

TEST DESIGN SUMMARY

2011 OPERATIONAL ASSESSMENTS

FCAT/FCAT 2.0/ END-OF-COURSE

I. Purpose of the FCAT, FCAT 2.0, and EOC Assessments

The Florida Comprehensive Assessment Test[®] (FCAT), Florida Comprehensive Assessment Test[®] 2.0 (FCAT 2.0), and Florida End-of-Course (EOC) Assessments are components of Florida's effort to improve the teaching and learning of higher educational standards. The primary purpose of the FCAT and FCAT 2.0 criterion-referenced tests and EOC assessments is to assess student achievement of the high-order thinking skills represented in the Sunshine State Standards (SSS) and the Next Generation Sunshine State Standards (NGSSS) for Reading, Writing, Mathematics, and Science.

II. Tests Administered in Grades 3–11

Table 1: Types of Tests

This table provides an overview of the subjects assessed by the FCAT, FCAT 2.0, and EOC assessments as well as a listing of the types of tests administered at each grade.*

Grade	Subjects				Tests
	R	M	S	W	
3	✓	✓			<ul style="list-style-type: none"> ♦ FCAT 2.0 Reading ♦ FCAT 2.0 Mathematics
4	✓	✓		✓	<ul style="list-style-type: none"> ♦ FCAT 2.0 Reading ♦ FCAT 2.0 Mathematics ♦ FCAT Writing
5	✓	✓	✓		<ul style="list-style-type: none"> ♦ FCAT 2.0 Reading ♦ FCAT 2.0 Mathematics ♦ FCAT Science
6	✓	✓			<ul style="list-style-type: none"> ♦ FCAT 2.0 Reading ♦ FCAT 2.0 Mathematics
7	✓	✓			<ul style="list-style-type: none"> ♦ FCAT 2.0 Reading ♦ FCAT 2.0 Mathematics
8	✓	✓	✓	✓	<ul style="list-style-type: none"> ♦ FCAT 2.0 Reading ♦ FCAT 2.0 Mathematics ♦ FCAT Science ♦ FCAT Writing
9	✓				<ul style="list-style-type: none"> ♦ FCAT 2.0 Reading
10	✓	✓		✓	<ul style="list-style-type: none"> ♦ FCAT 2.0 Reading ♦ FCAT Mathematics Grade 10/Retake** ♦ FCAT Writing
11			✓		<ul style="list-style-type: none"> ♦ FCAT Science
11 – Adult	✓	✓			<ul style="list-style-type: none"> ♦ FCAT Reading Retake** ♦ FCAT Mathematics Grade 10/Retake**
					<ul style="list-style-type: none"> ♦ Algebra 1 EOC Assessment
<p>* The Geometry EOC and Biology 1 EOC assessments will be field tested during the spring semester in selected schools. Operational testing will begin in 2012.</p> <p>** Mathematics tests for grade 10 and tests for all retake students are based on the 1996 Sunshine State Standards.</p>					

III. Content Categories

Tables 2–6 present the content categories for FCAT Science and Writing, FCAT 2.0 Reading and Mathematics, and the Algebra 1 EOC Assessment, along with the approximate percentage of raw-score points that will be derived from each content category.

Table 2: FCAT Science

Grade	Physical & Chemical Sciences	Earth & Space Sciences	Life & Environmental Sciences	Scientific Thinking
5	25%	25%	25%	25%
8	25%	25%	25%	25%
11	25%	25%	25%	25%

Table 3: FCAT 2.0 Reading

Grade	Vocabulary	Reading Application	Literary Analysis: Fiction & Nonfiction	Informational Text & Research Process
3–5	15-25%	25-35%	25-35%	15-25%
6–7	15-25%	25-35%	25-35%	15-25%
8	15-25%	20-30%	20-30%	25-35%
9–10	15-25%	20-30%	20-30%	25-35%

Table 4: FCAT 2.0 Mathematics; FCAT Mathematics Grade 10/Retake

Grade	Category	Percentage
3	Number: Operations, Problems, and Statistics	50
	Geometry and Measurement	30
	Number: Fractions	20
4	Number: Operations and Problems	45
	Geometry and Measurement	30
	Number: Base Ten and Fractions	25
5	Number: Base Ten and Fractions	50
	Geometry and Measurement	30
	Expressions, Equations, and Statistics	20
6	Fractions, Ratios, Proportional Relationships, and Statistics	40
	Expressions and Equations	40
	Geometry and Measurement	20
7	Geometry and Measurement	30
	Ratios and Proportional Relationships	25
	Number: Base Ten	25
	Statistics and Probability	20
8	Expressions, Equations, and Functions	40
	Geometry and Measurement	35
	Number: Operations, Problems, and Statistics	25
10	Number Sense, Concepts, and Operations	17
	Measurement	17
	Geometry and Spatial Sense	25
	Algebraic Thinking	25
	Data Analysis and Probability	17

Table 5: End-of-Course Assessments

Assessment	Category	Percentage
Algebra 1	Functions, Linear Equations, and Inequalities	55
	Polynomials	20
	Rationals, Radicals, Quadratics, and Discrete Mathematics	25

Table 6: FCAT 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 <i>Writing to tell a story</i>	Expository <i>Writing to explain</i>	Persuasive <i>Writing to convince</i>
4	✓	✓	
8		✓	✓
10		✓	✓

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 the passages are free of bias or cultural insensitivity.

Table 7: Length of 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 8: Reading Passage Types and Percentage of Test

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	50%	50%
5	50%	50%
6	50%	50%
7	40%	60%
8	40%	60%
9	30%	70%
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 Webb¹ 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 9-11 present the range for the percentage of raw-score points by cognitive complexity level on each FCAT, FCAT 2.0, and EOC assessment.

Table 9: Percentage of Points by Cognitive Complexity Level for FCAT Science

Grades	Low	Moderate	High
5	15-25	40-60	25-35
8	15-25	40-60	25-35
11	15-25	40-60	25-35

¹ Webb, Norman L. and others. "Webb Alignment Tool" 24 July 2005. Wisconsin Center of Educational 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

Grades	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	10–20	50–70	20–30
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/FCAT 2.0 and EOC Mathematics Assessments.

Grades	Low	Moderate	High
FCAT 2.0 Grades 3 – 4	25-35	50-70	5–15
FCAT 2.0 Grade 5	10-20	55-75	10–20
FCAT 2.0 Grades 6-8	10-20	60-80	10–20
FCAT Grade 10/ Retake	10-20	50-70	20-30
Algebra 1	10-20	60-80	10-20

Note: The **FCAT Writing** prompt is a high cognitive complexity performance task administered at grades 4, 8, and 10.

VI. Test Length and Item/Prompt Types

Table 12: Duration of Test

The table below displays the number of minutes allowed for the 2011 regular test takers. With the exception of FCAT Writing, and FCAT Reading and Mathematics Retakes, which must be taken in one day, all tests are administered in two sessions.

Grade	Reading	Mathematics	Science	Writing
3	140	140		
4	140	140		45
5	140	140	110	
6	140	140		
7	140	140		
8	140	140	110	45
9	140			
10	140	160		45
11			130	
Algebra 1		160		

Table 13: Length of Tests

This table provides an approximate range for the number of items on each test.

Grade	Reading	Mathematics	Science	Writing
3	50–55	50–55		
4	50–55	50–55		1 prompt
5	50–55	50–55	60–65	
6	50–55	50–55		
7	50–55	50–55		
8	50–55	60–65	60–65	1 prompt
9	50–55			
10	50–55	55–60*		1 prompt
11			60–65	
Retake	55–60*	55–60*		
Algebra 1		60–65		

* All items in the Grade 10 FCAT Mathematics, FCAT Mathematics Retake, and FCAT Reading Retake assessments contribute to students' scores. Approximately 6–10 items in all other tests are experimental (field test) and are included in the ranges above but not included in students' scores.

Table 14: Item Types and Numbers

This table gives ranges for the approximate number of items by item type.

Grade	Reading	Mathematics	Science	Writing
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	60–65 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	53–61 MC 4–7 GR	1 prompt
9	50–55 MC			
10	50–55 MC	30–35 MC 20–25 GR		1 prompt
11			53–61 MC 4–7 GR	
Retake	55–60 MC	30–35 MC 20–25 GR		
Algebra 1		35–40 MC 25–30 FR		

Key

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