Test Design Summary
2013–14 Operational Assessments

I. Purpose of the FCAT 2.0 and Florida EOC Assessments

The Florida Comprehensive Assessment Test® 2.0 (FCAT 2.0) and Florida End-of-Course (EOC) Assessments are part of Florida's Next Generation Strategic Plan for the purpose of increasing student achievement and improving college and career readiness. The statewide assessment program has transitioned to assessing student achievement of the Next Generation Sunshine State Standards (NGSSS) through the implementation of the FCAT 2.0 and Florida EOC Assessments. The FCAT Mathematics Retake, which measures student achievement of the Sunshine State Standards (SSS), continues to be administered for students who still need to pass it in order to graduate with a standard high school diploma.

II. Tests Administered in Grades 3–Adult

Table 1: FCAT 2.0 and FCAT Assessments
This table provides an overview of the subjects assessed at each grade level by the FCAT 2.0 and FCAT. (Test design information for the FCAT 2.0 Reading and FCAT Mathematics Retakes is provided in Section VII.)

Grade	R	M	S	W	Tests
	Subjects				
3	✔	✔			◆ FCAT 2.0 Reading ◆ FCAT 2.0 Mathematics
4	✔	✔		✔	◆ FCAT 2.0 Reading ◆ FCAT 2.0 Mathematics ◆ FCAT 2.0 Writing
5	✔	✔	✔		◆ FCAT 2.0 Reading ◆ FCAT 2.0 Mathematics ◆ FCAT 2.0 Science
6	✔	✔			◆ FCAT 2.0 Reading ◆ FCAT 2.0 Mathematics
7	✔	✔			◆ FCAT 2.0 Reading ◆ FCAT 2.0 Mathematics
8	✔	✔	✔	✔	◆ FCAT 2.0 Reading ◆ FCAT 2.0 Mathematics ◆ FCAT 2.0 Science ◆ FCAT 2.0 Writing
9	✔				◆ FCAT 2.0 Reading
10	✔			✔	◆ FCAT 2.0 Reading ◆ FCAT 2.0 Writing
11–Adult	✔	✔			◆ FCAT 2.0 Reading Retake* ◆ FCAT Mathematics Retake**

* The FCAT 2.0 Reading Retake is based on the 2007 NGSSS.
** The FCAT Mathematics Retake is based on the 1996 SSS.

Table 2: Florida EOC Assessments

This table provides an overview of the subjects assessed by the EOC assessments. Florida EOC Assessments are not grade-level specific; rather, they are designed to measure student achievement of the NGSSS for specific courses and their equivalents, as outlined in the course descriptions.

Course	Test
Algebra 1, Course Number 1200310	Algebra 1 EOC Assessment
Geometry, Course Number 1206310	Geometry EOC Assessment
Biology 1, Course Number 2000310	Biology 1 EOC Assessment
U.S. History, Course Number 2100310	U.S. History EOC Assessment
Civics, Course Number 2106010	Civics EOC Assessment

III. Content Categories

Tables 3–7 present the content categories and the percentage of raw-score points that will be derived from each content category for the FCAT 2.0 and Florida EOC Assessments.

Table 3: FCAT 2.0 Reading

Grade	Vocabulary	Reading Application	Literary Analysis: Fiction & Nonfiction	Informational Text & Research Process
3–7	15–25%	25–35%	25–35%	15–25%
8–10	15–25%	20–30%	20–30%	25–35%

Table 4: FCAT 2.0 Mathematics

Grade	Category	Percentage
3	Number: Operations, Problems, and Statistics	50
	Number: Fractions	20
	Geometry and Measurement	30
4	Number: Operations and Problems	45
	Number: Base Ten and Fractions	25
	Geometry and Measurement	30
5	Number: Base Ten and Fractions	50
	Expressions, Equations, and Statistics	20
	Geometry and Measurement	30
6	Fractions, Ratios, Proportional Relationships, and Statistics	40
	Expressions and Equations	40
	Geometry and Measurement	20
7	Number: Base Ten	25
	Ratios and Proportional Relationships	25
	Geometry and Measurement	30
	Statistics and Probability	20
8	Number: Operations, Problems, and Statistics	25
	Expressions, Equations, and Functions	40
	Geometry and Measurement	35

Table 5: FCAT 2.0 Science

Grade	Nature of Science	Earth and Space Science	Physical Science	Life Science
5	17%	29%	29%	25%
8	19%	27%	27%	27%

Table 6: FCAT 2.0 Writing

The writing assessment is administered to students in grades 4, 8, and 10. It provides one prompt for each grade to which students are expected to draft a response according to a specific purpose (mode). The student response should integrate the writing elements of **focus**, **organization**, **support**, *and* **conventions**. *The possible modes of writing used at each grade are presented in the table below.*

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

Table 7: Florida EOC Assessments

Test	Category	Percentage
Algebra 1	Functions, Linear Equations, and Inequalities	55
	Polynomials	20
	Rationals, Radicals, Quadratics, and Discrete Mathematics	25
Geometry	Two-Dimensional Geometry	65
	Three-Dimensional Geometry	20
	Trigonometry and Discrete Mathematics	15
Biology 1	Molecular and Cellular Biology	35
	Classification, Heredity, and Evolution	25
	Organisms, Populations, and Ecosystems	40
U.S. History	Late Nineteenth and Early Twentieth Century, 1860–1910	33
	Global Military, Political, and Economic Challenges, 1890–1940	34
	The United States and the Defense of the International Peace, 1940–present	33
Civics	Origins and Purposes of Law and Government	25
	Roles, Rights, and Responsibilities of Citizens	25
	Government Policies and Political Processes	25
	Organization and Function of Government	25

IV. Reading Passages

Proposed reading passages are reviewed by Florida educators for quality and grade-level appropriateness. Criteria for this review can be found in the *FCAT 2.0 Reading Test Item Specifications.* A review is also conducted by a committee of Florida citizens to ensure that the passages are free of bias and cultural insensitivity.

Table 8: Length of FCAT 2.0 Reading Passages

Grade	Number of Words per Passage	
	Range	Average
3	100–700	500
4	100–900	500
5	200–1000	600
6	200–1100	700
7	300–1100	700
8	300–1200	700
9	300–1400	900
10	300–1500	1000

Table 9: Reading Passage Types and Percentage for FCAT 2.0 Reading
Literary passages provide entertainment or inspiration and include fiction, nonfiction, poetry, and drama.
Informational passages are subject-matter centered and the language may be used to solve problems, raise questions, provide information, or present new ideas. The context of these passages includes everyday life outside of the classroom.

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

V. Cognitive Complexity

FCAT, FCAT 2.0, and EOC assessment items are classified using a model with origins in the works of Dr. Norman Webb[1] on depth of knowledge and the cognitive classification system used for the National Assessment of Educational Progress (NAEP). With this system, items are classified on the cognitive demand inherent in the test item, not on assumptions about the student's approach to the item.

Low-complexity items rely heavily on recall and recognition. Moderate-complexity items require more flexible thinking and may require informal reasoning or problem solving. High-complexity items are written to elicit analysis and abstract reasoning. Tables 10–13 and 20 present the range for the percentage of raw-score points by cognitive complexity level on each FCAT, FCAT 2.0, and EOC assessment.

Note: Although a table is not included for FCAT 2.0 Writing, the FCAT 2.0 Writing prompt is a high cognitive complexity performance task administered at grades 4, 8, and 10.

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[1] Webb, Norman L. and others. "Web Alignment Tool" 24 July 2005. Wisconsin Center for Education Research. University of Wisconsin-Madison. 2 Feb. 2006. http://www.wcer.wisc.edu/WAT/index.aspx.

Table 10: Percentage of Points by Cognitive Complexity Level for FCAT 2.0 Reading Assessments

Grade	Low	Moderate	High
3	25–35	50–70	5–15
4	20–30	50–70	10–20
5–7	15–25	50–70	15–25
8–9	10–20	50–70	20–30
10	10–20	45–65	25–35

Table 11: Percentage of Points by Cognitive Complexity Level for FCAT 2.0 and EOC Mathematics Assessments

Grade/Course	Low	Moderate	High
3–4	25–35	50–70	5–15
5–8	10–20	60–80	10–20
Algebra 1	10–20	60–80	10–20
Geometry	10–20	60–80	10–20

Table 12: Percentage of Points by Cognitive Complexity Level for FCAT 2.0 and EOC Science Assessments

Grade/Course	Low	Moderate	High
5	10–20	60–80	10–20
8	10–20	60–80	10–20
Biology 1	10–20	60–80	10–20

Table 13: Percentage of Points by Cognitive Complexity Level for the U.S. History EOC Assessment

Course	Low	Moderate	High
U.S. History	20–30	45–65	15–25
Civics	15-25	45-65	15-25

VI. Test Length and Item/Prompt Types

Table 14: Duration of Test
The table below displays the number of minutes allowed for the 2014 regular test takers. With the exception of FCAT 2.0 Writing, which is administered in one session, all tests are administered in two sessions.

Grade/Course	Reading	Mathematics	Science	Writing	Social Studies
3	140	140			
4	140	140		60	
5	140	140	160		
6	140	140			
7	140	140			
8	140	140	160	60	
9	140				
10	140			60	
Algebra 1		160			
Geometry		160			
Biology 1			160		
U.S. History					160
Civics					160

Table 15: Number of Items
This table provides an approximate range for the number of items on each test.

Grade	Reading	Mathematics	Science	Writing	Social Studies
3	50–55	50–55			
4	50–55	50–55		1 prompt	
5	50–55	50–55	60–66		
6	50–55	50–55			
7	50–55	50–55			
8	50–55	60–65	60–66	1 prompt	
9	50–55				
10	50–55			1 prompt	
Algebra 1		60–65			
Geometry		60–65			
Biology 1			60–66		
U.S. History					50–60
Civics					52-56

Note: Approximately 6–10 items on all of the tests listed above are experimental (field test) and are included in the ranges above but are <u>not</u> included in students' scores.

Table 16: Item Types and Numbers
This table gives ranges for the approximate number of items by item type.

Grade	Reading	Mathematics	Science	Writing	Social Studies
3	50–55 MC	50–55 MC			
4	50–55 MC	35–40 MC 10–15 GR		1 prompt	
5	50–55 MC	35–40 MC 10–15 GR	60–66 MC		
6	50–55 MC	35–40 MC 10–15 GR			
7	50–55 MC	35–40 MC 10–15 GR			
8	50–55 MC	35–40 MC 20–25 GR	60–66 MC	1 prompt	
9	50–55 MC				
10	50–55 MC			1 prompt	
Algebra 1		35–40 MC 20–25 FR			
Geometry		35–40 MC 20–25 FR			
Biology 1			60–66 MC		
U.S. History					50–60 MC
Civics					52-56 MC

Key
GR – Gridded-Response
MC – Multiple-Choice
FR – Fill-in Response

VII. Test Design Information for Retake Assessments

FCAT/FCAT 2.0 Retake assessments are administered to students and adults who have not passed the grade 10 assessments required for graduation. Retake test administrations occur each year in the spring and fall for the FCAT and FCAT 2.0. Tables 17–23 provide test design information for the FCAT 2.0 Reading and FCAT Mathematics Retake assessments.

Table 17: Content Categories for Reading and Mathematics Retakes

Grade	Test	Category	Percentage
11–Adult	FCAT 2.0 Reading	Vocabulary	15–25
		Reading Application	20–30
		Literary Analysis: Fiction and Nonfiction	20–30
		Informational Text and Research Process	25–35
11–Adult	FCAT Mathematics	Number Sense, Concepts, and Operations	16–17
		Measurement	16–17
		Geometry and Spatial Sense	16–25
		Algebraic Thinking	16–25
		Data Analysis and Probability	16–17

Table 18: Length of Reading Retake Passages

Number of Words per Passage		
Test	Range	Average
FCAT 2.0 Reading	300–1500	1000

Table 19: Reading Passage Types and Percentages for the Reading Retakes

Literary passages provide entertainment or inspiration and include fiction, nonfiction, poetry, and drama.

Informational passages are subject-matter based and the language may be used to solve problems, raise questions, provide information, or present new ideas. The context of these passages includes everyday life outside of the classroom.

Test	Literary Text	Informational Text
FCAT 2.0 Reading	30%	70%

Table 20: Percentage of Points by Cognitive Complexity Level for Retakes

Test	Low	Moderate	High
FCAT 2.0 Reading Retake	10–20	45–65	25–35
FCAT Mathematics Retake	10–20	50–70	20–30

Table 21: Duration of Test for Retakes

Test	Duration
FCAT 2.0 Reading Retake	2 sessions; each session up to one-half of one school day
FCAT Mathematics Retake	Up to one school day

Table 22: Number of Items

Test	Reading	Mathematics
FCAT 2.0 Retake	50–55	
FCAT Retake		55–60
Note: All items on the FCAT Mathematics Retake contribute to students' scores. Approximately 6–10 items on the FCAT 2.0 Reading Retake are experimental (field test) and are included in the range above but are <u>not</u> included in students' scores.		

Table 23: Item Types and Numbers

Test	Reading	Mathematics
FCAT 2.0 Retake	50–55 MC	
FCAT Retake		30–35 MC 20–25 GR

Key
GR – Gridded-Response
MC – Multiple-Choice