Florida Alternate Assessment
Test Designs, Blueprints, and Item Specifications for Reading, Writing, Mathematics, and Science

2013-2014 Assessment

measured progress

Prepared by Measured Progress for the
Florida Department of Education

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Overview

The 2013–2014 alternate assessment design for Florida is based on the Next Generation Sunshine State Standards with three levels of Access Points (Independent, Supported, and Participatory) providing students with a tiered entry into the assessment. This is critical as educators seek to provide access to the general education curriculum and foster higher expectations for the wide diversity of students with significant cognitive disabilities.

The Access Points were used to develop an assessment blueprint that will serve as the foundation for structured student performance tasks. These assessments contain performance tasks consisting primarily of selected response and some open response items. The design is an innovative approach that provides test administrators with structured tasks comprised of item sets that reflect typical classroom activities that mostly contain three response options for students to select from using the individual communication system they are most familiar with.

All math, reading, and writing items that will be field tested in the Spring 2014 Florida Alternate Assessment will be written to the Common Core State Standards. Standards for the 2014 spring assessment will be chosen to provide teachers and students with a variety and depth in exposure to Common Core. All targeted standards will be backed down in complexity to reveal the core “essence” of the standard. These Essences will serve as the new Access Points for the 2014 field test assessment items. Science items that will be field tested in the 2014 assessment will continue to be written to the Next Generation Sunshine State Standards. For each of the field test items being developed for the 2014 assessment, the components, complexity indices, and overall item specifications will be consistent with previous field test development.

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Items

Students who use communication supports are assessed more accurately when they are provided with structured response options within a performance task. Students who have greater access to verbal or written communication modes will be able to respond to open or constructed response items. For example, when a nonverbal student with mobility challenges is asked a question and presented with the choices for the answer, that student may use eye gaze to indicate the preferred choice, hit a switch from among several pre-programmed switches, point to one choice, etc.

Items that require a constructed response or multi-step performance, such as organizing pictures to show the order of events in a story, are often more challenging for this population of students. Therefore, we have incorporated an element of Universal Design in the development of the alternate performance tasks to build a test on which all students, even those with the most significant communication challenges, have the opportunity to respond accurately. We typically present three options to students when multiple response options are required. This limits the cognitive load of the item and adheres to recommendations of Haladyna and Downing,[1], who contend that more than three acceptably performing distractors are rarely found.

Within each item set, each of the three Access Points is addressed. Each student starts at the Participatory level. A student who completes the Participatory level item accurately without assistance moves on to the Supported level item. In this way, the student moves up through the Access Points as long as he or she is able to respond accurately and independently. Scaffolding only occurs at the Participatory level item. Scaffolding occurs for a student who is unable to complete the Participatory level item accurately and independently. The student will be presented the item again with one distractor removed; if the student is able to accurately respond he or she will be scored at two points. If the student is still unable to accurately respond, the item is presented again with another distractor removed (leaving only the correct answer) and the student is asked to actively engage with the correct answer. At any point within the Participatory level item, if the student will not engage or actively refuses, the student will score zero.

The student receives a final score for the item set based on the highest level at which he or she answered correctly. For example, if the student is unable to complete the item at the Supported level, he or she retains the three-point score from the Participatory level. However, if he or she is able to complete the Supported item, the teacher will next administer the Independent level item. If the student is unable to complete the independent item accurately, a score of six points is awarded. However, if the student completes the independent item accurately, the teacher will record a score of nine points.

[1] Haladyna, T.M., & Downing, S.M. (1993). How many options is enough for a multiple-choice test item? *Educational and Psychological Measurement*, *53*(4), 999–1010. DOI 10.1177/0013164493053004013.

0	1	2	3	6	9
No response, student actively refuses or does not engage at any point during the Participatory level	Student responds correctly after the removal of two distractors at the Participatory level	Student responds correctly after the removal of one distractor at the Participatory level	Student responds correctly at the Participatory level	Student responds correctly at the Supported level	Student responds correctly at the Independent level

Test administrators are given with auxiliary materials, such as sentence strips, when they are required for an item. Auxiliary materials are prepared in an 11 x 17 response booklet format for reading, mathematics, and science. There are minimal cut outs in these content areas. Writing will have all auxiliary materials provided as cut outs. The test booklets include scripting for the test administrator to follow as they administer the assessment, increasing procedural reliability. Some items will include the use of teacher-gathered classroom materials that students are familiar with, giving students the best opportunity to demonstrate their knowledge and skills.

Test Booklet Components

Each content area section of the test booklet begins with an overview of the strands and standards being assessed at that grade and a list of classroom materials that the test administrator should gather to augment the materials sent with the test booklet (e.g., for mathematics, counting blocks may be required).

The test booklet itself includes item sets that describe the materials provided, materials needed from the classroom, teacher scripting at each Access Point, the expected student response, the Access Point being assessed, and a place to score the student on each item set.

The test booklet was designed with the test administrators in mind, understanding that teachers need to easily refer to the test booklets during administration and scoring.

Item Components

Each item set includes an overview, the Access Points being assessed, and the materials needed. The components for each item set are:

Materials	Access Point	Teacher Will	Student Will	Scoring

- The *Materials* column outlines for the test administrator which materials will be needed for the item. Both the materials that are provided for the administrator and materials the administrator may need to gather from the classroom are identified. Graphics will be named for administrators to use in order to standardize terminology as needed. It is important that the graphics be carefully and appropriately named in order to provide students with visual impairments the most access to an item. For example, a picture of a teddy bear will be named “teddy bear” and not “toy.”

- The *Access Point* column lists the Access Point that the item is targeting.

- The *Teacher Will* column consists of a clear set of directions for setting up the item and scripting for what the test administrator should ask the student.
- The *Student Will* column indicates the response that the test administrator needs to look for from the student, taking into consideration the communication mode appropriate for each student.
- The *Scoring* column provides a space for the test administrator to mark the score the student received on the item.

Complexity Indices

Complexity indices have been developed to ensure increasing complexity within an item from the Participatory level to the Supported level and from the Supported level to the Independent level. All items should be developed using the Depth of Knowledge (DOK), found in Appendix A, and the Presentation Rubric found in Appendix B. Items should increase by at least one rating level, whether it is in the DOK or within one of the three components of the Presentation Rubric (Volume of Information, Vocabulary, and Context).

The attached DOK and Presentation Rubric will be applied to newly developed items in the spring 2014 assessment. Common items developed in prior years of the assessment are not necessarily assigned or developed from the current Depth of Knowledge or Presentation Rubric.

Generally, items are not written to DOK level 1. Likewise, no items are written to the DOK 6 level because of the investigative nature of this level. DOK content clarification examples are not exhaustive and general performance verbs are not the defining criteria for classification. Similarly, examples throughout the Presentation Rubric are also not exhaustive nor should they be used as the defining criteria for classification.

Number of Items by Content and Grade Level

Each content/grade level operational test is composed of 16 common items with four embedded field test items. There are two forms of each grade level test for a total of eight total embedded field test items in each content area at each grade level. The test design and blueprint vary by content area and are described in the content area sections that follow.

Grade	Reading	Mathematics	Writing	Science	Total # Test Items
3	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B			**40**
4	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B		**60**
5	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B		16 Common 4 Field Test, Form A 4 Field Test, Form B	**60**
6	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B			**40**
7	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B			**40**
8	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B	**80**
9	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B			**40**
10	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B		**60**
11	16 Common 4 Field Test, Form A 4 Field Test, Form B	16 Common 4 Field Test, Form A 4 Field Test, Form B		16 Common 4 Field Test, Form A 4 Field Test, Form B	**20**
Total Items	**128 Common 64 Field Test**	**128 Common 64 Field Test**	**48 Common 24 Field Test**	**48 Common 24 Field Test**	

Reading

Design

Common Items

The reading design consists of two strands that are measured by the items in the test. In addition, two to three standards for each of the two strands are identified for assessment. Each standard consists of two to four items for a total of sixteen common reading items.

Embedded Field Test Items

All 2014 field test items for reading will be written to the Common Core State Standards.
Grades 3-5: Eight items will be developed to address seven Common Core Reading Anchor Standards. Three standards from the Reading Literary Text strand, three standards from the Reading Informational Text strand, and one from the Reading Foundational Skills strand.
Grades 6-7: Eight items will be developed to address six Common Core Reading Anchor Standards. Three standards from the Reading Literary Text strand and three standards from the Reading Informational Text strand.
Grades 9-10: Eight items will be developed to address five Common Core Reading Anchor Standards. Two standards from the Reading Literary Text strand and three standards from the Reading Informational Text strand.

Blueprint

In developing the test blueprint for reading, Measured Progress staff examined several documents:

- Florida Comprehensive Assessment Test (FCAT) Reading 2006 Grades 3–10 Test Focus
- FCAT Reading Test Item and Performance Task Specifications
- FCAT Summary of Tests and Design, September 2005
- Draft FCAT Writing + Test Item Specifications, Grades 3–12 © 2005 Florida Department of Education
- Florida's 2006 Sunshine State Standards for K-12 Reading and Language Arts
- Language Arts Draft Crosswalk, Grades 3–10

We examined the FCAT Reading 2006 Test Focus and noted the benchmarks that were covered. We mapped these benchmarks on the old standards and then used the Language Arts Draft Crosswalk to map the standards to the 2006 Sunshine State Standards for K-12 Reading and Language Arts. This showed us the distribution of standard coverage against the 2006 Sunshine State Standards. We also noted the Access Points for the particular benchmarks in the General Education Frameworks. These notations confirmed the alignment of the Access Points on which we test the students with significant cognitive disabilities to the indicators on which we test general education students. The items for the Florida Alternate Assessment were written to the

Next Generation Sunshine State Standards using the Access Points that were approved by the State Board of Education.

Based on our analysis of coverage in the FCAT, the two Reading Strands that Measured Progress recommended for coverage are Reading Process and Literary Analysis. Each of these strands has multiple standards and varied grade level distribution in the FCAT. In Reading Process, the three standards covered most across grade levels are Fluency, Vocabulary Development, and Reading Comprehension.

Assessing fluency through evaluating the accuracy, rate, and expression of students reading proves to be challenging for this population. Many students have low levels of speech and language skills and/or use alternative communication devices. In grades 3 through 5, fluency is assessed through letter and word recognition. For grades 6 through 10, items are designed to measure fluency by requiring the student to independently read text and then respond to a basic reading comprehension since components of fluency skills are inherently required. Therefore, items assessing fluency in grades 6 through 10 are coded to both the Fluency and Reading Comprehension standards.

Reading Comprehension is the purpose of reading; therefore, it is sensible to test all students on this standard. Learning vocabulary skills at the lower grades allows students to become adept at increasing their reading vocabulary. At grades 9 and 10, however, the Crosswalk pointed to concepts not applicable in the Old Standards: Strand 3: Information and Media Literacy. Therefore, this new strand which synthesizes many of the benchmark skills tested in earlier grades, was selected to be tested at grade 10. For the Literary Analysis we follow the FCAT balance of fiction and nonfiction with the particular grade level emphasis.

The distribution for each benchmark is consistent with the distribution on the FCAT. Note: not every standard and benchmark is tested in the FCAT.

2013-2014 Reading Common Item Blueprint

Strand 1: Reading Process	GRADE 3	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	GRADE 9	GRADE 10
Standard 5: Fluency	The student demonstrates the ability to read grade level text orally with accuracy, appropriate rate, and expression.							
	4	4	4	4	4	4	4	4
LA._.1.5.1*	4	4	4	4	4	4	4	4
Standard 6: Vocabulary Development	The student uses multiple strategies to develop grade appropriate vocabulary.							
	3	**3**	**3**	**3**	**3**	**3**	**3**	**0**
LA._.1.6.1					1	2	1	
LA._.1.6.3					2	1		
LA._.1.6.4				3				
LA._.1.6.5			1				2	
LA._.1.6.6		1	1					
LA._.1.6.7	1	1						
LA._.1.6.8	1	1	1					
LA._.1.6.10	1							
Standard 7: Reading Comprehension	The student uses a variety of strategies to comprehend grade level text.							
	3	**3**	**3**	**3**	**3**	**3**	**3**	**4**
LA._.1.7.2	1	1		1	1	1	1	1
LA._.1.7.3*	1	2	2	2	1	1	1	2
LA._.1.7.5	1		1			1		
LA._.1.7.7					1		1	1

*As referenced above, fluency items (LA._1.5.1) are now tagged to reading comprehension benchmarks (LA_1.7.3)

Strand 2: Literary Analysis	GRADE 3	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	GRADE 9	GRADE 10
Standard 1: Fiction	The student identifies, analyzes, and applies knowledge of the elements of a variety of fiction and literary texts to develop a thoughtful response to a literary selection.							
	3	4	3	3	3	3	3	3
LA._.2.1.1								
LA._.2.1.2		2		3	3	3		
LA._.2.1.5							3	3
LA._.2.1.6		2	3					
Standard 2: Non-Fiction 3	The student identifies, analyzes, and applies knowledge of the elements of a variety of nonfiction, informational, and expository texts to demonstrate an understanding of the information presented.							
	3	2	3	3	3	3	3	3
LA._.2.2.2	2	1		2	2	2	3	3
LA._.2.2.3	1	1	3	1	1	1		

Strand 6: Information and Media Literacy	GRADE 3	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	GRADE 9	GRADE 10
Standard 2: Research Process	The student uses a systematic process for the collection, processing, and presentation of information.							
	0	0	0	0	0	0	0	2
LA._.6.2.2								1
LA._.6.2.3								1

2013-2014 Reading Embedded Field Test Item Blueprint

Common Core Anchor Standard	Common Core State Standard	GRADE 3	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	GRADE 9	GRADE 10
Literature: Key Ideas and Details	LACC._.RL.1.1	1					1	1	1
	LACC._.RL.1.2		2				1		1
	LACC._.RL.1.3			1 1	1	1			
Literature: Craft and Structure	LACC._.RL.2.4	1			1	1			1
	LACC._.RL.2.5		1				1		
	LACC._.RL.2.6			1 1			1 1		1
Literature: Integration of Knowledge and Ideas	LACC._.RL.3.7	1		1			1		
	LACC._.RL.3.8								
	LACC._.RL.3.9		1		1	1	1		
Informational: Key Ideas and Details	LACC._.RI.1.1		1				1	1	1
	LACC._.RI.1.2	1							
	LACC._.RI.1.3					1			
Informational: Craft and Structure	LACC._.RI.2.4	2		1			1	1	
	LACC._.RI.2.5		1 2		1	1	1		
	LACC._.RI.2.6			1 1		1	1	1	
Informational: Integration of Knowledge and Ideas	LACC._.RI.3.7		1		1			1	
	LACC._.RI.3.8	1				1			1
	LACC._.RI.3.9			1			1	1	
Phonics and Word Recognition	LACC._.RF.3.3	1	1	1					

Passage Specifications

Passage topics follow the general specifications provided in the FCAT Reading Test Item and Performance Task Specifications. All passages are written specifically for this test. They are engaging and high quality, free from bias and stereotyping, age appropriate for the students, present different points of view, and include universal themes. The passages also bring a range of diversity to the test, reflecting the variety of interests and backgrounds that make up Florida's student population. For example, some characters have names that reflect the diverse populations of Haitian-Creoles and Hispanics. Informational passages provide accurate, fact-checked information. Most importantly, the passages meet the needs of the Sunshine State Standards.

"Familiar stories" is a phrase used in the Access Points. Since the passages are being written for the test, the passages are about topics that are familiar to students at specific grade levels. For students in the elementary grades, the topics relate to family or school life and opportunities students generally have in school. For students at the middle school grades, topics are also familiar but expand to more school wide opportunities, outside the classroom. Students at the high school grades see passages related to family, school, and work transitions. Passages are age appropriate.

The balance of Literary to Informational Texts varies from grade to grade following this chart from page 3 of the FCAT Reading Test Item and Performance Task Specifications.

Grade	Literary Text	Informational Text
3	60%	40%
4	60%	40%
5	50%	50%
6	50%	50%
7	40%	60%
8	40%	60%
9	30%	70%
10	30%	70%

Passage forms follow the specifications from page 4 of the FCAT Reading Test Item and Performance Task Specifications.

Forms of Informational Text	Forms of Literary Text
• Subject-area text (e.g., science, history) • Magazine and newspaper articles • Diaries • Editorials • Informational essays • Biographies and autobiographies • Primary Sources (e.g., Bill of Rights) • Consumer Materials • How-to articles • Advertisements • Tables and graphics (e.g., illustrations, photographs, and captions)	• Short stories • Literary essays (e.g., critiques, personal narratives) • Excerpts • Poems • Historical fiction • Fables and folk tales • Plays

Graphics, for both passages and item response options, are black and white line drawings with limited grayscale to be used only as needed. For example, if a student has a cast on, it is shaded so it stands out.

Passages include one graphic that sets the scene/event of the story. The graphic is the main idea/essence of the passage. The graphic leaves out all extraneous information.

All passages include a caption describing the passage graphic in detail for students with visual impairments.

Passage length varies from the specifications for general education tests. Because of the needs of this particular population, the number of words in the passages is about 50 percent fewer than the lowest range at a particular grade level. For example, at grade 3 the range of number of words is 100–700 for the general education population. For this test, the range is 50–75 for grade 3. Some items may require the student to compare or contrast elements from two different passages. For “paired passage” items, each individual passage will follow the grade level specifications. For example, at grade 5, two passages may be provided each between 100-150 words in length.

Grade	Range of Number of Words
3	50–75
4	50–75
5	100–150
6	100–150
7	150–200
8	150–200
9	150–200
10	150–200

Passage Readabilities vary by grade level. The readability for each grade level test does not exceed 3 grade levels below the tested grade, with the exception that grade 10 does not exceed grade 6 readability. For grades 3, 4, and 5, the readabilities are determined using the Spache Scale. For grades 6 through high school, the readabilities are determined by using Powers.

No readability formula is perfect; we recognize readabilities may become somewhat skewed for those passages at grades 3 through 6 that are required to have less than 75 or 150 words total. For passages with fewer total word counts, one or two uncommon words easily increase readability beyond the ideal ranges. We strive to develop passages that are the appropriate length and readability, while containing enough vocabulary and content that allows the assessment of reading skills. For these reasons, we rely heavily on the Passage Bias and Review Committee to ensure passages are appropriate for the student population, while making the test an experience that measures what a student knows and is able to do.

Grade	Readability Range
3	0.5
4	1
5	1–2
6	2–3
7	3–4
8	4–4.5
9	4.6–4.8
10	5–6

Passages are written so the first paragraph or in some cases, the first sentence, can stand on its own. Participatory items are developed from this first paragraph or from the first sentence. It is important that items at this level can be answered directly from the information in the paragraph read to the student.

Fluency Strand items have the following specifications:

- Letter and word recognition are for grades 3 through 5.
- The student reads one to two sentences at the Supported level in grades 6 through 10.
- The student reads a short (three to four sentences) paragraph at the independent Level in grades 6 through 8.
- The student reads one long or two short paragraphs at the independent level in grades 9 and 10.

Writing

Design

Common Items

The writing design consists of two strands that are measured by the items in the test. In addition, at grades 8 and 10, two standards for each of the two strands are identified for assessment. At grade 4, three standards are assessed for the first strand and one standard for the second strand. Each standard consists of one to five items for a total of sixteen common writing items.

Embedded Field Test Items

All 2014 field test items for writing will be written to the Common Core State Standards. Eight field test items will be written per grade to address four targeted Common Core domains: Conventions, Text Type and Purposes, Production and Distribution of Writing, and Research to Build and Present Knowledge.

Blueprint

In developing the test blueprint for Writing, Measured Progress examined the same documents listed for reading and followed the same methodology. We found the LA.3.5 standard ("The student will write a final product for the intended audience") identified as an alternate in the Crosswalk documents at all grade levels. We know that students taking this test widely use application to learn, so Writing Applications would be consistent with their learning styles. Table 5a in the FCAT Summary of Tests and Design (September 2005) lists the modes for prompts for the writing portion of the test: narrative, expository, and persuasive. Finally, we found that the Philosophy for FCAT Writing + Assessment (2005) states, "The best way to test student writing is to have students write."

Therefore, we have included the Writing Application Strand for this test. A final product is specified in the Strand, Writing Applications. In addition to the Writing Process Strand, we are including Writing Applications and focusing on narrative writing at grade 4 because this corresponds with general education student instructional learning at that grade level. In grade 8, we turn the focus to expository/informational writing. For grade 10, the focus is on expository/persuasive writing.

Grade	Narrative Writing to tell a story	Expository Writing to explain	Persuasive Writing to convince
4	x		
8	x	x	x
10	x	x	x

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This means that for writing, overall, there are two strands assessed –Writing Process and Writing Applications –each with two standards. All grade levels are tested in Standard 4, Editing for Language Conventions. Writing Process Standards are tested at all levels, but the specific standard varies. Standard 1, Pre-Writing is not tested. It could be, but the FCAT emphasizes Drafting at grade 4 and Revising at grade 8. It makes sense to test Revising at grade 10 also, rather than Prewriting. Writing Applications is tested at all levels, but the specific standard varies.

Grades 8 and 10 include open response items, where the student is not supplied with response cards. These writing items focus on real-life application contexts, such as filling out a job application.

2013-2014 Writing Common Item Blueprint

Strand 3: Writing Process	GRADE 4	GRADE 8	GRADE 10
	The student will write a draft appropriate to the topic, audience, and purpose.		
	5	**0**	**0**
LA._.3.2.1	4		
LA._.3.2.2			
LA._.3.2.3	1		
Standard 3: Revising	The student will revise and refine the draft for clarity and effectiveness.		
	0	**4**	**4**
LA._.3.3.1		2	2
LA._.3.3.2		2	
LA._.3.3.4			2
Standard 4: Editing for Language Conventions	The student will edit and correct the draft for standard language conventions.		
	5	**4**	**5**
LA._.3.4.1	1		1
LA._.3.4.2	1	1	2
LA._.3.4.3	1	2	
LA._.3.4.4	1		2
LA._.3.4.5	1	1	
Standard 5: Publishing	The student will write a final product for the intended audience.		
	1	**0**	**0**
LA._.3.5.1	1		

Strand 4: Writing Applications	GRADE 4	GRADE 8	GRADE 10
Standard 1: Creative	The student develops and demonstrates creative writing.		
	5	**4**	**3**
LA._.4.1.1	5	4	3
Standard 2: Informative	The student develops and demonstrates technical writing that provides information related to real-world tasks.		
	0	**4**	**4**
LA._.4.2.1		2	
LA._.4.2.2		1	
LA._.4.2.3		1	
LA._.4.2.4			1
LA._.4.2.5			1
LA._.4.2.6			2

2013-2014 Writing Embedded Field Test Item Blueprint

Common Core Anchor Standard	Common Core State Standard	GRADE 4	GRADE 8	GRADE 10
Conventions	LACC._.L.1.1	1		1
	LACC._.L.1.2	1	1	
Text Type and Purposes	LACC._.W.1.1	1	1	1
	LACC._.W.1.2	1	1	1
	LACC._.W.1.3	1	1	1
Production and Distribution of Writing	LACC._.W.2.4	1	1	1
	LACC._.W.2.5	1	1	1
	LACC._.W.2.6			
Research to Build and Present Knowledge	LACC._.W.3.7	1	1	1
	LACC._.W.3.8		1	1
	LACC._.W.3.9			

Mathematics

Design

Common Items

The mathematics design consists of two to eight items from each of the three Big Ideas and four to six items from Supporting Ideas for grades 3 through 8 for a total of 16 items assessed. In grades 9 and 10, four Secondary Bodies of Knowledge are assessed at each grade, with two to six items per Body of Knowledge for a total of 16 items.

Embedded Field Test Items

All 2014 field test items for mathematics will be written to the Common Core State Standards. Eight field test items will be developed from mathematics domains addressed at each grade span.
Grades 3-5: Items will be developed to address the following five Common Core math domains: Operations and Algebraic Thinking, Number and Operations in Base 10, Numbers and Operations-Fractions, Measurement and Data, and Geometry.
Grades 6-8: Items will be developed to address the following six Common Core math domains: Ratios and Proportional Relationships, The Number System, Expressions and Equations, Geometry, Statistics and Probability, and Functions.
Grades 9-10: Items will be developed to address the following five Common Core math domains: Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability.

Blueprint: Grades 3 through 8

For each of grades 3 through 8, the state's Mathematics Standards contain three Big Ideas and three or more Supporting Ideas. The Big Ideas are few in number and sufficiently broad in scope that it is feasible to have a special education curriculum that encompasses all of them for each grade based on the Access Points defined in the Mathematics Standards document.

As a result, the test blueprint for each grade common assessment contains:

- Two to eight items coded to each of the three Big Ideas
- Four to six items coded to the Supporting Ideas

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2013-2014 Math Common Item Blueprint

	GRADE 3	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8
Big Idea 1	Develop understandings of multiplication and division and strategies for basic multiplication facts and related division facts.	Develop quick recall of multiplication facts and related division facts and fluency with whole number multiplication.	Develop an understanding of and fluency with division of whole numbers.	Develop an understanding of and fluency with multiplication and division of fractions and decimals.	Develop an understanding of and apply proportionality, including similarity.	Analyze and represent linear functions, and solve linear equations and systems of linear equations.
	5	**4**	**4**	**5**	**3**	**4**
MA._.A.01.01	2	4	4	3	2	1
MA._.A.01.02	2			2		
MA._.A.01.03	1				1	
MA._.A.01.05						3
Big Idea 2	Develop an understanding of fractions and fraction equivalence.	Develop an understanding of decimals, including the connection between fractions and decimals.	Develop an understanding of and fluency with addition and subtraction of fractions and decimals.	Connect ratio and rates to multiplication and division.	Develop an understanding of and use formulas to determine surface areas and volumes of three-dimensional shapes.	Analyze two- and three-dimensional figures by using distance and angle.
	2	**4**	**2**	**4**	**4**	**4**
MA._.A.02.01	2	2	1	3		
MA._.A.02.02			1	1		
MA._.A.02.03		1				
MA._.A.02.04		1				
MA._.G.02.01					1	1
MA._.G.02.02					3	1
MA._.G.02.04						2

Big Idea 3	GRADE 3	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8
	Describe and analyze properties of two-dimensional shapes.	Develop an understanding of area and determine the area of two-dimensional shapes.	Describe three-dimensional shapes and analyze their properties, including volume and surface area.	Write, interpret, and use mathematical expressions and equations.	Develop an understanding of operations on all rational numbers and solving linear equations.	Analyze and summarize data sets.
	5	**4**	**4**	**2**	**4**	**2**
MA._.A.03.01				1		
MA._.A.03.04						
MA._.A.03.06				1		
MA._.G.03.01	2	3	2		4	
MA._.G.03.02	1		2			
MA._.G.03.03	2	1				
MA._.S.03.01						1
MA._.S.03.02						1
Supporting Idea: Algebra	**1**	**1**	**2**	**0**	**0**	**2**
MA._.A.04.01	1		2			2
MA._.A.04.02		1				
Supporting Idea: Geometry and Measurement	**1**	**1**	**2**	**1**	**1**	**2**
MA._.G.04.01				1	1	2
MA._.G.04.02						
MA._.G.05.01						
MA._.G.05.02	1	1	2			
MA._.G.05.03						

Supporting Idea: Number and Operations	GRADE 3	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8
	1	**2**	**1**	**2**	**2**	**2**
MA._.A.05.01					1	
MA._.A.05.02				2	1	
MA._.A.06.01	1	1				
MA._.A.06.02			1			
MA._.A.06.04		1				2
Supporting Idea: Data Analysis	**1**	**0**	**1**	**2**	**1**	**0**
MA._.S.06.01				2		
MA._.S.06.02					1	
MA._.S.07.01	1		1			
Supporting Idea: Probability	**0**	**0**	**0**	**0**	**1**	**0**
MA._.P.07.01					1	

2013-2014 Math Embedded Field Test Item Blueprint
Grades 3-5

Domain/Anchor Standards	Common Core State Standard	GRADE 3	GRADE 4	GRADE 5
Operations and Algebraic Thinking	MACC._.OA.1.2		1	1
	MACC._.OA.1.3	1		
	MACC._.OA.3.5		1	
	MACC._.OA.4.9	1		
Number and Operations in Base 10	MACC._.NBT.1.2	1	1	
	MACC._.NBT.1.3			1
	MACC._.NBT.2.5		1	
	MACC._.NBT.2.6			1
Numbers and Operation – Fractions	MACC._.NF.1.1	1		
	MACC._.NF.1.2		1	1
	MACC._.NF.1.3	1		
	MACC._.NF.2.3		1	
	MACC._.NF.2.4			1
Measurement and Data	MACC._.MD.1.1		1	
	MACC._.MD.2.2			1
	MACC._.MD.2.3	1		
	MACC._.MD.3.3			1
	MACC._.MD.3.7	1		
Geometry	MACC._.G.1.1	1		
	MACC._.G.1.2		1	
	MACC._.G.2.4			1

2013-2014 Math Embedded Field Test Item Blueprint
Grades 6-8

Domain/Anchor Standards	Common Core State Standard	GRADE 6	GRADE 7	GRADE 8
Ratios and Proportional Relationships	MACC._.RP.1.1	1		
	MACC._.RP.1.3		1	
The Number System	MACC._.NS.1.1		1	1
	MACC._. NS.2.2	1		
	MACC._. NS.3.6	1		
Expressions and Equations	MACC._.EE.1.1		1	1
	MACC._.EE.1.2	1		
	MACC._.EE.2.4		1	
	MACC._.EE.2.7	1		
	MACC._.EE.3.7			1
Geometry	MACC._.G.1.1		1	
	MACC._.G.1.2	1		1
	MACC._.G.2.6		1	
	MACC._.G.2.7			1
Statistics and Probability	MACC._.SP.1.1	1		
	MACC._.SP.1.2			1
	MACC._.SP.2.4		1	
	MACC._.SP.2.5	1		
	MACC._.SP.3.5		1	
Functions	MACC._.F.1.1			1
	MACC._.F.2.5			1

Blueprint: Grades 9 and 10

For grades 9 and 10 the Content Standards are organized according to the following Secondary Bodies of Knowledge:

- Algebra
- Geometry
- Probability
- Statistics
- Finite Mathematics
- Financial Literacy

Each Body of Knowledge is organized by a number of standards, and for each standard there are a set of Access Points given.

The test design does presume an emphasis on Algebra and Geometry that is typical of the curriculum for these grades in most states, along with coverage of the four other Bodies of Knowledge.

Grade 9

- Six items from the Algebra body of knowledge
- Four items from the Geometry body of knowledge
- Four items from the Financial Literacy of knowledge
- Two items from the Finite Mathematics body of knowledge

Grade 10

- Four items from the Algebra body of knowledge
- Four items from the Geometry body of knowledge
- Four items from the Financial Literacy body of knowledge
- Two items from the Probability body of knowledge
- Two items from the Statistics body of knowledge

2013-2014 Math Common Item Blueprint Grades 9-10

	GRADE 9	GRADE 10
Body of Knowledge: Algebra	**5**	**4**
Standard 1: Real and Complex Number Systems Expand and deepen understanding of real and complex numbers by comparing expressions and performing arithmetic computations, especially those involving square roots and exponents. Use the properties of real numbers to simplify algebraic expressions and equations, and convert between different measurement units using dimensional analysis.		
MA.912.A.01.01	1	
MA.912.A.01.04		
Standard 2: Relations and Functions Draw and interpret graphs of relations. Understand the notation and concept of a function, find domains and ranges, and link equations to functions.		
MA.912.A.02.02	1	
MA.912.A.02.03	1	
Standard 3: Linear Equations and Inequalities Solve linear equations and inequalities.		
MA.912.A.03.01	1	
MA.912.A.03.02		
MA.912.A.03.03	1	
Standard 4: Polynomials Perform operations on polynomials. Find factors of polynomials, learning special techniques for factoring quadratics. Understand the relationships among the solutions of polynomial equations, the zeros of a polynomial function, the x-intercepts of a graph, and the factors of a polynomial.		
MA.912.A.04.01		1
Standard 5: Rational Expressions and Equations Simplify rational expressions and solve rational equations using what has been learned about factoring polynomials.		
MA.912.A.05.01		1
Standard 6: Radical Expressions and Equations Simplify and perform operations on radical expressions and equations. Rationalize square root expressions and understand and use the concepts of negative and rational exponents. Add, subtract, multiply, divide, and simplify radical expressions and expressions with rational exponents. Solve radical equations and equations with terms that have rational exponents.		
MA.912.A.06.01		1

	GRADE 9	GRADE 10
Standard 7: Quadratic Equations Draw graphs of quadratic functions. Solve quadratic equations and solve these equations by factoring, completing the square, and by using the quadratic formula. Use graphing calculators to find approximate solutions of quadratic equations.		
MA.912.A.07.01		1
MA.912.A.07.08		
Standard 10: Mathematical Reasoning and Problem Solving In a general sense, all of mathematics is problem solving. In all of mathematics, use problem-solving skills, choose how to approach a problem, explain the reasoning, and check the results.		
MA.912.A.10.02		
Body of Knowledge: Discrete Mathematics	**2**	**0**
Standard 7: Set Theory Operate with sets, and use set theory to solve problems.		
MA.912.D.07.01	1	
MA.912.D.07.02	1	
Body of Knowledge: Financial Literacy	**4**	**4**
Standard 1: Simple and Compound Interest Simple and Compound Interest		
MA.912.F.01.01	1	
MA.912.F.01.03		1
Standard 2: Net Present and Net Future value (NPV and NFV) Net Present and Net Future Value (NPV and NFV)		
MA.912.F.02.01	1	
MA.912.F.02.02		1
Standard 3: Loans and Financing Become familiar with and describe the advantages and disadvantages of short-term purchases, long-term purchases, and mortgages.		
MA.912.F.03.01		2
MA.912.F.03.03	1	
MA.912.F.03.04	1	

	GRADE 9	GRADE 10
Body of Knowledge: Geometry	**5**	**4**
Standard 1: Points, Lines, Angles, and Planes Understand geometric concepts, applications, and their representations with coordinate systems. Find lengths and midpoints of line segments, slopes, parallel and perpendicular lines, and equations of lines. Using a compass and straightedge, patty paper, a drawing program or other techniques, construct lines and angles, explaining and justifying the processes used.		
MA.912.G.01.01		
MA.912.G.01.04	1	
Standard 2: Polygons Identify and describe polygons (triangles, quadrilaterals, pentagons, hexagons, etc.), using terms such as regular, convex, and concave. Find measures of angles, sides, perimeters, and areas of polygons, justifying the methods used. Apply transformations to polygons. Relate geometry to algebra by using coordinate geometry to determine transformations. Use algebraic reasoning to determine congruence, similarity, and symmetry. Create and verify tessellations of the plane using polygons.		
MA.912.G.02.02	1	
MA.912.G.02.05	1	
Standard 3: Quadrilaterals Classify and understand relationships among quadrilaterals (rectangle, parallelogram, kite, etc.). Relate geometry to algebra by using coordinate geometry to determine regularity, congruence, and similarity. Use properties of congruent and similar quadrilaterals to solve problems involving lengths and areas, and prove theorems involving quadrilaterals.		
MA.912.G.03.01	1	
Standard 4: Triangles Identify and describe various kinds of triangles (right, acute, scalene, isosceles, etc.). Define and construct altitudes, medians, and bisectors, and triangles congruent to given triangles. Prove that triangles are congruent or similar and use properties of these triangles to solve problems involving lengths and areas. Relate geometry to algebra by using coordinate geometry to determine regularity, congruence, and similarity. Understand and apply the inequality theorems of triangles.		
MA.912.G.04.01	1	
MA.912.G.04.06		
Standard 5: Right Triangles Apply the Pythagorean Theorem to solving problems, including those involving the altitudes of right triangles and triangles with special angle relationships. Use special right triangles to solve problems using the properties of triangles.		
MA.912.G.05.02		1

	GRADE 9	GRADE 10
Standard 6: Circles Define and understand ideas related to circles (radius, tangent, chord, etc.). Perform constructions, and prove theorems related to circles. Find measures of arcs and angles related to them, as well as measures of circumference and area. Relate geometry to algebra by finding the equation of a circle in the coordinate plane.		
MA.912.G.06.02		
MA.912.G.06.05		1
Standard 7: Polyhedra and Other Solids Describe and make regular and nonregular polyhedra (cube, pyramid, tetrahedron, octahedron, etc.). Explore relationships among the faces, edges, and vertices of polyhedra. Describe sets of points on spheres, using terms such as great circle. Describe symmetries of solids, and understand the properties of congruent and similar solids.		
MA.912.G.07.03		
MA.912.G.07.05		1
Standard 8: Mathematical Reasoning and Problem Solving In a general sense, mathematics is problem solving. In all mathematics, use problem-solving skills, choose how to approach a problem, explain the reasoning, and check the results. At this level, apply these skills to making conjectures, using axioms and theorems, constructing logical arguments, and writing geometric proofs. Learn about inductive and deductive reasoning and how to use counterexamples to show that a general statement is false.		
MA.912.G.08.02		1
Body of Knowledge: Probability	**0**	**2**
Standard 1: Counting Principles Understand the counting principle, permutations, and combinations, and use them to solve problems.		
MA.912.P.01.02		
Standard 2: Determining Probabilities Develop rules for finding probabilities of combined and complementary events. Understand and use conditional probability and the related Bayes' Theorem.		
MA.912.P.02.02		2
Body of Knowledge: Statistics	**0**	**2**
Standard 3: Summarizing Data (Descriptive Statistics) Learn to work with summary measures of sets of data, including measures of the center, spread, and strength of relationship between variables. Learn to distinguish between different types of data and to select the appropriate visual form to present different types of data.		
MA.912.S.03.01		1
MA.912.S.03.03		1
MA.912.S.03.05		

2013-2014 Math Embedded Field Test Item Blueprint
Grades 9-10

Domain/Anchor Standards	Common Core State Standard	GRADE 9	GRADE 10
Number and Quantity	MACC._.N-Q.1.1	1	
	MACC._.N-CN.3.7		1
Algebra	MACC._.A-SSE.2.3	1	
	MACC._. A-APR.1.1		1
	MACC._. A-CED.1.1	1	
	MACC._. A-CED.1.2		1
Functions	MACC._.F-IF.1.1	1	
	MACC._.F-IF.2.4		1
	MACC._.F-LE.1.1		1
Geometry	MACC._.G-CO.1.1	1	
	MACC._.G-CO.1.2		1
	MACC._.G-SRT.1.2	1	
	MACC._.G-GMD.1.3		1
	MACC._.G-MG.1.1	1	
Statistics and Probability	MACC._.S-ID.1.1	1	
	MACC._.S-ID.1.2		1

Science

Design
The science design consists of the four Bodies of Knowledge. Each of the Bodies of Knowledge assesses three to seven items. The assessment consists of a total of 16 common items.

Blueprint
In developing the test blueprint for science, several documents were examined:

- Alternate Assessment in Science for Students with Disabilities
- Sunshine State Standards with Access Points

The content assessed in alternate assessment should generally reflect the same areas assessed by the FCAT: Nature of Science, Earth and Space Science, Physical Science, and Life Science.

In order to meet the above criteria, the blueprint distributes the assessment items across the four science Bodies of Knowledge covered in FCAT. Items will focus on the science content assessed by the FCAT at each grade level based upon the Big Ideas that are addressed.

Therefore, the Science Blueprint chart involves:

1. Distribution of major science Bodies of Knowledge across each grade level.
2. Assessment of the majority of Big Ideas that are addressed at each of the grade levels.

An emphasis was placed on the Bodies of Knowledge at each grade level based upon looking at the Big Ideas to see the range and quantity of benchmarks addressed and the range and quantity of Access Points addressed. The Access Points were then reviewed to see if they are broad or narrow and if the topics within them can support more items and seem more relevant for this population of students. Special attention was paid to the participatory level Access Points as these can be very few and narrow, very few and broad, or many. Based on the review of the Access Points, not all Big Ideas that are addressed at each grade level for instruction will be assessed at each grade level. However, all of the Big Ideas are assessed at least once throughout a student's school years.

Grade 5

- Only two of the four Big Ideas in Nature of Science are addressed leading to less emphasis and the recommendation for three items. The Big Idea: The Practice of Science is the constant across all grade levels for assessment.
- Five Big Ideas in Physical Science are addressed leading to more emphasis. Three of the five Big Ideas are assessed at this grade level for a total of five items.
- Life Science and Earth and Space Science remain at four items each.

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Grade 8

- This grade has the most limiting number of Big Ideas addressed overall.
- The four Big Ideas in Nature of Science are addressed. Two of the four Big Ideas are assessed at this grade level for a total of three items. The Big Idea: The Practice of Science is the constant across all grade levels for assessment.
- Physical Science addresses two Big Ideas, which is more emphasis than Earth and Space Science and Life Science; therefore, the recommendation of seven items for assessment.
- Earth and Space Science and Life Science have fewer Access Points to address for a recommendation of three items each for assessment.

Grade 11

- The four Big Ideas in Nature of Science are addressed. Two of the four Big Ideas are assessed at this grade level for a total of three items. The Big Idea: The Practice of Science is the constant across all grade levels for assessment.
- Life Science addresses five Big Ideas leading to more emphasis. Three of the five Big Ideas are assessed at this grade level for a total of six items.
- Physical Science and Earth and Space Science each address three Big Ideas. Two of the three Big Ideas are assessed in each of the Bodies of Knowledge, with a recommendation of four items in Physical Science and three items in Earth and Space Science.

2013-2014 Science Common and Embedded Field Test Blueprint

	GRADE 5		GRADE 8		GRADE 11	
Body of Knowledge: Nature of Science	**Com**	**FT**	**Com**	**FT**	**Com**	**FT**
	3	**1**	**3**	**3**	**3**	**2**
Big Idea 1: The Practice of Science Scientific inquiry is a multifaceted activity. The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.	**2**		**1**	**2**	**2**	**1**
Big Idea 2: The Characteristics of Scientific Knowledge Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion.	**1**	**1**				
Big Idea 3: The Role of Theories, Laws, Hypotheses, and Models The terms that describe examples of scientific knowledge, for example; "theory," "law," "hypothesis," and "model" have very specific meanings and functions within science.					**1**	**1**
Big Idea 4: Science and Society As tomorrow's citizens, students should be able to identify issues about which society could provide input, formulate scientifically investigable questions about those issues, construct investigations of their questions, collect and evaluate data from their investigations, and develop scientific recommendations based upon their findings.			**2**	**1**		

	GRADE 5		GRADE 8		GRADE 11	
Body of Knowledge: Earth and Space Science	**Com**	**FT**	**Com**	**FT**	**Com**	**FT**
	4	**3**	**3**	**1**	**3**	**3**
Big Idea 5: Earth in Space and Time Humans continue to explore Earth's place in space. Gravity and energy influence the formation of galaxies, including our own Milky Way Galaxy, stars, the Solar System, and Earth. Humankind's need to explore continues to lead to the development of knowledge and understanding of our Solar System.			**3**	**1**		
Big Idea 6: Earth Structure Humans continue to explore the composition and structure of the surface of the Earth. External sources of energy have continuously altered the features of Earth by means of both constructive and destructive forces. All life, including human civilization, is dependent on Earth's water and natural resources.					**1**	**1**
Big Idea 7: Earth Systems and Patterns Humans continue to explore the interactions among water, air, and land. Air and water are in constant motion that results in changing conditions that can be observed over time.	**4**	**3**			**2**	**2**

Body of Knowledge: Physical Science	**Com**	**FT**	**Com**	**FT**	**Com**	**FT**
	5	**3**	**7**	**3**	**4**	**3**
Big Idea 8: Properties of Matter All objects and substances in the world are made of matter. Matter has two fundamental properties: matter takes up space and matter has mass.			**5**	**2**		
Big Idea 9: Changes in Matter Matter can undergo a variety of changes.			**2**	**1**		
Big Idea 10: Forms of Energy Energy is involved in all physical processes and is a unifying concept in many areas of science.	**3**	**1**			**2**	**2**
Big Idea 11: Energy Transfer and Transformations Waves involve a transfer of energy without a transfer of matter.	**1**					
Big Idea 12: Motion of Objects Motion is a key characteristic of all matter that can be observed, described, and measured.					**2**	**1**
Big Idea 13: Forces and Changes in Motion It takes energy to change the motion of objects.	**1**	**2**				

Body of Knowledge: Life Science	GRADE 5		GRADE 8		GRADE 11	
	Com	FT	Com	FT	Com	FT
	4	1	3	1	6	0
Big Idea 14: Organization and Development of Living Organisms All plants and animals, including humans, are alike in some ways and different in others.	3				2	
Big Idea 15: Diversity and Evolution of Living Organisms Earth is home to a great diversity of living things, but changes in the environment can affect their survival.					2	
Big Idea 16: Heredity and Reproduction Offspring of plants and animals are similar to, but not exactly like, their parents or each other.					2	
Big Idea 17: Interdependence Plants and animals, including humans, interact with and depend upon each other and their environment to satisfy their basic needs.	1	1				
Big Idea 18: Matter and Energy Transformations Living things all share basic needs for life.			3	1		

Overall Item Specifications

Items should clearly address the concept and/or skill described in the Access Point for each level of complexity within an item set. To the extent possible, the tasks for each of the Access Points within a given item should be related (i.e., the task for the independent Access Point should assess the same concept and/or skill as the task for the Participatory level, but at a higher level of cognitive demand). This is also true from grade level to grade level test.

Where not otherwise specified in the standard being assessed, numbers and other elements of items should be kept as simple as possible.

To the extent possible, items should involve situations or contexts that can be expected to be familiar to most students and that are age-appropriate. In particular, items for the secondary grades should involve situations, contexts, and objects that are of interest to older students, that are as concrete as possible, and that relate to real life activities.

Items will be developed with real world contexts in mind. Items will be kept at as concrete a level as possible.

Items should be written so they do not refer to specifically labeled pictographs; rather, they are framed using general descriptions.

Response Options

- For students who are deaf or hard of hearing, responses to fluency items cannot be read or signed. Keeping this in mind, developers want to use words in the questions that have a sign and do not require the administrator to finger spell.

- Teachers may substitute graphics with real objects for those students who may benefit from concrete objects or manipulatives. For this reason, response items should be comprised of familiar appropriately sized objects that may be easily accessible in the classroom whenever possible. For example, use objects like erasers, markers, and pencils instead of cars, dogs, and houses.

- Where students are asked to select a single choice from a set of response options, there should be at most three options provided. On occasion students may be given up to six options and asked to address each one, for example in an item that asks a student to recognize examples and non-examples of a given concept (e.g., show six different shapes and ask student to identify all the ones that are squares).

- In reading, response options do not have to match the passage exactly. At the Participatory and Supported level item responses may come directly from the passage; but at the Independent level, they should not come directly from the passage in order to ensure increased complexity.

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- How response options are named is especially important. It is important to look at both the way the question is phrased and how the options are labeled and listed in the Materials so the answer is not cued to the student. For example, if an item asks “Show me/tell me who is Mrs. Smith” and the correct response is labeled “Mrs. Smith,” the answer would be given away to the student. The item should be rephrased to “Show me/tell me who the story was about” or “Show me/tell me who bought a puppy.”

- At all Access Point levels of complexity (Participatory, Supported and Independent), students may respond with the mode of communication that they most commonly use, such as yes/no cards, picture cards, word cards, sentence strips, verbal or written responses, eye gaze, assistive technology, and/or signing. Typically, response options will be provided in a three-selection format from which the student can choose.

    - Participatory Level Access Points – Response options will primarily be word/picture cards and number cards. If the Access Point indicates “words paired with pictures,” word picture cards will definitely be provided. The two incorrect options will not relate to the item stimulus. This “not related to the item stimulus” will be a mix of items where the incorrect responses are not at all related (cat, pencil, cup - cat being correct response) and incorrect responses that are within the same larger category (cat, dog, horse - cat being correct).

    - Supported Level Access Points – Response options will primarily be picture cards, word/picture cards, sentence/picture strips, and number cards. Pictures will not be on response cards/strips where the Access Point requires the student to read (fluency items). At least one of the two incorrect options will relate to the item stimulus.

    - Independent Level Access Points – Response options will primarily be picture cards, word/picture cards, sentence/picture strips, and number cards. Pictures will not be on response cards/strips where the Access Point requires the student to read. Both of the incorrect options will relate to the item stimulus. In writing, there may also be open-ended questions where the student will be expected to independently provide a response.

Graphics

- Provide picture cues at all three levels of complexity (Pa, Su, and In) to allow students who function at the early-symbolic level to access the items. Graphics may be excluded when the use of pictures complicate the item for other students. If at all possible, items should be written that can be depicted with a picture.

Items may be rejected if a concept cannot be depicted in pictures or if a picture adds confusion to the test item.

- Item graphics should be available as a manipulative as much as possible, especially at the Participatory level. When considering manipulatives, real objects must be able to be substituted for the graphic (i.e., no miniatures or replicas). If manipulatives are not appropriate (for some science items, for example), the graphic labels in the Materials column must be detailed enough to give a clear description of the graphic.

- Graphics should be consistent within a stimulus set or within a response set. If there are two stimulus cards, both will either be Picture Communication Symbols (PCS) or line art.

- Graphics, whenever possible, will be PCS at grades 3 through 5, a mix of PCS (especially at the Participatory level) and line art at grades 6 through 8, and only line art at grades 9 through 11.
    - PCS will not be customized. They shall remain as they appear in the Mayer-Johnson library.
    - PCS may be with or without hair. All responses to an item level will be consistent, one or the other.

- Line art, both for passages and item responses, will be black and white drawings using a heavy weight line (2–2.5 point). Grayscale will be used only if necessary. For example, in a glass or pitcher showing a liquid, the liquid will be shaded.

- Graphics will focus on the essence of the idea and leave out extraneous information.

- Graphics, whenever possible, should be of pictures of objects that can be easily replaced with the real objects. These objects need to be easily accessible in a school setting.

- Graphics of objects that may be replaced by the real object need to be small enough to fit on a desk space and to remain stable (not rolling around).

- Graphics should avoid foods or dangerous objects as much as possible.

- Graphics should use the entire space provided on a card or strip to be as large as possible.

- All coin graphics will show coins at actual size.

- All graphics including bills need to depict the bills as large as possible.

- Clock graphics will include minute marks only if the item requires them (8:17, 4:12).

- All default emotions of characters will be happy unless the item or passage specifies otherwise.

- Graphics of objects will be as “real” as possible and will not be interpretive. At grades 3 through 5 it may be appropriate for graphics to be somewhat cartoon-like or similar to PCS (suns, clouds, raindrops); but starting at grade 6, the graphics need to be more realistic.

- Graphics that include bodies should provide context/detail when applicable. For example, if an ear is the target response, a whole head will be drawn with an arrow pointing to the ear; if a leg is required a whole body will be drawn with an arrow pointing to the leg. Graphics solely of isolated body parts may be used for occasional items, when appropriate, per discretion of developer.

- All charts, graphs, and words or numbers in a graphic will be a minimum of 18 point font.

- All tables and charts must have titles and keys as appropriate. All keys should be placed so that they stand out.

- All counting objects for item graphics will avoid complex graphics. For example, a pattern of a circle, square, and triangle is more appropriate than a car, dog, and horse pattern.

Reading to the Student

- Passages will be read aloud to the student unless otherwise indicated in the item.

- All charts and graphs will be read to the student. If there is a key with the chart or graph, it will also be read to the student.

- At all Access Points, word cards and sentence strips will be read to the student. When cards/strips are not to read to the student (fluency items) the item clearly states this.

- All passages will be a minimum of 18 point font.

Item Terminology

- To determine whether a word is appropriate to use in an item, a variety of sources will be used: Dolch Basic Sight Word List, Revised Dolch List, the work of Chall and Popp described in Teaching and Assessing Phonics: Why, What, When, How (Educators Publishing Service, Inc., 1996), EDL Core Vocabularies in Reading, Mathematics, Science*, and Social Studies,*(Steck-Vaughn Company,1989), and *The Living Word* by Dale and O'Rourke (World Book-Childcraft International, Inc.,1981). Again, we will rely on the Review Committee of Practitioners to help make the word choices appropriate for the student population and make the test an experience that measures what a student knows and is able to do.

- All items will be written as simply as possible, avoiding wordiness.

- Simple content terminology will be used in grades 3 through 5 and at the Participatory level at all grades, with more accurate content terminology usage at grades 6 through 11. For example, in grades 3 through 5 the question may be "What is the story mostly about?" and at grades 6 through 11 the question will be "What is the main idea?"

- It is important to keep in mind that it is the concept that is being assessed and not the vocabulary in most instances.

- When identifying in the teacher scripting that there are three distinct categories of options presented in the item, identifying the options should be more specific; for example, "Here are three angles, shapes, animals." This level of specificity can be used as long as it does not give away the answer to the item.

- Stimulus cards may be identified in the Teacher Will column; for example, "Here is a girl" vs. "Here is a picture." This may be used as long as identifying the picture does not give away the answer.

Teacher Gathered Materials

- All students will have calculators, number lines, and counting blocks available to them for all math items as determined by the teacher. Items should only list any of these tools as teacher-gathered materials if the Access Point is assessing their use. If this is the case, the item needs to indicate its use to the student and the Student Will portion should indicate the use as part of the correct response.

- Items may presume the use of some readily available classroom materials, such as counters. However, most items should include all necessary materials (e.g., shapes), and other manipulatives (e.g., picture cards) will be provided as graphics on regular paper.

- Items will refrain from referring to the color of objects, mathematics items can refer to shapes that can be readily felt instead.

Mathematics

- Mathematics items will always include definitions of terminology and formulas as needed. For example, an item will not ask “Which one is the isosceles triangle?” Rather, it will ask “Which triangle is isosceles–two of the three sides are the same length?” or “Which triangle has two of the three sides the same length?”

- There should be a mix of items in mathematics, some with context and some without context. It is important not to introduce context into an item that is confusing or too language heavy.

- All numbers that are four-digits or longer will include commas.

- Mathematics computation items should be presented as a mix of horizontal and vertical items.

Other

- Other item specifications will follow two sets of guidelines:
  1. Those described in the FCAT Reading, Writing, Mathematics, and Science Test Item and Performance Task Specifications
  2. Item-writing guidelines typically followed by Measured Progress
     a. Items are aligned to the particular standard and appropriate level of difficulty.
     b. Items and tasks are clear, concise, and easy to read.
     c. Items will have one and only one answer for multiple-choice.
     d. Irrelevant clues to the correct answer are avoided.
     e. Most items will be positively worded.
     f. Response options will have similar length.
     g. All response options will be similar in grammatical structure and form.
     h. Item context will avoid any cultural, racial, or gender bias.
     i. Items will follow the principles of Universal Design.

Appendices

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Appendix A – Depth of Knowledge

Depth of Knowledge

DOK	Description	General Performance Verbs	Content Clarification	Examples
1	**Attention**	touch, look, vocalize, repeat, attend	• Simple commands that require no answer—only require doing the command. • Generally not assessed as a skill. Used to focus the student on a task.	Look at me. Listen while I read this story.
2	**Rote Knowledge, Memorize/ Recall**	list, identify, state, label, recognize, record, match, recall, retell	• Habitual response—recalls previously heard or learned information. • Practiced, rote behavior. • No inferences are required for correct answer. • Habitual response of common day to day activities or objects. **English Language Arts** • Matches picture/word to picture/word. • Identifies rhyming words. • Identifies letters by phonics/sounds or sight. • Identifies detail of text of 2-3 simple sentences using verbatim wording. • Identifies correct spelling of misspelled word. • Identifies misspelled common words. • Identifies letters and phonetically regular, high frequency words (self-read). **Mathematics** • Identifies characteristics (e.g., shape, face, side, corner, angle, etc.) of common objects or shapes. • Tells time on a digital clock. • Recognizes familiar object added to group of objects. • Identifies shapes presented in the same orientation and not a direct match situation. **Science** • Identifies object from picture or manipulative choices. • Identifies common object when function is described. • Recalls function of basic body parts.	Show me/tell me… …which can you drink from? (book, cup, pen) …what do you read? (book, desk, stapler) Show me/tell me… …which shape is round? (circle, square, triangle) Show me/tell me… …what kind of weather is wet? …what object gives light? …what body part can taste food?

3	**Use of Knowledge and Information**	perform, tell, demonstrate, follow, count, locate, name, read, describe, define	• Engagement of some mental processing beyond habitual response. • Simple inferences may be needed. • Uses information from a chart or graph to make simple inferences in order to correctly respond. • Chooses what comes next in a sequence.

English Language Arts

- Indicates comprehension of basic/common words or two to three word sentences.
- Identifies main idea by applying information gained from text.
- Identifies detail by making simple inferences.
- Identifies a relevant or best sentence to add to passage.
- Self-reads materials/passages.
- Identifies best word to complete sentence.
- Identifies initial word in sentence in need of capitalization.
- Identifies incorrectly used common punctuation.
- Identifies basic punctuation (period and question mark).

Show me/tell me…

…what is the main idea?

…who is this story about?

…what fits in the blank of this sentence?

…what happens next in the story?

…which word in this sentence is misspelled?

Mathematics

- Tells time on analog clock.
- Identifies number sentence/equation that reflects number relationships (no comp.).
- Tells measurement with ruler on placed stimulus.
- Performs basic computation (counting may be a strategy).
- Identifies # of angles and angle type.
- Identifies parts of objects or # of objects in group representing simple fractions (1/2, 1/3, 1/4).
- Identifies information from a graph.
- Match number to picture model.
- Identifies similar shapes when picture cues are rotated, reflected, or translated.
- Constructs simple new shapes.

Show me/tell me…

…how many cookies are needed for 5 children to have 2 cookies each? (picture cues of five students holding two cookies each are provided)

…what is the length of the longest side (hypotenuse) of the triangle? (picture of triangle with a ruler alongside it)

…what is half of the number of blocks shown?

Science

- Identifies additional attribute from common experience/knowledge (e.g., weather, animals).

Show me/tell me…

…what other animals live in the desert?

…how does someone move a mower?

…an element is a substance that cannot be broken down into...which of these is an element?

4	**Comprehension**	explain, conclude, group, categorize, restate, review, translate, describe (concepts), paraphrase, infer, summarize, illustrate, compute, classify, solve	• Strategic thinking—requires reasoning, planning a sequence of steps. • Answer choices summarize and are not verbatim from passage.	

English Language Arts

FROM INFORMATION THAT IS INFERRED: • Identifies theme or message of a story. • Identifies main idea by drawing conclusions or making inferences. • Identifies elements of a story without definition of the element. • Identifies purpose of writing passage. • Selects best sentence(s) for middle or end of passage (correct order required). • Orders three or more sentences to communicate logical sequence of events. • Sorts or groups words or items with categories given. • Identifies sentence that best supports topic. • Identifies two or more sentences to complete a composition. • Identifies correct meaning of words from context sentence. • Edits for correct use of subject and verb agreement. • Edits for correct use of singular and plural nouns. • Identifies proper nouns and pronouns within sentences, and book titles in need of capitalization. • Identifies correct punctuation (exclamation point, quote, comma).	Show me/tell me… …what is the main idea? …who is this story about? …what is the "plot" of this story? …which of these is found inside a house and which are found outside a house? (bed, swing set, trees, car, computer) Bed becomes a plural (more than one bed) by adding an "s". …what would more than one tree be? (tree, treeses, trees)

4	**Comprehension**	explain, conclude, group, categorize, restate, review, translate, describe (concepts), paraphrase, infer, summarize, illustrate, compute, classify, solve	**Mathematics** • Computes math operations with equation or organizer given. (Requires computation and not one to one counting.) • Identifies objects, letters, or objects with line symmetry. • Computes area and perimeter when sides are labeled. • Identifies patterns with more than two repetitions. • Groups objects into three or more groups. • Uses information from a graph. • Makes predictions of random selection process. • Identifies faces of more than one 3 dimensional object with only one object presented as stimulus. • Computes prices of items with tax. • Identifies correct number sentence/equation from a group of three viable choices (requires computation). • Uses ruler to measure. • Reduces fractions.	Show me/tell me… …what is the area of a triangle that measures 5 inches in height (h) and 3 inches at the base (b)? (area of triangle is ½ bh) …what is the perimeter (distance around) of square that is 4 inches on each side? …how many apples are needed for six students if each student gets two apples? (provide picture cue of 2 apples only)
			Science • Identifies components of a scientific process. • Draws conclusions based on provided information. • Generalizes body part functions/processes across species by making inferences.	Show me/tell me… …where does snow fall most? …which object is the hardest to move? …why do the two plants look different? …which layer (of Earth) is the thickest? …what caused the paper to become damp? …what caused the box to stop moving? …which part pumps blood through the dog's body?

5	**Application**	organize, collect, apply, construct, use, develop, generate, interact with text, implement	• Extended thinking—making connections within and between subject domains, non routine problem solving. • Student generates answer without cues.	

English Language Arts

- Makes connections between multiple sources.
- Generates response.
- Implements a plan.

Mathematics

- Computes with no equation and limited numbers presented (i.e., for perimeter, numbers are given on only 2 sides of 4 sided figures).
- Constructs complex new shape from given shapes.
- Computes by translating word problems into number problems.

Show me/tell me…

…what is the perimeter (distance around a figure) of a rectangle with one side measuring 8 inches and another side measuring 3 inches?

Jill types 10 words per minute. …how long will it take Jill to type fifty words? (5, 10, or 15 min.)

Science

- Explains cause and effect relationships.
- Orders three or more components of a scientific process.
- Describes processes of production or reproduction by ordering sentences.

Show me/tell me…

…how does the weather help the kite stay up in the sky?

…the order that energy moves through this food chain.

…which part of the pine tree makes food by using the sunlight?

6	**Analysis Evaluation**	pattern, analyze, compare, contrast, compose, predict, extend, plan, judge, evaluate, interpret, cause/effect, investigate, examine, distinguish, differentiate, generate	• Requires investigation. • Student predicts based on information given. • Student creates possible alternative outcomes. • Student uses multiple sources to answer question without cues/supports. • Generally, DOK levels of 6 will not be found on an assessment unless open response items that require investigation using two or more texts are assessed. **English Language Arts** Show me/tell me… …tell me another possible ending to the story (no options provided). Compares the events in two passages. **Mathematics** Compares the areas or perimeters of two shapes. **Science** Show me/tell me… …what kind of science experiment can you do to find out how many hours of sun a seed needs to sprout?

Appendix B – Presentation Rubric

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Presentation Rubric

	No scenario presented: – 1 simple sentence <u>stating</u> stimulus (when applicable) – Little to no additional info or instruction beyond standard item template language – Minimal response options (no complete sentences or equations) *Here are 3 pics. SMTM which animal has wings.* (no stimulus, 3 pic cards) *Here are 3 pics with words. SMTM which one holds water.* (no stimulus, 3 word/pic cards) *Here are four paper clips. Here are 3 numbers. SMTM half of the paper clips. (*stimulus pic strip, 3 number cards)	**Limited** scenario presented: – 1 sentence <u>describing</u> stimulus/materials or scenario – Minimal information provided in 1 simple format (pictograph, organizer, formula) – Passage items: short paragraph with simple sentences – *No scenario, but complete sentences or equations for response options *Carlos wants to read a book. SMTM where Carlos would most likely find a book.* (no stimulus, 3 word/pic cards) *Here is a table that shows the cost of fruit. SMTM which amount shows the cost of 3 oranges.* (stimulus table, 3 number cards)	**Moderate** scenario presented: – 2 sentences <u>describing</u> stimulus/materials or scenario – Moderate information provided in 1 format (graph, organizer, formula) – Passage items: 2 to 4 short paragraphs (moderate info/plot development) *This is a toy car. I can push it to make it roll across the table. If nothing stops it when it reaches the edge of the table it will fall. SMTM what causes the car to fall to the ground.* (stimulus toy car, 3 word/pic cards) *Hector put four beads on a necklace. He wants to make 3 more necklaces. SMTM how many more beads Hector needs.* (2 stimulus pic cards, 3 number cards)	**Complex** scenario presented: – 3 or more sentences <u>describing</u> stimulus/materials or scenario – Extensive information provided in 1 format or basic/moderate information provided in more than 1 format (graph, organizer, formula) – Passage items: 4 or more paragraphs (extensive info/plot development) *This is a picture of a steak. Steak is meat from a cow. This meat is part of a food chain. You're going to put these sentences in order to show what happens 1st, 2nd, and 3rd. SMTM the order in which energy is used to make meat.* (stimulus sent. strip, 3 sentences)
	Familiar vocabulary presented: – Everyday words and single digit numbers (e.g., round shape, which is a boy, what is one more, which is wet) presented in item – No content words used	Somewhat familiar vocabulary presented: – Everyday words and double digit numbers (and higher) presented in item – Minimal basic content words used	Familiar & unfamiliar vocabulary presented: – Mix of everyday words and unfamiliar words presented in item – Basic content words used	Abstract & unfamiliar vocabulary presented: – Mix of everyday words and unfamiliar words presented in item including abstract words – Complex content words used
	No Content Words →	**Basic Content Words** (familiar used with high frequency) e.g., story, sentence, add, square, heat, light →		**Complex Content Words** (less familiar and abstract) e.g., simile, hyperbole, congruent, carbon cycle, atom
	Familiar and everyday context within student's immediate setting (home, school)	Familiar context within student's immediate & extended setting (home, school, community)	Mix of familiar & unfamiliar context within student's immediate and extended setting (home, school, community, global)	Unfamiliar context requiring student to apply acquired knowledge to understand new and abstract context
	Familiar Context & Immediate Setting (home and school) e.g., class, schedule, lunch, recess, counting objects, kitchen, weather, basic body parts →	**Familiar Context & Extended Setting** (community) e.g., town library/museum, grocery store, volunteering, FL related animals/facts →	**Unfamiliar Context & Extended Setting** (global community) e.g., animals/facts beyond FL (US/other countries), life cycle, respiratory system, environmental/global issues, internal functions of organs →	**Unfamiliar & Abstract Context** inflation, 2D/3D conversion, algebraic terms/expressions, object translation, gravity, personification, carbon cycle, genes