

# TEST DESIGN SUMMARY

## 2011 ASSESSMENTS – FCAT 2.0 READING AND MATHEMATICS; ALGEBRA 1 END-OF-COURSE

### I. Purpose of FCAT 2.0 and End-of-Course Assessments

**Florida Comprehensive Assessment Test 2.0 (FCAT 2.0)<sup>®</sup>** and **Florida End-of-Course Assessments** are components of Florida's effort to improve the teaching and learning of higher educational standards. The primary purpose of FCAT 2.0 criterion-referenced tests and end-of-course tests are to assess student achievement of the high-order thinking skills represented in the Next Generation Sunshine State Standards (NGSSS).

### II. Content Categories

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

**Table 1: FCAT 2.0 Reading**

Grades	FCAT 2.0 Reading Reporting Categories			
	Vocabulary	Reading Application	Literary Analysis Friction/Nonfiction	Informational Text/Research Process
<b>3-5</b>	15-25%	25-35%	25-35%	15-25%
<b>6,7</b>	15-25%	25-35%	25-35%	15-25%
<b>8</b>	15-25%	20-30%	20-30%	25-35%
<b>9-10</b>	15-25%	20-30%	20-30%	25-35%

**Table 2: FCAT 2.0 Mathematics and Algebra 1 End-of Course**

Grade	Reporting Categories			
<b>3</b>	Number: Operations, Problems, and Statistics 50%	Geometry and Measurement 30%	Number Fractions 20%	
<b>4</b>	Number: Operations and Problems 45%	Geometry and Measurement 30%	Number: Base Ten and Fractions	
<b>5</b>	Number: Operations and Problems 45%	Geometry and Measurement 30%	Expressions, Equations, and Statistics 20%	
<b>6</b>	Fractions, Rations/Proportional Relationships, and Statistics 40%	Expressions and Equations 40%	Geometry and Measurement 20%	

Grade	Reporting Categories			
<b>7</b>	Geometry and Measurement 30%	Ratios/Proportional Relationships 25%	Number: Base Ten 25%	Statistics and Probability 20%
<b>8</b>	Expressions, Equations, and Functions 40%	Geometry and Measurement 35%	Number: Operations, Problems, and Statistics 25%	
<b>Alg 1 EOC</b>	Functions, Linear, Equations, and Inequalities 55%	Polynomials 20%	Rationals, Radicals, Quadratics, and Discrete Mathematics 25%	

### III. 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 3: Length of Reading Passages**

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

**Table 4: 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
<b>3</b>	60%	40%
<b>4</b>	50%	50%
<b>5</b>	50%	50%

Grade	Literary Text	Informational Text
<b>6</b>	50%	50%
<b>7</b>	40%	60%
<b>8</b>	40%	60%
<b>9</b>	30%	70%
<b>10</b>	30%	70%

#### IV. Cognitive Complexity

FCAT 2.0 and Algebra 1 End-of-Course items are classified using a model with origins in the works of Dr. Norman Webb<sup>1</sup> 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. The tables below present the range for the percentage of raw-score points by cognitive complexity level on each FCAT 2.0 test.

**Table 5: Percentage of Points by Cognitive Complexity Level for FCAT 2.0 Reading**

Grades	Low	Moderate	High
<b>3</b>	25–35	50–70	5–15
<b>4</b>	20–30	50–70	10–20
<b>5–7</b>	15–25	50–70	15–25
<b>8</b>	10–20	50–70	20–30
<b>9</b>	10–20	50–70	20–30
<b>10</b>	10–20	45–65	25–35

**Table 6: Percentage of Points by Cognitive Complexity Level for FCAT 2.0 Mathematics and Algebra 1 End-of-Course Assessments**

Grades	Low	Moderate	High
<b>3 – 4</b>	25–35	50–70	5–15
<b>5</b>	10–20	55–75	10–20
<b>6–8</b>	10–20	60–80	10–20
<b>Algebra 1 EOC</b>	10–20	60–80	10–20

<sup>1</sup> 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>.

## V. Test Length and Item Types

**Table 7: Duration of Test**

The table below displays the number of minutes allowed for the 2011 regular test takers for FCAT 2.0 and Algebra 1 End-of-Course Assessments. All tests are administered in two sessions.

Grade	Reading	Mathematics
3	120	140
4	120	140
5	120	140
6	120	140
7	120	140
8	120	140
9	120	
10	120	
Algebra I EOC		160

**Table 8: FCAT 2.0 Reading and Mathematics and Algebra 1 End-of-Course Assessment Item Types and Numbers**

This table gives ranges for the approximate number of items by item type. These ranges include both operational and field-test items.

Grade	Reading	Mathematics
3	50-55 MC	50-55 MC
4	50-55 MC	35-40 MC 10-15 GR
5	50-55 MC	35-40 MC 10-15 GR
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
9	50-55 MC	
10	50-55 MC	
Algebra 1 EOC		35-40 MC 25-30 FR