - all items differ in appearance	X	85.5	6.6	5.8	2.1	yes	too easy	0.668	yes
2	selects set with most/least - difference between target and closest choice is 12 units - sets are cut to size		53.4	21.6	22.8	2.3	yes	yes	0.606	yes
3	selects shape with biggest/smallest area	X	64.3	18.5	15.3	1.9	yes	yes	0.645	yes
4	matches items with same capacity		64.7	18.4	12.9	4.1	yes	yes	0.629	yes
5	selects picture of item that is a specified length/width ≤ 5 - picture affixed to a ruler without numbers	X	33.9	38.6	25.2	2.4	yes	yes	0.471	yes
6	selects coin - all items differ in appearance	X	77.1	11.0	8.4	3.5	yes	yes	0.663	yes
7	selects number ≤ 5 named	X	75.5	11.5	10.4	2.6	yes	yes	0.739	yes
8	selects object that completes an ABAB repeating pattern - both distracter choices are not objects in the pattern	X	59.6	23.5	14.1	2.8	yes	yes	0.673	yes
9	matches 2 sets of items with 1 item each - difference between target and closest choice is 12 units - sets are cut to size		55.5	21.4	20.3	2.8	yes	yes	0.645	yes
1	selects measurement tool that is appropriate for the situation described - distracters are not measurement tools	X	63.9	18.5	14.4	3.3	yes	yes	0.698	yes
1	sorts 1 object into 1 of 3 existing groups - all groups differ in appearance	X	81.0	9.0	6.5	3.5	yes	too easy	0.693	yes
1	selects the number of pieces into which an item is divided - denominator ≤ 5	X	54.6	23.8	18.6	3.0	yes	yes	0.705	yes
1	selects object with biggest/smallest area	X	70.7	16.3	8.7	4.3	yes	yes	0.674	yes
1	selects longest/shortest picture of item - difference between target and closest choice is 12 inches	X	59.2	18.1	19.3	3.4	yes	yes	0.691	yes

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1	matches pictures of items of same size		64.5	18.0	14.5	3.0	yes	yes	0.718	yes
1	selects largest/smallest value from graph without numbers - ordered display	X	52.1	25.8	18.9	3.2	yes	yes	0.677	yes
1	selects set with most/least - difference between target and closest choice is 12 units - sets are cut to size		59.9	23.9	12.9	3.4	yes	yes	0.546	yes
1	matches photographs of items of same length - difference between target and closest choice is 12 inches		69.8	12.8	14.2	3.2	yes	yes	0.719	yes
1	selects the number of fractional pieces remaining - numerator ≤ 5	X	61.3	21.3	14.0	3.4	yes	yes	0.710	yes
2	selects biggest/smallest object		70.9	16.6	9.2	3.3	yes	yes	0.688	yes

sk #	skill assessed	aligned?	C	S	N	O	More than 0% of students scored 5?	Less than 0% of students scored 5?	Correlation	Correlation above 0?
1	counts aloud ≤ 5 items in unordered array		88.9	7.9	1.6	1.7	yes	too easy	0.584	yes
2	matches numeral to quantity ≤ 5 - the target and 1 set are within +/- 5		86.7	9.9	1.9	1.6	yes	too easy	0.674	yes
3	locates number ≤ 5 described in a one-variable display with 4 entries with teacher assistance in locating the appropriate row		80.7	13.	4.8	1.3	yes	too easy	0.632	yes
4	selects measurement tool that is appropriate for the situation described - distracters are measurement tools	X	84.5	11.	2.3	1.4	yes	too easy	0.506	yes
5	selects two-digit number ≤ 19 named	X	91.4	6.3	0.9	1.4	yes	too easy	0.636	yes
6	selects longest/shortest item		91.5	5.7	1.6	1.3	yes	too easy	0.678	yes
7	determines the number of pieces into which an item is divided - denominator ≤ 9	X	64.6	25.	8.1	1.4	yes	yes	0.585	yes
8	matches digital time at 30-minute intervals	X	84.5	13.	1.2	1.3	yes	too easy	0.642	yes
9	measures length/width of item affixed to a ruler with 1-inch markings ≤ 5	X	73.3	16.	8.7	1.5	yes	yes	0.621	yes
1	counts aloud one-dollar bills or pennies $\leq \$5$ or 5¢	X	87.1	9.9	1.7	1.4	yes	too easy	0.623	yes
1	selects pictograph that shows the data ≤ 5 displayed in a table	X	59.4	30.	8.6	1.5	yes	yes	0.532	yes
1	measures item area by counting ≤ 5 units	X	89.3	7.0	1.8	1.9	yes	too easy	0.623	yes
1	sorts 3 items based on their attributes - preexisting groups of shapes	X	84.9	11.	0.8	2.4	yes	too easy	0.659	yes
1	matches numeral to quantity ≤ 5 - the target and 1 set are within +/- 5		93.1	4.6	0.6	1.7	yes	too easy	0.729	yes
1	rounds number between 11 and 19 to the nearest ten in situation described	X	51.3	37.	8.8	2.3	yes	yes	0.459	yes

APPENDIX C-3

1	selects shape that is missing in an ABCABC pattern - distracters include all choices in the pattern	X	76.6	17.	4.4	1.8	Yes	Yes	0.653	Yes
1	determines the number of fractional pieces remaining - numerator ≤ 9	X	73.5	17.	6.8	2.0	Yes	Yes	0.603	Yes
1	counts aloud ≤ 5 items in unordered array		87.7	8.2	1.0	3.0	Yes	too easy	0.578	Yes
1	measures length/width of item affixed to a ruler with 1-inch markings ≤ 5	X	83.8	10.	3.4	2.2	Yes	too easy	0.661	Yes
2	locates number ≤ 5 described in a one-variable display with 4 entries with teacher assistance in locating the appropriate row		88.2	7.2	2.5	2.0	Yes	too easy	0.737	Yes

Item #	Skill assessed	align d?	C	S	N	O	More than % of students scored 5?	Less than % of students scored 5?	Correlati n	Correlati n above 10?
1	counts aloud one-dollar bills or pennies ≤ \$9 or 9¢	X	80.9	14.0	2.4	2.7	yes	too easy	0.565	yes
2	reads digital time at 15-minute intervals	X	84.0	10.2	2.7	3.1	yes	too easy	0.569	yes
3	adds 2 sets of items with sum ≤ 9 by counting	X	70.2	20.6	6.3	2.9	yes	yes	0.612	yes
4	selects two-digit number ≤ 99 named	X	93.5	2.9	0.5	3.1	yes	too easy	0.694	yes
5	selects appropriate unit of measure for situation described	X	79.9	13.1	4.1	2.9	yes	yes	0.606	yes
6	locates number ≤ 9 described in 5-6 item display with teacher assistance in locating the appropriate row		30.0	45.5	21.8	2.7	yes	yes	0.527	yes
7	measures item area by counting ≤ 19 units	X	49.9	34.6	12.6	2.9	yes	yes	0.577	yes
8	selects the symbol to complete a number sentence that represents a math problem with numbers ≤ 9	X	89.1	5.8	2.2	2.9	yes	too easy	0.679	yes
9	sorts 9 two-dimensional shapes based on their attributes	X	36.6	45.5	14.8	3.1	yes	yes	0.626	yes
1	subtracts 2 prices ≤ \$9 by counting one-dollar bills	X	63.4	26.4	7.0	3.1	yes	yes	0.645	yes
1	selects a picture showing halves, fourths, or eighths	X	83.5	9.9	2.7	3.9	yes	too easy	0.659	yes
1	selects next 3 terms to extend a pattern with numbers ≤ 19 - additive pattern (2s)	X	43.3	35.4	17.2	4.1	yes	yes	0.548	yes
1	selects the decimal that is equivalent to a fraction - denominator of 10	X	15.5	50.4	31.0	3.1	too hard	yes	0.517	yes
1	reads analog time at half-hour intervals	X	40.7	27.8	27.8	3.6	yes	yes	0.505	yes
1	measures length/width of item using a ruler with 1-inch markings	X	42.6	38.5	13.8	5.1	yes	yes	0.535	yes

APPENDIX C-3

1	multiplies by 2s with product ≤ 20 by counting	X	75.8	16.9	4.1	3.1	yes	yes	0.655	yes
1	selects bar graph that shows the data ≤ 9 displayed in a table	X	45.0	33.7	18.4	2.9	yes	yes	0.533	yes
1	orders 4 consecutive numbers ≤ 9	X	51.1	34.4	10.9	3.6	yes	yes	0.640	yes
1	selects the numerator in a fraction to represent the figure shown	X	66.8	26.4	3.1	3.6	yes	yes	0.586	yes
2	rounds two-digit number ≤ 49 up to the nearest ten	X	52.8	32.4	10.7	4.1	yes	yes	0.586	yes

APPENDIX C-3

5A MATH (n=964)

Item #	Skill assessed	aligne ?	C	S	N	O	More than 5% of students scored 5?	Less than 5% of students scored 5?	Correlati n	Correlati n above 10?
1	selects one-dollar bill - all items differ in appearance		78.9	10.2	9.2	1.7	Yes	Yes	0.659	Yes
2	selects biggest/smallest shape		64.3	23.5	10.4	1.8	Yes	Yes	0.586	Yes
3	selects set with most/least - difference between target and closest choice is 9 units - sets are cut to size		58.0	24.0	16.1	2.0	Yes	Yes	0.611	Yes
4	matches photographs of items of same length difference between target and closest choice is 9 inches		67.8	16.5	13.5	2.2	Yes	Yes	0.682	Yes
5	selects highest/lowest price ≤ \$9 of an item - comparison in ones place	X	42.8	35.3	19.5	2.4	Yes	Yes	0.608	Yes
6	selects item that holds the most/least		46.1	37.1	13.5	3.3	Yes	Yes	0.530	Yes
7	adds 2 numbers ≤ 9 by counting	X	46.3	32.0	19.1	2.7	Yes	Yes	0.586	Yes
8	matches pictures of items of same size		64.5	18.0	15.0	2.4	Yes	Yes	0.689	Yes
9	selects picture that shows a set of ≤ 9 items divided into 2 equal groups	X	43.8	32.6	21.0	2.7	Yes	Yes	0.621	Yes
1	selects object that completes an ABAB repeating pattern - one distracter choice is in the pattern and one distracter choice is not in the pattern	X	50.9	30.6	15.9	2.6	Yes	Yes	0.678	Yes
1	selects largest/smallest value ≤ 9 from pictograph	X	54.5	27.5	15.5	2.6	Yes	Yes	0.619	Yes
1	multiplies by 2s by counting product ≤ 9	X	42.3	35.6	19.6	2.5	Yes	Yes	0.615	Yes
1	matches 2 sets of items with 1-2 items each - difference between target and closest choice is 9		69.7	15.6	12.0	2.7	Yes	Yes	0.684	Yes

APPENDIX C-3

	units - sets are cut to size																	
1	locates number ≤ 9 described in a one-variable display with 3 entries with teacher assistance in locating the appropriate row	X	47.5	19.8	30.1	2.6	yes	yes	0.692	yes								
1	selects clock - target and 1 other item are similar in appearance		81.5	9.6	4.7	4.1	yes	too easy	0.609	yes								
5	subtracts 2 numbers ≤ 9 by counting	X	48.7	27.7	20.7	2.9	yes	yes	0.686	yes								
1	selects the group of three-dimensional objects an object belongs with based on its physical properties	X	56.0	23.5	16.7	3.7	yes	yes	0.624	yes								
1	selects longest/shortest picture of item - difference between target and closest choice is 9 inches		60.8	24.8	11.7	2.7	yes	yes	0.599	yes								
1	matches items with same capacity		73.7	13.6	10.0	2.8	yes	yes	0.648	yes								
2	selects the pictorial representation of the equation that matches a word problem - addition with sum ≤ 9	X	47.3	28.4	21.7	2.6	yes	yes	0.603	yes								

Item #	Skill assessed	align	C	S	N	O	More than 5% of students scored 5?	Less than 5% of students scored 5?	Correlation	Correlation above 0.5?
1	selects coin named - all items are coins		80.9	16.0	2.0	1.1	yes	too easy	0.528	yes
2	selects longest/shortest flexible item		89.8	6.4	1.9	2.0	yes	too easy	0.587	yes
3	measures item area by counting ≤ 9 units		75.5	18.9	4.4	1.1	yes	yes	0.495	yes
4	selects highest/lowest price of an item - comparison to tenths place	X	74.0	18.3	6.4	1.3	yes	yes	0.614	yes
5	reads digital time at 1-hour intervals		77.6	12.1	8.8	1.5	yes	yes	0.571	yes
6	adds 2 numbers named and shown with pictures with sum ≤ 19	X	72.3	18.9	7.6	1.1	yes	yes	0.636	yes
7	measures length/width of item affixed to a ruler with 1-inch markings ≤ 9		77.1	13.5	8.2	1.2	yes	yes	0.681	yes
8	locates number ≤ 9 described in a one-variable display with 5 entries with teacher assistance in locating the appropriate row	X	86.1	9.6	3.2	1.1	yes	too easy	0.673	yes
9	multiplies numbers by 2s or 5s with product < 19	X	52.2	30.2	16.2	1.4	yes	yes	0.633	yes
1	selects the group a two-dimensional figure belongs to based on its physical properties	X	90.1	7.4	1.2	1.2	yes	too easy	0.551	yes
1	orders 3 consecutive numbers ≤ 9		61.1	28.5	9.1	1.3	yes	yes	0.671	yes
1	subtracts 2 numbers ≤ 19 named and shown with pictures	X	30.4	31.5	36.7	1.4	yes	yes	0.528	yes
1	identifies information about a single data point ≤ 9 from a bar graph	X	81.5	14.0	3.0	1.4	yes	too easy	0.597	yes
1	counts aloud one-dollar bills or pennies $\leq \$9$ or 9¢		84.8	9.7	2.0	3.5	yes	too easy	0.465	yes
1	selects the equation that matches the word problem with picture support - addition with sum ≤ 19	X	78.9	15.8	3.7	1.5	yes	yes	0.592	yes
1	divides a set of ≤ 9 items into 2 equal groups	X	66.7	20.7	9.4	3.2	yes	yes	0.633	yes

APPENDIX C-3

1	selects shape that is missing in an ABBABB pattern - distracters include all choices in the pattern	X	82.2	12.5	3.5	1.8	yes	too easy	0.613	yes									
1	selects equivalent measurement ≤ 19 using a conversion table	X	38.8	37.8	21.6	1.8	yes	yes	0.504	yes									
1	adds 3 numbers named and shown with pictures with sum ≤ 19	X	68.6	19.4	10.5	1.4	yes	yes	0.624	yes									
2	orders 3 sets of ≤ 9 items		52.1	34.9	11.5	1.5	yes	yes	0.596	yes									

Item #	skill assessed	aligne ?	C	S	N	O	More than 50% of students scored 5?	Less than 50% of students scored 5?	Correlati n	Correlati n above 10?
1	reads analog time at 15-minute intervals		63.9	20.9	13.2	2.0	Yes	Yes	0.536	Yes
2	selects penny, nickel, dime, or quarter based on value - all choices are coins		88.0	7.5	2.2	2.4	Yes	too easy	0.531	Yes
3	counts aloud < 19 items by 2s or 5s in ordered array		53.3	31.8	13.2	1.8	Yes	Yes	0.580	Yes
4	selects highest/lowest price of an item - comparison to hundredths place	X	80.1	15.2	2.8	2.0	Yes	too easy	0.561	Yes
5	adds three-digit numbers named and shown	X	66.9	22.1	9.3	1.8	Yes	Yes	0.609	Yes
6	locates number ≤ 19 described in 7-8 item display with teacher assistance in identifying the variables	X	46.9	38.9	12.6	1.6	Yes	Yes	0.582	Yes
7	selects negative integer stated	X	77.3	17.0	3.7	2.0	Yes	Yes	0.620	Yes
8	selects the equation that matches the word problem - addition with sum ≤ 99	X	50.1	36.3	12.2	1.4	Yes	Yes	0.470	Yes
9	divides a set of < 19 items into equal groups	X	49.7	38.3	9.7	2.4	Yes	Yes	0.525	Yes
1	orders 4 nonconsecutive numbers ≤ 19		66.3	26.6	5.9	1.2	Yes	Yes	0.602	Yes
1	multiplies single-digit numbers named and shown	X	12.0	49.3	37.5	1.2	too hard	Yes	0.553	Yes
1	measures length/width of item using a ruler with 1/2-inch markings		24.9	33.9	39.1	2.2	Yes	Yes	0.541	Yes
1	identifies information from a bar graph by comparing across data ≤ 19	X	88.6	7.5	2.4	1.6	Yes	too easy	0.551	Yes
1	selects number ≤ 99 that extends a pattern - additive pattern (5s)	X	83.6	13.2	1.8	1.4	Yes	too easy	0.478	Yes
1	selects two-dimensional figure with the stated property	X	73.0	22.3	3.0	1.8	Yes	Yes	0.464	Yes
1	subtracts three-digit numbers named and shown	X	54.2	28.2	16.0	1.6	Yes	Yes	0.603	Yes

APPENDIX C-3

1	selects equivalent measurement ≤ 99 using a conversion table	X	67.9	23.5	7.1	1.6	yes	yes	0.598	yes
1	selects item divided evenly and in the number of pieces specified - the target and 1 other item are divided into equal parts		76.9	17.4	3.9	1.8	yes	yes	0.506	yes
1	adds three-digit numbers named and shown	X	76.9	13.8	7.5	1.8	yes	yes	0.598	yes
2	selects mode in a table with 10 values ≤ 99 - mode is +/- 10 of all other numbers	X	31.0	50.9	16.6	1.6	yes	yes	0.408	yes

sk #	skill assessed	aligne ?	C	S	N	O	More than 0% of students scored 5?	Less than 0% of students scored 5?	Correlati n	Correlati n above 10?
1	selects one-dollar bill - all items differ in appearance		78.8	9.9	9.6	1.7	yes	yes	0.654	yes
2	selects biggest/smallest shape		61.9	23.8	12.2	2.1	yes	yes	0.583	yes
3	selects set with most/least - difference between target and closest choice is 9 units - sets are cut to size		55.0	25.5	17.5	2.0	yes	yes	0.602	yes
4	matches photographs of items of same length difference between target and closest choice is 9 inches		65.1	17.3	15.3	2.4	yes	yes	0.698	yes
5	selects highest/lowest price \leq \$9 of an item - comparison in ones place	X	43.5	32.6	21.5	2.5	yes	yes	0.557	yes
6	selects item that holds the most/least		42.3	39.9	14.0	3.8	yes	yes	0.499	yes
7	adds 2 numbers \leq 9 by counting	X	45.2	29.8	22.5	2.5	yes	yes	0.649	yes
8	matches pictures of items of same size		63.5	18.6	15.3	2.6	yes	yes	0.704	yes
9	selects picture that shows a set of \leq 9 items divided into 2 equal groups	X	38.7	34.7	23.7	2.9	yes	yes	0.621	yes
1	selects object that completes an ABAB repeating pattern - one distracter choice is in the pattern and one distracter choice is not in the pattern	X	48.0	30.9	18.5	2.6	yes	yes	0.672	yes
1	selects largest/smallest value \leq 9 from pictograph	X	53.0	26.2	17.8	3.0	yes	yes	0.644	yes
1	multiplies by 2s by counting product \leq 9	X	39.3	36.8	20.7	3.3	yes	yes	0.665	yes
1	matches 2 sets of items with 1-2 items each - difference between target and closest choice is 9 units - sets are cut to size		65.6	16.2	15.4	2.7	yes	yes	0.704	yes
1	locates number \leq 9 described in a one-variable display with 3 entries with teacher	X	49.2	19.5	28.4	2.9	yes	yes	0.715	yes

APPENDIX C-3

	assistance in locating the appropriate row																		
1	selects clock - target and 1 other item are similar in appearance		79.6	9.2	5.8	5.5	yes	yes	0.605	yes									
1	subtracts 2 numbers ≤ 9 by counting	X	44.4	27.9	24.6	3.1	yes	yes	0.715	yes									
1	selects the group of three-dimensional objects an object belongs with based on its physical properties	X	52.9	26.2	16.5	4.5	yes	yes	0.627	yes									
1	selects longest/shortest picture of item - difference between target and closest choice is 9 inches		60.3	23.7	13.0	3.0	yes	yes	0.596	yes									
1	matches items with same capacity		70.3	15.2	11.3	3.3	yes	yes	0.648	yes									
2	selects the pictorial representation of the equation that matches a word problem - addition with sum ≤ 9	X	42.8	30.2	23.4	3.5	yes	yes	0.625	yes									

Item #	Skill assessed	aligne ?	C	S	N	O	More than 5% of students scored 5?	Less than 5% of students scored 5?	Correlati n	Correlati n above 10?
1	selects coin named - all items are coins		84.7	11.2	2.8	1.3	yes	too easy	0.581	yes
2	selects longest/shortest flexible item		90.6	6.2	1.1	2.1	yes	too easy	0.579	yes
3	measures item area by counting ≤ 9 units		77.9	16.3	4.5	1.3	yes	yes	0.567	yes
4	selects highest/lowest price of an item - comparison to tenths place	X	77.1	16.2	5.3	1.5	yes	yes	0.636	yes
5	reads digital time at 1-hour intervals		81.8	10.4	6.0	1.8	yes	too easy	0.624	yes
6	adds 2 numbers named and shown with pictures with sum ≤ 19	X	73.9	18.0	6.8	1.3	yes	yes	0.671	yes
7	measures length/width of item affixed to a ruler with 1-inch markings ≤ 9		79.2	12.6	6.9	1.3	yes	yes	0.721	yes
8	locates number ≤ 9 described in a one-variable display with 5 entries with teacher assistance in locating the appropriate row	X	87.3	8.0	3.3	1.4	yes	too easy	0.668	yes
9	multiplies numbers by 2s or 5s with product < 19	X	57.4	29.0	12.3	1.3	yes	yes	0.686	yes
1	selects the group a two-dimensional figure belongs to based on its physical properties	X	90.2	7.0	1.5	1.3	yes	too easy	0.557	yes
1	orders 3 consecutive numbers ≤ 9		64.8	25.5	8.1	1.6	yes	yes	0.677	yes
1	subtracts 2 numbers ≤ 19 named and shown with pictures	X	34.9	31.3	32.2	1.6	yes	yes	0.564	yes
1	identifies information about a single data point ≤ 9 from a bar graph	X	82.0	13.6	2.9	1.5	yes	too easy	0.595	yes
1	counts aloud one-dollar bills or pennies $\leq \$9$ or 9¢		83.0	10.3	2.0	4.8	yes	too easy	0.510	yes
1	selects the equation that matches the word problem with picture support - addition with sum ≤ 19	X	81.1	13.8	3.4	1.8	yes	too easy	0.636	yes
1	divides a set of ≤ 9 items into 2 equal groups	X	71.4	18.1	7.9	2.6	yes	yes	0.601	yes

sk #	skill assessed	aligned	C	S	N	O	More than % of students scored 5?	Less than % of students scored 5?	Correlati n	Correlati n above 10?
1	reads analog time at 15-minute intervals		71.0	15.2	12.6	1.2	yes	yes	0.478	yes
2	selects penny, nickel, dime, or quarter based on value - all choices are coins		90.8	5.3	1.8	2.2	yes	too easy	0.450	yes
3	counts aloud < 19 items by 2s or 5s in ordered array		57.3	29.5	11.9	1.3	yes	yes	0.504	yes
4	selects highest/lowest price of an item - comparison to hundredths place	X	83.1	12.8	2.9	1.2	yes	too easy	0.533	yes
5	adds three-digit numbers named and shown	X	75.8	15.0	7.5	1.8	yes	yes	0.542	yes
6	locates number ≤ 19 described in 7-8 item display with teacher assistance in identifying the variables	X	52.8	32.6	13.3	1.3	yes	yes	0.571	yes
7	selects negative integer stated	X	85.9	10.7	1.8	1.6	yes	too easy	0.524	yes
8	selects the equation that matches the word problem - addition with sum ≤ 99	X	56.3	31.8	10.6	1.3	yes	yes	0.508	yes
9	divides a set of < 19 items into equal groups	X	53.5	35.6	8.7	2.2	yes	yes	0.533	yes
1	orders 4 nonconsecutive numbers ≤ 19		72.4	19.6	5.9	2.1	yes	yes	0.621	yes
1	multiplies single-digit numbers named and shown	X	12.9	49.0	36.5	1.6	too hard	yes	0.498	yes
1	measures length/width of item using a ruler with 1/2-inch markings		35.6	28.9	32.6	2.9	yes	yes	0.522	yes
1	identifies information from a bar graph by comparing across data ≤ 19	X	88.7	8.1	1.6	1.6	yes	too easy	0.587	yes
1	selects number ≤ 99 that extends a pattern - additive pattern (5s)	X	87.7	8.1	2.3	1.9	yes	too easy	0.548	yes
1	selects two-dimensional figure with the stated property	X	72.9	22.3	3.1	1.8	yes	yes	0.496	yes
1	subtracts three-digit numbers named and shown	X	58.8	24.9	14.5	1.8	yes	yes	0.590	yes

APPENDIX C-3

1	selects equivalent measurement ≤ 99 using a conversion table	X	74.9	17.9	5.4	1.8	Yes	Yes	0.604	Yes
1	selects item divided evenly and in the number of pieces specified - the target and 1 other item are divided into equal parts		80.6	13.9	3.5	1.9	Yes	too easy	0.517	Yes
1	adds three-digit numbers named and shown	X	82.1	10.1	5.6	2.2	Yes	too easy	0.572	Yes
2	selects mode in a table with 10 values ≤ 99 - mode is +/- 10 of all other numbers	X	35.0	45.7	17.2	2.1	Yes	Yes	0.443	Yes

sk #	skill assessed	aligned	C	S	N	O	More than % of students scored 5?	Less than % of students scored 5?	Correlati n	Correlati n above 1.0?
1	selects one- or five-dollar bill - target and 1 other item are similar in appearance		76.3	12.8	8.9	2.0	yes	yes	0.641	yes
2	selects item that holds the most/least		54.0	28.4	14.	3.1	yes	yes	0.572	yes
3	selects biggest/smallest shape		60.3	26.3	11.	2.0	yes	yes	0.664	yes
4	matches 2 sets of items with 1-2 items each - difference between target and closest choice is 6 units - sets are cut to size		67.2	18.7	11.	2.8	yes	yes	0.635	yes
5	measures item area by counting ≤ 19 units	X	37.2	33.6	26.	2.7	yes	yes	0.602	yes
6	selects clock by function - all items are similar in appearance		71.2	16.1	7.8	4.8	yes	yes	0.607	yes
7	locates number ≤ 19 described in a 5-6 item display with teacher assistance in reading the table and locating the appropriate row	X	24.7	26.2	46.	2.8	yes	yes	0.512	yes
8	sorts 1 object into 1 of 3 existing groups - all groups are similar in appearance		77.3	8.7	9.3	4.7	yes	yes	0.636	yes
9	adds 2 numbers by counting ≤ 19	X	38.2	36.4	22.	2.7	yes	yes	0.595	yes
1	selects set with 1 - difference between target and closest choice is 6 units - sets are cut to size		69.5	16.0	11.	3.1	yes	yes	0.646	yes
1	selects object that continues an ABCABC repeating pattern - both distracter choices are not objects in the pattern		49.2	32.7	15.	3.0	yes	yes	0.634	yes
1	selects largest/smallest fraction < 1 - like denominators	X	51.2	28.6	17.	2.6	yes	yes	0.590	yes
1	selects full/empty item		53.2	29.8	11.	5.1	yes	yes	0.617	yes

APPENDIX C-3

1	subtracts 2 numbers by counting ≤ 19	X	29.0	40.1	27.	3.5	yes	yes	0.563	yes
1	selects longest/shortest picture of item - difference between target and closest choice is 6 inches		58.6	25.3	12.	3.2	yes	yes	0.612	yes
1	determines the difference between two positive numbers on a number line	X	19.4	40.1	36.	3.9	too hard	yes	0.521	yes
1	matches identical digital times from 1:00-2:00 - other choices are pictures		71.6	16.0	9.0	3.4	yes	yes	0.707	yes
1	locates number ≤ 19 described in a 5-6 item display with teacher assistance in reading the table and locating the appropriate row	X	32.5	26.6	37.	3.4	yes	yes	0.595	yes
1	selects set with most/least - difference between target and closest choice is 6 units - sets are cut to size		45.7	33.3	16.	4.0	yes	yes	0.622	yes
2	measures item area by counting ≤ 19 units	X	40.5	31.9	24.	3.5	yes	yes	0.631	yes

sk #	skill assessed	aligne ?	C	S	N	O	More than 0% of students scored 5?	Less than 0% of students scored 5?	Correlati n	Correlati n above 10?
1	selects 1, 5, 10, or 25 cents based on value - all choices are coins		92.5	4.7	1.6	1.2	yes	too easy	0.480	yes
2	reads digital time at 5-minute intervals		83.7	8.4	6.5	1.4	yes	too easy	0.561	yes
3	locates number ≤ 19 described in a 7-8 item display with teacher assistance in locating the appropriate row	X	31.6	37.	30.0	1.0	yes	yes	0.553	yes
4	adds 2 prices named and shown with sum ≤ \$9.99	X	52.1	23.	23.1	1.4	yes	yes	0.702	yes
5	measures length/width of item affixed to a ruler with 1/2-inch markings		24.6	30.	43.6	1.1	yes	yes	0.612	yes
6	selects figure that shows the rotation of a figure presented	X	55.5	32.	9.7	1.9	yes	yes	0.481	yes
7	selects largest/smallest value from graph of unordered numbers ≤ 19		79.7	14.	4.6	1.1	yes	yes	0.526	yes
8	determines the difference between two negative numbers on a number line	X	21.3	39.	38.0	1.2	yes	yes	0.559	yes
9	selects number ≤ 19 missing in an odd/even number pattern - distracters include 2 adjacent numbers		41.8	38.	19.2	1.0	yes	yes	0.544	yes
1	subtracts 2 prices ≤ \$9.99 named and shown	X	29.2	36.	32.4	1.7	yes	yes	0.687	yes
1	orders 3 consecutive numbers ≤ 19		70.6	20.	7.3	1.2	yes	yes	0.628	yes
1	selects 1, 5, 10, or 25 cents based on value - all choices are coins		79.7	13.	3.7	3.1	yes	yes	0.488	yes
1	calculates area using the formula and equation	X	68.0	16.	14.2	1.2	yes	yes	0.657	yes
1	locates number ≤ 19 described in a 7-8 item display with teacher assistance in locating the	X	62.2	20.	16.3	1.2	yes	yes	0.600	yes

APPENDIX C-3

	appropriate row																		
1	determines the value for y in a linear model given the value for x and a graph	X	35.2	29.	33.5	1.6	yes	yes	0.669	yes									
1	measures length/width of item affixed to a ruler with 1/2-inch markings		45.5	18.	34.8	1.7	yes	yes	0.695	yes									
1	orders 3 pictures of fractions < 1 - like denominators	X	69.7	21.	7.5	1.8	yes	yes	0.604	yes									
1	selects largest/smallest value from graph of unordered numbers ≤ 19		61.5	29.	6.9	1.7	yes	yes	0.536	yes									
1	adds 2 prices named and shown with sum ≤ \$9.99	X	56.6	21.	19.2	2.5	yes	yes	0.650	yes									
2	selects number ≤ 19 missing in an odd/even number pattern - distracters include 2 adjacent numbers		53.7	27.	16.7	2.1	yes	yes	0.564	yes									

sk #	skill assessed	aligne ?	C	S	N	O	More than 0% of students scored 5?	Less than 0% of students scored 5?	Correlati n	Correlati n above 10?
1	reads analog time at 5-minute intervals		46.7	30.7	21.2	1.4	yes	yes	0.555	yes
2	selects most/least likely item given the characteristics of a population ≤ 99 - extreme proportions (difference is 5x)	X	66.3	22.1	10.2	1.4	yes	yes	0.488	yes
3	locates number ≤ 99 described in 9-10 item, 3-variable display, with teacher assistance in identifying the variables	X	52.2	33.1	13.4	1.3	yes	yes	0.447	yes
4	adds 2 prices in a word problem with sum ≤ \$99.99	X	72.2	16.4	10.0	1.4	yes	yes	0.567	yes
5	measures length/width of item to the 1/4-inch mark		10.6	25.1	61.6	2.7	too hard	yes	0.537	yes
6	orders 4 nonconsecutive numbers ≤ 99		75.2	15.2	7.9	1.7	yes	yes	0.507	yes
7	selects the equation with a missing value that matches a word problem with numbers ≤ 99 - subtraction	X	69.7	20.7	8.2	1.4	yes	yes	0.459	yes
8	multiplies a two-digit number by a one-digit number in a word problem	X	20.5	42.6	35.7	1.3	yes	yes	0.673	yes
9	orders 3 fractions < 1 - like numerators and unlike denominators	X	15.4	48.1	35.1	1.4	too hard	yes	0.571	yes
1	selects number ≤ 99 that extends a pattern - additive pattern		52.5	29.8	16.4	1.4	yes	yes	0.565	yes
1	selects figure that shows the reflection of a figure presented	X	70.4	19.6	8.6	1.4	yes	yes	0.387	low correlation
1	determines the difference between a positive number and a negative number on a number line	X	33.7	37.4	27.5	1.4	yes	yes	0.531	yes
1	subtracts 2 prices ≤ \$99.99 in a word problem	X	62.1	22.6	13.3	2.1	yes	yes	0.623	yes
1	determines duration given 2 times - times are		50.4	23.8	24.0	1.8	yes	yes	0.625	yes

APPENDIX C-3

	on the hour																	
1	divides two numbers ≤ 99 in a word problem	X	42.9	31.9	23.4	1.8	yes	yes	0.663	yes								
1	calculates area using the formula provided	X	39.6	37.7	20.9	1.8	yes	yes	0.611	yes								
1	determines price \leq \$99 of an item on sale - 50% off	X	15.8	28.3	54.0	1.8	too hard	yes	0.608	yes								
1	selects equation required to solve an addition word problem with numbers ≤ 99		82.4	12.3	3.4	2.0	yes	too easy	0.490	yes								
1	determines the value for y in a linear model given the value for x and a graph	X	62.3	22.0	13.4	2.3	yes	yes	0.629	yes								
2	adds 2 fractions < 1 - like denominators	X	40.5	34.0	23.3	2.3	yes	yes	0.511	yes								

sk #	skill assessed	aligne ?	C	S	N	O	More than 0% of students scored 5?	Less than 0% of students scored 5?	Correlati n	Correlati n above 10?
1	selects one- or five-dollar bill - target and 1 other item are similar in appearance		74.	13.0	11.8	1.0	yes	yes	0.642	yes
2	selects item that holds the most/least		45.	31.8	20.8	1.8	yes	yes	0.543	yes
3	selects biggest/smallest shape		55.	27.0	16.4	1.0	yes	yes	0.639	yes
4	matches 2 sets of items with 1-2 items each - difference between target and closest choice is 6 units - sets are cut to size		64.	17.1	16.7	1.8	yes	yes	0.628	yes
5	measures item area by counting ≤ 19 units	X	36.	35.4	26.5	1.5	yes	yes	0.564	yes
6	selects clock by function - all items are similar in appearance		68.	16.4	9.7	5.7	yes	yes	0.634	yes
7	locates number ≤ 19 described in a 5-6 item display with teacher assistance in reading the table and locating the appropriate row	X	19.	29.5	48.7	2.6	too hard	yes	0.520	yes
8	sorts 1 object into 1 of 3 existing groups - all groups are similar in appearance		74.	10.7	10.6	4.5	yes	yes	0.645	yes
9	adds 2 numbers by counting ≤ 19	X	36.	33.3	28.1	2.1	yes	yes	0.609	yes
1	selects set with 1 - difference between target and closest choice is 6 units - sets are cut to size		66.	16.2	13.9	3.2	yes	yes	0.653	yes
1	selects object that continues an ABCABC repeating pattern - both distracter choices are not objects in the pattern		44.	31.5	21.4	2.2	yes	yes	0.625	yes
1	selects largest/smallest fraction < 1 - like denominators	X	44.	31.1	22.0	2.8	yes	yes	0.556	yes
1	selects full/empty item		47.	32.6	15.3	4.6	yes	yes	0.592	yes

APPENDIX C-3

1	subtracts 2 numbers by counting ≤ 19	X	29.	38.4	29.2	2.4	yes	yes	0.507	yes
1	selects longest/shortest picture of item - difference between target and closest choice is 6 inches		55.	26.3	14.9	3.2	yes	yes	0.569	yes
1	determines the difference between two positive numbers on a number line	X	17.	42.5	37.2	2.8	too hard	yes	0.413	yes
1	matches identical digital times from 1:00-2:00 - other choices are pictures		67.	16.9	12.4	3.1	yes	yes	0.664	yes
1	locates number ≤ 19 described in a 5-6 item display with teacher assistance in reading the table and locating the appropriate row	X	28.	27.9	40.1	3.2	yes	yes	0.612	yes
1	selects set with most/least - difference between target and closest choice is 6 units - sets are cut to size		40.	35.9	19.9	3.5	yes	yes	0.560	yes
2	measures item area by counting ≤ 19 units	X	38.	31.1	26.7	3.6	yes	yes	0.655	yes

sk #	skill assessed	aligne ?	C	S	N	O	More than 0% of students scored 5?	Less than 0% of students scored 5?	Correlati n	Correlati n above 10?
1	selects 1, 5, 10, or 25 cents based on value - all choices are coins		92.6	5.1	1.2	1.1	yes	too easy	0.496	yes
2	reads digital time at 5-minute intervals		83.0	8.3	7.2	1.5	yes	too easy	0.548	yes
3	locates number ≤ 19 described in a 7-8 item display with teacher assistance in locating the appropriate row	X	32.7	37.9	28.5	0.9	yes	yes	0.484	yes
4	adds 2 prices named and shown with sum ≤ \$9.99	X	54.9	23.1	20.6	1.3	yes	yes	0.685	yes
5	measures length/width of item affixed to a ruler with 1/2-inch markings		27.4	28.9	42.7	1.0	yes	yes	0.626	yes
6	selects figure that shows the rotation of a figure presented	X	55.1	35.1	8.4	1.5	yes	yes	0.535	yes
7	selects largest/smallest value from graph of unordered numbers ≤ 19		75.8	19.2	3.9	1.1	yes	yes	0.534	yes
8	determines the difference between two negative numbers on a number line	X	21.1	40.8	37.0	1.1	yes	yes	0.560	yes
9	selects number ≤ 19 missing in an odd/even number pattern - distracters include 2 adjacent numbers		45.2	36.8	17.0	1.1	yes	yes	0.522	yes
1	subtracts 2 prices ≤ \$9.99 named and shown	X	36.2	33.3	28.9	1.6	yes	yes	0.676	yes
1	orders 3 consecutive numbers ≤ 19		67.0	24.4	7.0	1.6	yes	yes	0.654	yes
1	selects 1, 5, 10, or 25 cents based on value - all choices are coins		81.3	12.3	4.0	2.3	yes	too easy	0.536	yes
1	calculates area using the formula and equation	X	69.4	17.4	11.8	1.4	yes	yes	0.640	yes
1	locates number ≤ 19 described in a 7-8 item display with teacher assistance in locating the	X	64.1	21.3	13.3	1.2	yes	yes	0.634	yes

APPENDIX C-3

	appropriate row																	
1	determines the value for y in a linear model given the value for x and a graph	X	35.6	32.5	30.7	1.2	yes	yes	0.681	yes								
1	measures length/width of item affixed to a ruler with 1/2-inch markings		45.8	19.9	32.7	1.6	yes	yes	0.698	yes								
1	orders 3 pictures of fractions < 1 - like denominators	X	67.7	23.7	7.0	1.6	yes	yes	0.615	yes								
1	selects largest/smallest value from graph of unordered numbers ≤ 19		64.4	27.9	6.3	1.4	yes	yes	0.560	yes								
1	adds 2 prices named and shown with sum ≤ \$9.99	X	57.2	22.2	18.7	1.9	yes	yes	0.654	yes								
2	selects number ≤ 19 missing in an odd/even number pattern - distracters include 2 adjacent numbers		55.6	28.5	14.3	1.6	yes	yes	0.567	yes								

sk #	skill assessed	aligne ?	C	S	N	O	More than % of students scored 5?	Less than % of students scored 5?	Correlati n	Correl n above 10?
1	reads analog time at 5-minute intervals		50.9	30.5	16.1	2.5	yes	yes	0.552	yes
2	selects most/least likely item given the characteristics of a population ≤ 99 - extreme proportions (difference is 5x)	X	67.5	22.8	7.0	2.7	yes	yes	0.558	yes
3	locates number ≤ 99 described in 9-10 item, 3-variable display, with teacher assistance in identifying the variables	X	55.5	31.0	10.7	2.7	yes	yes	0.523	yes
4	adds 2 prices in a word problem with sum \leq \$99.99	X	74.8	15.9	6.7	2.5	yes	yes	0.566	yes
5	measures length/width of item to the 1/4-inch mark		11.1	28.3	55.9	4.7	too hard	yes	0.533	yes
6	orders 4 nonconsecutive numbers ≤ 99		76.7	14.9	4.7	3.6	yes	yes	0.629	yes
7	selects the equation with a missing value that matches a word problem with numbers ≤ 99 - subtraction	X	68.2	21.3	7.3	3.1	yes	yes	0.548	yes
8	multiplies a two-digit number by a one-digit number in a word problem	X	23.9	45.3	27.3	3.5	yes	yes	0.647	yes
9	orders 3 fractions < 1 - like numerators and unlike denominators	X	17.2	46.2	32.9	3.7	too hard	yes	0.595	yes
1	selects number ≤ 99 that extends a pattern - additive pattern		51.9	31.3	13.1	3.7	yes	yes	0.662	yes
1	selects figure that shows the reflection of a figure presented	X	72.4	17.2	6.6	3.9	yes	yes	0.560	yes
1	determines the difference between a positive number and a negative number on a number line	X	39.1	35.6	21.2	4.1	yes	yes	0.629	yes
1	subtracts 2 prices \leq \$99.99 in a word problem	X	68.0	18.8	9.0	4.2	yes	yes	0.675	yes
1	determines duration given 2 times - times are on the hour		56.9	25.4	13.7	4.0	yes	yes	0.684	yes

APPENDIX C-3

1	divides two numbers ≤ 99 in a word problem	X	46.3	31.3	17.7	4.7	yes	yes	0.698	yes
1	calculates area using the formula provided	X	44.5	35.6	15.6	4.4	yes	yes	0.665	yes
1	determines price \leq \$99 of an item on sale - 50% off	X	19.2	30.6	45.8	4.4	too hard	yes	0.607	yes
1	selects equation required to solve an addition word problem with numbers ≤ 99		81.6	11.6	2.5	4.4	yes	too easy	0.637	yes
1	determines the value for y in a linear model given the value for x and a graph	X	67.7	19.4	8.7	4.1	yes	yes	0.656	yes
2	adds 2 fractions < 1 - like denominators	X	40.5	36.0	19.3	4.2	yes	yes	0.581	yes

sk #	skill assessed	aligne ?	C	S	N	O	More than 0% of students scored 5?	Less than 0% of students scored 5?	Correlati n	Correlati n above 10?
1	selects one- or five-dollar bill - all items are similar in appearance		81.3	7.6	8.6	2.5	yes	too easy	0.697	yes
2	selects item that holds the most/least		62.9	20.0	13.9	3.1	yes	yes	0.649	yes
3	matches 2 sets of items with 1-5 items each - difference between target and closest choice is 3 units - sets are on same-sized cards		68.3	16.5	12.7	2.5	yes	yes	0.674	yes
4	selects biggest/smallest shape		66.9	18.4	11.9	2.7	yes	yes	0.732	yes
5	selects set with most/least - difference between target and closest choice is 3 units - sets are on same-sized cards		50.5	28.9	17.3	3.4	yes	yes	0.645	yes
6	measures item area by counting ≤ 99 units	X	38.4	31.2	27.1	3.2	yes	yes	0.582	yes
7	selects longest/shortest picture of item - difference between target and closest choice is 3 inches		62.9	18.0	15.3	3.7	yes	yes	0.695	yes
8	selects an algebraic expression with pictures that matches a word problem ≤ 5	X	44.5	34.1	17.9	3.5	yes	yes	0.527	yes
9	sorts 3 objects into each of 3 existing groups - all groups differ in appearance		70.8	16.7	7.2	5.3	yes	yes	0.694	yes
1	selects an outlier in a data set displayed on a graph	X	36.7	25.5	34.5	3.4	yes	yes	0.666	yes
1	selects set with 1 - difference between target and closest choice is 3 units - sets are on same-sized cards		72.6	11.7	10.9	4.7	yes	yes	0.728	yes
1	selects most/least likely outcome given the characteristics of a population	X	42.3	29.7	22.3	5.7	yes	yes	0.582	yes
1	selects object that continues an ABCABC repeating pattern - all choices are objects in the pattern		46.0	28.9	21.4	3.7	yes	yes	0.648	yes

APPENDIX C-3

1	matches digital time 1:00-5:00 - other choices are single-digit whole numbers		78.6	9.1	8.3	4.0	yes	yes	0.715	yes
1	selects data set with highest/lowest mean	X	51.6	24.3	20.1	4.0	yes	yes	0.698	yes
1	selects half-filled item		48.9	28.7	15.5	6.8	yes	yes	0.640	yes
1	selects bar graph that shows the data ≤ 9 displayed in a table	X	33.7	32.8	29.5	4.0	yes	yes	0.516	yes
1	selects set with most/least - difference between target and closest choice is 3 units - sets are on same-sized cards		51.9	27.7	15.3	5.1	yes	yes	0.687	yes
1	measures item area by counting ≤ 99 units	X	41.4	26.0	28.5	4.1	yes	yes	0.631	yes
2	selects whole/part item		66.7	17.3	11.8	4.2	yes	yes	0.661	yes

sk #	skill assessed	aligne ?	C	S	N	O	More than % of students scored 5?	Less than % of students scored 5?	Correlati n	Correlati n above 10?
1	names the value of a coin		83.2	10.2	3.8	2.8	yes	too easy	0.590	yes
2	selects the outlier in a data set displayed on a graph	X	69.4	17.9	10.1	2.6	yes	yes	0.606	yes
3	matches identical analog and digital times at 15-minute intervals		39.1	42.0	16.3	2.6	yes	yes	0.613	yes
4	selects the linear equation ($x + a = y$) that matches a scenario - addition with numbers ≤ 99	X	61.1	27.1	8.8	3.1	yes	yes	0.548	yes
5	adds 2 numbers named and shown with sums $\leq \$99.99$		66.3	17.9	12.3	3.5	yes	yes	0.636	yes
6	locates number ≤ 99 described in a 9-10 item display without teacher assistance in locating the appropriate row		71.0	17.0	9.2	2.8	yes	yes	0.686	yes
7	determines time using a word problem with hours and a starting time - times are on the hour	X	52.3	25.0	19.5	3.2	yes	yes	0.715	yes
8	selects largest/smallest value from graph of unordered numbers ≤ 99		83.3	10.6	3.4	2.7	yes	too easy	0.682	yes
9	selects number ≤ 99 missing in an odd/even number pattern - distracters include 2 adjacent numbers		45.7	33.3	18.1	2.8	yes	yes	0.605	yes
1	selects most/least likely outcome given the characteristics of a population of different items ≤ 99 - difference between target and closest choice is at least $2x$	X	71.4	18.3	7.2	3.1	yes	yes	0.579	yes
1	orders 3 nonconsecutive numbers ≤ 99		71.7	19.3	5.7	3.3	yes	yes	0.687	yes
1	selects the line graph that matches a scenario describing a linear relationship between two variables ($y = mx$)	X	28.2	39.9	29.0	2.8	yes	yes	0.451	yes
1	multiplies 2 single-digit numbers		17.4	42.0	37.3	3.3	too hard	yes	0.592	yes

sk #	SKILL ASSESSED	aligne ?	C	S	N	O	More than % of students scored 5?	Less than % of students scored 5?	Correlati n	Correlati n above 10?
1	SELECTS MOST/LEAST LIKELY OUTCOME GIVEN THE CHARACTERISTICS OF A POPULATION OF DIFFERENT ITEMS \leq 500 - DIFFERENCE BETWEEN TARGET AND CLOSEST CHOICE IS \leq 50	X	59.3	24.3	13.3	3.0	yes	yes	0.538	yes
2	SELECTS THE LINE GRAPH THAT MATCHES A SCENARIO DESCRIBING A LINEAR RELATIONSHIP BETWEEN TWO VARIABLES ($Y = MX + B$)	X	47.8	25.0	24.3	2.8	yes	yes	0.427	yes
3	LOCATES NUMBER DESCRIBED IN 11-12 ITEM, 3-VARIABLE DISPLAY, WITH NO TEACHER ASSISTANCE IN IDENTIFYING THE VARIABLES		48.9	30.9	17.8	2.4	yes	yes	0.561	yes

APPENDIX C-3

4	MEASURES LENGTH/WIDTH OF ITEM USING A RULER WITH 1/8-INCH MARKINGS		7.8	20.9	65.7	5.7	too hard	yes	0.418	yes
5	DIVIDES 2 NUMBERS ≤ 500 IN A WORD PROBLEM		42.0	32.0	23.0	3.0	yes	yes	0.733	yes
6	SELECTS THE OUTLIER IN A DATA SET DISPLAYED ON A GRAPH	X	58.9	27.6	10.4	3.0	yes	yes	0.541	yes
7	DETERMINES TIME USING A WORD PROBLEM WITH HOURS AND A STARTING TIME - TIMES ARE ON THE HALF HOUR	X	62.8	20.0	13.5	3.7	yes	yes	0.667	yes
8	SELECTS DATA SET WITH HIGHEST/LOWEST MEAN	X	66.1	19.6	10.9	3.5	yes	yes	0.626	yes
9	DETERMINES THE MISSING VARIABLE GIVEN AN AREA/VOLUME FORMULA AND A	X	37.6	32.4	26.7	3.3	yes	yes	0.692	yes

	WORD PROBLEM																	
10	MULTIPLIES NUMBERS IN A WORD PROBLEM WITH PRODUCT ≤ 500		36.3	37.4	23.0	3.3	yes	yes	0.695	yes								
11	DETERMINES THE EFFECT OF A CHANGE IN A VARIABLE IN A LINEAR EQUATION	X	55.2	28.7	12.6	3.5	yes	yes	0.606	yes								
12	SELECTS THE LINEAR EQUATION ($MX + B = Y$) THAT MATCHES A SCENARIO - 2 OPERATIONS AND PARENTHESES	X	52.8	26.5	17.6	3.0	yes	yes	0.627	yes								
13	DIVIDES 2 NUMBERS ≤ 500 IN A WORD PROBLEM		48.3	26.5	22.0	3.3	yes	yes	0.712	yes								
14	IDENTIFIES THE MISSING COORDINATE IN AN ORDERED PAIR GIVEN A LINEAR EQUATION ($Y = MX$) WITH ONE	X	34.6	31.7	30.2	3.5	yes	yes	0.630	yes								

	OPERATION AND A TABLE OF ORDERED PAIRS										
15	DETERMINES THE VALUE OF A MISSING NUMBER IN AN EQUATION - SUBTRACTION		66.1	18.5	12.2	3.3	yes	yes	0.593	yes	
16	CALCULATES PERCENTAGES IN REAL LIFE CONTEXTS		25.7	27.0	43.7	3.7	yes	yes	0.513	yes	
17	DETERMINES THE VALUE OF Y IN A LINEAR MODEL GIVEN THE VALUE FOR X AND A GRAPH - NO TEACHER SUPPORT IN IDENTIFYING THE AXES	X	76.5	13.3	6.3	3.9	yes	yes	0.623	yes	
18	SELECTS NUMBER \leq 500 THAT EXTENDS A PATTERN - SUBTRACTIVE PATTERN (2S OR 5S)		61.3	22.4	12.4	3.9	yes	yes	0.610	yes	
19	SELECTS THE CORRECT CONVERSION OF UNITS OF	X	16.3	47.4	32.8	3.5	too hard	yes	0.506	yes	

	MEASUREMENT IN REAL LIFE CONTEXTS											
20	SELECTS DOT PLOT THAT MATCHES THE DATA SHOWN IN A TABLE	X	79.8	12.2	4.3	3.7	yes	yes	0.582	yes		