FCAT 2.0 Reading, Mathematics, and Algebra 1 End-of-Course Assessment Standard Setting

Rule Development Workshops
October 10-12, 2011

Office of Assessment
Florida Department of Education
Purpose of this Rule Development Workshop

• Express the Department’s intent:
  ○ To develop a rule for consideration by the State Board of Education
  ○ To establish achievement levels for FCAT 2.0 Reading, Mathematics, and Algebra 1 End-of-Course Assessments

• Obtain input from interested audiences:
  ○ General input about setting the achievement levels
  ○ Specific feedback on achievement level recommendations
Today’s Topics

- Background on the assessments
- Review the standard-setting process
- Review the recommendations
- Review the impact data
- Feedback from you
<table>
<thead>
<tr>
<th>Type of Assessment</th>
<th>Assessment Area</th>
<th>Year Administered to Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCAT</td>
<td>FCAT Writing</td>
<td>Gr 4, 8, 10</td>
</tr>
<tr>
<td>FCAT 2.0</td>
<td>FCAT 2.0 Reading</td>
<td>Gr 3-10</td>
</tr>
<tr>
<td></td>
<td>FCAT 2.0 Mathematics</td>
<td>Gr 3-8</td>
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<td></td>
<td>FCAT 2.0 Science</td>
<td>Gr 5, 8</td>
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<tr>
<td>End-of-Course Assessments</td>
<td>Algebra 1</td>
<td>In Course</td>
</tr>
<tr>
<td></td>
<td>Geometry</td>
<td>In Course</td>
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<tr>
<td></td>
<td>Biology 1</td>
<td>In Course</td>
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<td>US History</td>
<td>In Course</td>
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<td></td>
<td>Civics</td>
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<td>Partnership for Assessment of</td>
<td>English language Arts</td>
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<tr>
<td>Readiness for College and Careers</td>
<td>Mathematics</td>
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<td>(PARCC)</td>
<td>High School Math</td>
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<td></td>
<td>EOCs (3 subjects)</td>
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<td>Postsecondary Education Readiness</td>
<td>Reading, Writing, Mathematics</td>
<td>Gr 11</td>
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<tr>
<td>Test (PERT)</td>
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</table>
FCAT 2.0 Reading

- Grades 3-10

- All multiple-choice items

- Increased content rigor — aligned to the Next Generation Sunshine State Standards (NGSSS).
FCAT 2.0 Reading: Examples of Increased Rigor

- Students are asked more often to:
  - use reasonable prior knowledge, such as grade-appropriate vocabulary.
  - make reasonable inferences that are not explicitly text-based.
  - analyze information across a pair of texts, such as making comparisons of main ideas.
FCAT 2.0 Mathematics

- Grades 3-8
- Multiple-choice and gridded-response items
- Increased content rigor — aligned to the 2007 Next Generation Sunshine State Standards (NGSSS).
FCAT 2.0 Mathematics: Examples of Increased Rigor

- FCAT 2.0 will more often require students to use information learned in an earlier grade and apply it to a current problem.
  - On FCAT, for example, students responded to items related to mean, median, and mode at several consecutive grades. On FCAT 2.0, this concept is assessed primarily in grade 6, but may be incorporated in test items assessing other benchmarks at grades 7 and 8.

- Before, students at a certain grade level were asked to make conversions within a measurement system such as converting feet to inches. Now, students will be asked to make conversions across measurement systems such as converting feet to meters.
Algebra 1 EOC Assessment

- Aligned to the 2007 Next Generation Sunshine State Standards Algebra 1 course description

- Computer-based test with paper-based test accommodations

- Online reference sheet and straightedge

- Up to 65 items:
  - Multiple-choice and fill-in response items
  - No performance tasks
FCAT 2.0/EOC are Standards-Based Tests

- Based on Florida’s content standards (Next Generation Sunshine State Standards)

- Students’ scores are in comparison to achievement standards – the criteria (Criterion-Referenced Test)

- Used to measure how well students have learned the content assessed

- Used to measure the teaching and learning of important content in Florida’s schools
When is Standard Setting Necessary?

• Standard setting becomes necessary whenever any of the following occur
  o New test
  o Curriculum updates
  o Blueprint changes
  o Achievement Level Description changes

• Next Generation Sunshine State Standards – new content standards
Why have standards?

• To define what students should know and be able to do

• To identify clear expectations for students, parents, and teachers

• To improve teaching and learning

• To develop a society able to compete in a global economy

• Important!
  ○ Standards define what we want to achieve.
  ○ Standards do not describe our current status.
Types of Standards

- **Content Standards** - Define the “what”
  - Next Generation Sunshine State Standards
  - Common Core State Standards

- **Performance Standards** - Define how much
  - Achievement-Level Standards
  - Graduation Requirement

- **Accountability Standards**
  - School Grading Criteria
  - Adequate Yearly Progress
Setting Achievement Standards – or “Cut Scores”

- A process that helps provide meaning to test scores
  - Provides a frame of reference for interpreting test scores
  - Most relevant when applied to tests based on defined content standards (criterion-referenced tests)

- The process includes: Deriving levels of performance on educational ... assessments, by which decisions or classifications ... will be made. (Cizek, 2007)
  - Mapping content to student achievement
  - Making judgments that are both qualitative (content) & quantitative (test scores)
  - Relating the NGSSS to FCAT 2.0/EOC scores
Achievement Levels

- There are five Achievement Levels
- Requires the setting of four Achievement Level cuts

Five Achievement Levels, Four Cut Points
We’ve done this before...

- **1998**:  
  - Reading and Mathematics Achievement Standards approved for grades 4, 5, 8, and 10.

- **2001**:  
  - Reading and Mathematics Achievement Standards approved for grades 3-10.
  - Grade 10 passing scores established.
Past Experience - FCAT Reading Standards

FCAT Reading by Achievement Level
Grades 3-10

Level 1 PCT  Level 3 Above PCT

2001 2002 2003 2004 2005 2006 2007 2008 2009 2010
Past Experience - FCAT Mathematics Standards

FCAT Mathematics
By Achievement Level
Grade 3-8

Level 1 PCT
Level 3 Above PCT
Standard-Setting Steps

1. Develop a policy definition describing the meaning of each Achievement Level
2. Develop achievement-level descriptions
3. Convene a standard-setting panel composed of educators
4. Conduct the standard-setting process to propose cut scores
5. Convene a business and policy leader reactor panel to review the proposed cut scores
6. Obtain State Board of Education approval of cut scores with public input
<table>
<thead>
<tr>
<th>Achievement Level</th>
<th>Policy Definition</th>
</tr>
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<tbody>
<tr>
<td><strong>Level 5</strong></td>
<td>Students at this level demonstrate mastery of the most challenging content of the <em>Next Generation Sunshine State Standards</em>.</td>
</tr>
<tr>
<td><strong>Level 4</strong></td>
<td>Students at this level demonstrate an above satisfactory level of success with the challenging content of the <em>Next Generation Sunshine State Standards</em>.</td>
</tr>
<tr>
<td><strong>Level 3</strong></td>
<td>Students at this level demonstrate a satisfactory level of success with the challenging content of the <em>Next Generation Sunshine State Standards</em>.</td>
</tr>
<tr>
<td><strong>Level 2</strong></td>
<td>Students at this level demonstrate a below satisfactory level of success with the challenging content of the <em>Next Generation Sunshine State Standards</em>.</td>
</tr>
<tr>
<td><strong>Level 1</strong></td>
<td>Students at this level demonstrate an inadequate level of success with the challenging content of the <em>Next Generation Sunshine State Standards</em>.</td>
</tr>
</tbody>
</table>
Achievement Level Descriptions

- Achievement Level Descriptions (ALDs) explain what a *typical* student at each achievement level should know and be able to do for every grade level and subject.

- Developed by committee of educators and then posted for public review and comment.
Educator Panels: September 20-23

- Approximately 300 teachers and district-level administrators with subject-area expertise and expertise with special populations.

- Panels represented Florida’s diversity, including:
  - Gender
  - Ethnicity
  - District Size
Standard-Setting Procedure - Educator Panel

- Reviewed and discussed achievement level descriptions (ALDs)
- Panelists “took the test”
- Participated in standard-setting training
- Practiced judgmental procedure
- Provided independent judgments in multiple rounds
Modified Angoff Method

• The judgmental process (by item)
  
  o Review the Achievement Level Description

  o Evaluate the knowledge & skills needed to respond correctly to the item

  o Judge the percentage of students expected to respond correctly
The ‘Just-Barely’ Test Taker

- Borderline in terms of achievement level
- Just barely meets criteria to be classified into the achievement level

Level 1 Level 2 Level 3 Level 4 Level 5

Achievement

‘Just-Barely’ Level Students
According to Florida Law

“In addition to designating a passing score under subparagraph 6., the State Board of Education shall also designate, by rule, a score for each statewide, standardized end-of-course assessment which indicates that a student is high achieving and has the potential to meet college-readiness standards by the time the student graduates from high school.”

Question: Which achievement level cut represents a level of student achievement that indicates the student is high achieving AND has the potential to meet college-readiness standards by the time he/she graduates from high school?

Why?

1Florida Statutes: Title XLVIII, Chapter 1008, Section 1008.22, (3) (c) 7
Reactor Panel Meeting – September 29-30

- Convened a group of diverse stakeholders from across Florida

- Provided feedback to the Department on the outcomes of the educator panels
## 2011 FCAT 2.0 Reading and Mathematics/Algebra 1 End-of-Course (EOC) Assessment Reactor Panel Committee List

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Benjamin</td>
<td>Michael</td>
<td>Step Up For Students</td>
</tr>
<tr>
<td>Biemesderfer</td>
<td>David</td>
<td>Florida’s Philanthropic Network</td>
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<tr>
<td>Birnholz</td>
<td>Steven</td>
<td>Florida Council of 100</td>
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<tr>
<td>Blocker</td>
<td>Ronald</td>
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<tr>
<td>Boyd</td>
<td>Dan</td>
<td>Alachua County Schools</td>
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<tr>
<td>Bragg</td>
<td>Mary Laura</td>
<td>Foundation for Florida’s Future</td>
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<td>Burke</td>
<td>Joseph</td>
<td>Lee County Schools</td>
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<td>Wally</td>
<td>Highlands County Schools</td>
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<td>Janice</td>
<td>Florida State University</td>
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<td>Fiorentino</td>
<td>Heather</td>
<td>Pasco County Schools</td>
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<td>Jean</td>
<td>Florida PTA</td>
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<td>Howdyshell</td>
<td>Linda</td>
<td>Broward College</td>
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<td>Joyner</td>
<td>Joseph</td>
<td>St. Johns County Schools</td>
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<td>Moxley</td>
<td>Susan</td>
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<td>Rodriguez</td>
<td>Ed</td>
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<td>Smith</td>
<td>Margaret (Peg)</td>
<td>Volusia County Schools</td>
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<tr>
<td>Thomas</td>
<td>Malcolm</td>
<td>Escambia County Schools</td>
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<td>Tibbetts</td>
<td>Alexis</td>
<td>Okaloosa County Schools</td>
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<td>Vogel</td>
<td>Bill</td>
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<tr>
<td>West</td>
<td>Ryan</td>
<td>Florida Chamber of Commerce</td>
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Reactor Panel Review

- Considered the following:
  - Information and materials from the standard-setting meeting
  - Next Generation Sunshine State Standards
  - Achievement Level Descriptions
  - External tests that are commonly administered to Florida students outside of the FCAT 2.0 and Algebra 1 EOC Assessment system
    - NAEP, Stanford 10, PSAT, SAT, PLAN, ACT
  - Impact data
    - By subject/grade
    - By gender
    - By ethnicity
    - Across subjects and grades (“vertical articulation”)

Key Review Questions

- Reactor panel considered the following questions:
  - Do the impact data for this grade look reasonable compared to other grades?
  - Is this the expected pattern of impact data across grades and between subjects?
  - How does the impact data compare to external data?
  - What is your feedback? Would you move the cut scores higher (higher expectation) or lower (lower expectation)? Why?
Sample Vertical Articulation – Scale Scores

- **Cut 1**
- **Cut 2**
- **Cut 3**
- **Cut 4**
Sample Vertical Articulation – Impact Data

<table>
<thead>
<tr>
<th></th>
<th>Math Gr3</th>
<th>Math Gr4</th>
<th>Math Gr5</th>
<th>Math Gr6</th>
<th>Math Gr7</th>
<th>Math Gr8</th>
<th>Algebra I EOC</th>
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<td>18</td>
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<td>14</td>
<td>13</td>
<td>11</td>
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## FCAT 2.0 Reading and Mathematics Scale Score Ranges

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<th>Mathematics</th>
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<td>140-260</td>
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<tr>
<td>4</td>
<td>154-269</td>
<td>155-271</td>
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<tr>
<td>5</td>
<td>161-277</td>
<td>163-279</td>
</tr>
<tr>
<td>6</td>
<td>167-283</td>
<td>170-284</td>
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<tr>
<td>7</td>
<td>171-289</td>
<td>179-292</td>
</tr>
<tr>
<td>8</td>
<td>175-296</td>
<td>187-298</td>
</tr>
<tr>
<td>9</td>
<td>178-302</td>
<td>N/A</td>
</tr>
<tr>
<td>10</td>
<td>188-302</td>
<td>N/A</td>
</tr>
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</table>
Proposed FCAT 2.0 Reading Scale Score Cuts - Educator Panel, 9/23/11

Achievement Level 2 Cut Score
Achievement Level 3 Cut Score
Achievement Level 4 Cut Score
Achievement Level 5 Cut Score
Impact Distribution for Reading - Vertical Articulation After Round 5

Grade 3: Level 1 - 23%, Level 2 - 15%, Level 3 - 14%, Level 4 - 26%, Level 5 - 24%

Grade 4: Level 1 - 32%, Level 2 - 18%, Level 3 - 28%, Level 4 - 23%, Level 5 - 40%

Grade 5: Level 1 - 24%, Level 2 - 32%, Level 3 - 30%, Level 4 - 26%, Level 5 - 40%

Grade 6: Level 1 - 10%, Level 2 - 13%, Level 3 - 14%, Level 4 - 21%, Level 5 - 12%

Grade 7: Level 1 - 11%, Level 2 - 14%, Level 3 - 21%, Level 4 - 12%, Level 5 - 16%

Grade 8: Level 1 - 13%, Level 2 - 15%, Level 3 - 16%, Level 4 - 26%, Level 5 - 19%

Grade 9: Level 1 - 15%, Level 2 - 19%, Level 3 - 35%, Level 4 - 26%, Level 5 - 25%

Grade 10: Level 1 - 14%, Level 2 - 20%, Level 3 - 19%, Level 4 - 26%, Level 5 - 19%
Proposed FCAT 2.0 Mathematics Scale Score Cuts - Educator Panels, 9/23/11
## Scale Scores – Algebra 1 EOC Assessment, Educator Panel

### Achievement Level Scale Score Cuts

<table>
<thead>
<tr>
<th>Cut 1</th>
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<th>Cut 3</th>
<th>Cut 4</th>
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<tbody>
<tr>
<td>375</td>
<td>399</td>
<td>425</td>
<td>437</td>
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</table>

**Algebra 1 EOC Assessment scale score range:** 325 to 475.

Recommended College-Ready Cut Score – Achievement Level 3
Scale Scores – Reading, Reactor Panel

FCAT 2.0 Reading Scale Score Cuts - Reactor Panel, 9/30/11

Achievement Level 2 Cut Score
Achievement Level 3 Cut Score
Achievement Level 4 Cut Score
Achievement Level 5 Cut Score
Impact Data – Reading, Reactor Panel

Percentage in each Performance Category

<table>
<thead>
<tr>
<th>Grade</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
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<tbody>
<tr>
<td>3</td>
<td>18%</td>
<td>26%</td>
<td>26%</td>
<td>24%</td>
<td>18%</td>
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<tr>
<td>4</td>
<td>15%</td>
<td>26%</td>
<td>26%</td>
<td>24%</td>
<td>18%</td>
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<tr>
<td>5</td>
<td>16%</td>
<td>26%</td>
<td>26%</td>
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<td>6</td>
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<td>24%</td>
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<td>8</td>
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<td>10</td>
<td>19%</td>
<td>25%</td>
<td>26%</td>
<td>25%</td>
<td>19%</td>
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</table>
Proposed FCAT 2.0 Mathematics Scale Score Cuts - Reactor Panel, 9/30/11
The Commissioner is recommending changes as follows:

- Set the bar higher for Achievement Level 5 – by setting the expectation such that no more than 10% of 2011 students would have achieved Level 5 in all grades and subjects.

- Make a small correction to the required scale score to achieve Level 4 in Grade 8 Reading.
  - It was slightly inconsistent with the other grades (slightly more rigorous) and subtracting one scale score point (250 to 249) achieved consistency.
FCAT 2.0 Reading Scale Score Cuts - Proposed Rule, 10/7/11

Scale Score vs. Grade Level graph showing the following:
- Achievement Level 2 Cut Score
- Achievement Level 3 Cut Score
- Achievement Level 4 Cut Score
- Achievement Level 5 Cut Score

Scale Score values range from 182 to 300, and Grade Level values range from 3 to 10.
Impact Data – Reading, Proposed Rule

Percentage in each Achievement Level- Proposed Rule, 10/7/11

<table>
<thead>
<tr>
<th>Grade</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
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<tbody>
<tr>
<td>3</td>
<td>10%</td>
<td>24%</td>
<td>23%</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>4</td>
<td>10%</td>
<td>23%</td>
<td>26%</td>
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<td>5</td>
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<tr>
<td>8</td>
<td>10%</td>
<td>18%</td>
<td>26%</td>
<td>26%</td>
<td>10%</td>
</tr>
<tr>
<td>9</td>
<td>10%</td>
<td>19%</td>
<td>26%</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>10</td>
<td>10%</td>
<td>19%</td>
<td>25%</td>
<td>25%</td>
<td>10%</td>
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</table>
Historical Data – FCAT Reading

FCAT Reading (2001-2010) and FCAT 2.0 Reading (2011)
Achievement Level 1
Grades 3, 4, and 5

White  Hispanic  African-American
Historical Data – FCAT Reading

FCAT Reading (2001-2010) and FCAT 2.0 Reading (2011)
Achievement Level 1
Grades 6, 7, and 8
Historical Data – FCAT Reading

FCAT Reading (2001-2010) and FCAT 2.0 (2011)
Achievement Level 1
Grades 9 and 10

![Graph showing historical data for FCAT Reading from 2001 to 2011 by ethnicity: White, Hispanic, and African-American.]
Grades 3, 4, and 5 Reading AL Percentages

- **Grade 3 Female**: 12% Level 5, 9% Level 4, 26% Level 3, 24% Level 2, 23% Level 1
- **Grade 3 Male**: 9% Level 5, 22% Level 4, 24% Level 3, 26% Level 2, 23% Level 1
- **Grade 4 Female**: 12% Level 5, 24% Level 4, 24% Level 3, 25% Level 2, 26% Level 1
- **Grade 4 Male**: 9% Level 5, 21% Level 4, 25% Level 3, 27% Level 2, 28% Level 1
- **Grade 5 Female**: 10% Level 5, 10% Level 4, 23% Level 3, 26% Level 2, 25% Level 1
- **Grade 5 Male**: 10% Level 5, 21% Level 4, 26% Level 3, 26% Level 2, 26% Level 1
Proposed Rule Impact Data (by Subgroup)
Reading

Grades 6, 7, 8, 9, and 10 Reading AL Percentages

Percent

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Grade 6 Female  Grade 6 Male  Grade 7 Female  Grade 7 Male  Grade 8 Female  Grade 8 Male  Grade 9 Female  Grade 9 Male  Grade 10 Female  Grade 10 Male

Level 5  Level 4  Level 3  Level 2  Level 1

50
Proposed Rule Impact Data (by Subgroup) Reading

Grade 3 Reading AL Percentages

Percent

Level 5  Level 4  Level 3  Level 2  Level 1

Race

White  African-American  Hispanic  Asian  Indian  Multi  PI

16%  3%  7%  20%  8%  13%  8%
31%  21%  20%  31%  21%  28%  27%
24%  32%  23%  23%  24%  24%  26%
19%  29%  22%  16%  21%  23%  25%
10%  27%  40%  10%  21%  13%  14%
Proposed Rule Impact Data (by Subgroup) Reading

Grade 4 Reading AL Percentages
Proposed Rule Impact Data (by Subgroup) Reading

Grade 5 Reading AL Percentages

<table>
<thead>
<tr>
<th>Group</th>
<th>Level 5</th>
<th>Level 4</th>
<th>Level 3</th>
<th>Level 2</th>
<th>Level 1</th>
<th>PI</th>
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</thead>
<tbody>
<tr>
<td>White</td>
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<td>28%</td>
<td>20%</td>
<td>19%</td>
<td>10%</td>
<td>14%</td>
</tr>
<tr>
<td>African-American</td>
<td>3%</td>
<td>24%</td>
<td>26%</td>
<td>28%</td>
<td>28%</td>
<td>26%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>7%</td>
<td>27%</td>
<td>17%</td>
<td>9%</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>Asian</td>
<td>6%</td>
<td>28%</td>
<td>24%</td>
<td>29%</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>Indian</td>
<td>12%</td>
<td>21%</td>
<td>29%</td>
<td>28%</td>
<td>25%</td>
<td>22%</td>
</tr>
<tr>
<td>Multi</td>
<td>7%</td>
<td>22%</td>
<td>32%</td>
<td>26%</td>
<td>28%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Percentages indicate the percentage of students in each subgroup at different reading levels.
Proposed Rule Impact Data (by Subgroup) Reading
Proposed Rule Impact Data (by Subgroup)

Reading

Grade 8 Reading AL Percentages

- White: Level 5 14%, Level 4 30%, Level 3 34%, Level 2 27%, Level 1 11%
- African-American: Level 5 9%, Level 4 30%, Level 3 34%, Level 2 27%, Level 1 22%
- Hispanic: Level 5 8%, Level 4 27%, Level 3 22%, Level 2 11%, Level 1 22%
- Asian: Level 5 15%, Level 4 27%, Level 3 23%, Level 2 23%, Level 1 18%
- Indian: Level 5 8%, Level 4 26%, Level 3 28%, Level 2 26%, Level 1 18%
- Multi: Level 5 13%, Level 4 30%, Level 3 30%, Level 2 25%, Level 1 24%
- PI: Level 5 6%, Level 4 15%, Level 3 33%, Level 2 22%, Level 1 24%
Proposed Rule Impact Data (by Subgroup) Reading

Grade 9 Reading AL Percentages
Proposed Rule Impact Data (by Subgroup) Reading

Grade 10 Reading AL Percentages

Percent

Level 5
Level 4
Level 3
Level 2
Level 1

Group

White
African-American
Hispanic
Asian
Indian
Multi
Pl

11%
34%
21%
12%
20%
12%
18%

22%
34%
27%
17%
25%
28%
28%

14%
10%
8%
7%
12%
6%

0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
### Achievement Level Scale Score Cuts

<table>
<thead>
<tr>
<th></th>
<th>Cut 1</th>
<th>Cut 2</th>
<th>Cut 3</th>
<th>Cut 4</th>
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</thead>
<tbody>
<tr>
<td>Algebra 1 EOC Assessment</td>
<td>375</td>
<td>399</td>
<td>425</td>
<td>437</td>
</tr>
</tbody>
</table>

**Recommended College-Ready Cut Score – Achievement Level 3**
Impact Data – Mathematics, Proposed Rule

Percentage in each Achievement Level - Proposed Rule, 10/7/11

<table>
<thead>
<tr>
<th>Grade</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
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<tbody>
<tr>
<td>3</td>
<td>16%</td>
<td>20%</td>
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<td>28%</td>
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<tr>
<td>4</td>
<td>10%</td>
<td>20%</td>
<td>28%</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>5</td>
<td>10%</td>
<td>18%</td>
<td>28%</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>6</td>
<td>9%</td>
<td>18%</td>
<td>28%</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>7</td>
<td>10%</td>
<td>18%</td>
<td>28%</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>8</td>
<td>10%</td>
<td>16%</td>
<td>30%</td>
<td>28%</td>
<td>28%</td>
</tr>
<tr>
<td>Algebra</td>
<td>7%</td>
<td>10%</td>
<td>37%</td>
<td>28%</td>
<td>28%</td>
</tr>
</tbody>
</table>

- Level 1: "Level 1" indicates the percentage of students achieving Level 1 in each grade.
- Level 2: "Level 2" indicates the percentage of students achieving Level 2 in each grade.
- Level 3: "Level 3" indicates the percentage of students achieving Level 3 in each grade.
- Level 4: "Level 4" indicates the percentage of students achieving Level 4 in each grade.
- Level 5: "Level 5" indicates the percentage of students achieving Level 5 in each grade.
Historical Data – FCAT Mathematics

FCAT Mathematics (2001-2010) and FCAT 2.0 Mathematics (2011)
Achievement Level 1
Grades 3, 4, and 5

- White
- Hispanic
- African-American
Historical Data – FCAT Mathematics

FCAT Mathematics (2001-2010) and FCAT 2.0 Mathematics (2011)
Achievement Level 1
Grades 6, 7, and 8

Achievement Level 1
Grades 6, 7, and 8

- White
- Hispanic
- African-American

Proposed Rule Impact Data (by Subgroup) Mathematics

Grades 3, 4, and 5 Mathematics AL Percentages
Proposed Rule Impact Data (by Subgroup) Mathematics

Grades 6, 7, 8 Mathematics and Algebra EOC AL Percentages

- Grade 6 Female: 9% (Level 5), 18% (Level 4), 27% (Level 3), 25% (Level 2), 20% (Level 1)
- Grade 6 Male: 9% (Level 5), 18% (Level 4), 25% (Level 3), 24% (Level 2), 24% (Level 1)
- Grade 7 Female: 10% (Level 5), 18% (Level 4), 29% (Level 3), 23% (Level 2), 21% (Level 1)
- Grade 7 Male: 11% (Level 5), 18% (Level 4), 27% (Level 3), 23% (Level 2), 21% (Level 1)
- Grade 8 Female: 9% (Level 5), 16% (Level 4), 31% (Level 3), 23% (Level 2), 21% (Level 1)
- Grade 8 Male: 10% (Level 5), 16% (Level 4), 30% (Level 3), 21% (Level 2), 23% (Level 1)
- Algebra EOC Female: 7% (Level 5), 10% (Level 4), 39% (Level 3), 28% (Level 2), 16% (Level 1)
- Algebra EOC Male: 7% (Level 5), 10% (Level 4), 36% (Level 3), 28% (Level 2), 20% (Level 1)
Proposed Rule Impact Data (by Subgroup) Mathematics

Grade 3 Mathematics AL Percentages

<table>
<thead>
<tr>
<th>Group</th>
<th>Level 5</th>
<th>Level 4</th>
<th>Level 3</th>
<th>Level 2</th>
<th>Level 1</th>
<th>Level 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>13%</td>
<td>9%</td>
<td>21%</td>
<td>15%</td>
<td>30%</td>
<td>37%</td>
</tr>
<tr>
<td>African-American</td>
<td>3%</td>
<td>26%</td>
<td>30%</td>
<td>24%</td>
<td>32%</td>
<td>37%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8%</td>
<td>15%</td>
<td>26%</td>
<td>25%</td>
<td>21%</td>
<td>17%</td>
</tr>
<tr>
<td>Asian</td>
<td>8%</td>
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<td>25%</td>
<td>8%</td>
<td>18%</td>
<td>17%</td>
</tr>
<tr>
<td>Indian</td>
<td>11%</td>
<td>18%</td>
<td>18%</td>
<td>15%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>Multi</td>
<td>8%</td>
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<td>21%</td>
<td>24%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>PI</td>
<td>8%</td>
<td>21%</td>
<td>21%</td>
<td>24%</td>
<td>17%</td>
<td>17%</td>
</tr>
</tbody>
</table>
Proposed Rule Impact Data (by Subgroup) Mathematics

Grade 5 Mathematics AL Percentages

<table>
<thead>
<tr>
<th>Group</th>
<th>Level 5</th>
<th>Level 4</th>
<th>Level 3</th>
<th>Level 2</th>
<th>Level 1</th>
<th>Level 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>14%</td>
<td>23%</td>
<td>30%</td>
<td>21%</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>African-American</td>
<td>3%</td>
<td>24%</td>
<td>31%</td>
<td>32%</td>
<td>32%</td>
<td>34%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8%</td>
<td>16%</td>
<td>28%</td>
<td>27%</td>
<td>21%</td>
<td>27%</td>
</tr>
<tr>
<td>Asian</td>
<td>8%</td>
<td>29%</td>
<td>26%</td>
<td>25%</td>
<td>14%</td>
<td>19%</td>
</tr>
<tr>
<td>Indian</td>
<td>12%</td>
<td>17%</td>
<td>29%</td>
<td>27%</td>
<td>19%</td>
<td>17%</td>
</tr>
<tr>
<td>Multi</td>
<td>7%</td>
<td>19%</td>
<td>29%</td>
<td>24%</td>
<td>16%</td>
<td>17%</td>
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<tr>
<td>PI</td>
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Proposed Rule Impact Data (by Subgroup) Mathematics

Grade 6 Mathematics AL Percentages

<table>
<thead>
<tr>
<th>Group</th>
<th>Level 5</th>
<th>Level 4</th>
<th>Level 3</th>
<th>Level 2</th>
<th>Level 1</th>
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</thead>
<tbody>
<tr>
<td>White</td>
<td>14%</td>
<td>36%</td>
<td>25%</td>
<td>13%</td>
<td>22%</td>
</tr>
<tr>
<td>African-American</td>
<td>21%</td>
<td>36%</td>
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<td>23%</td>
<td>25%</td>
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<td>30%</td>
<td>26%</td>
<td>23%</td>
<td>27%</td>
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<tr>
<td>Asian</td>
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<td>29%</td>
<td>27%</td>
<td>27%</td>
<td>29%</td>
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<tr>
<td>Indian</td>
<td>11%</td>
<td>20%</td>
<td>27%</td>
<td>27%</td>
<td>29%</td>
</tr>
<tr>
<td>Multi</td>
<td>6%</td>
<td>18%</td>
<td>24%</td>
<td>25%</td>
<td>22%</td>
</tr>
<tr>
<td>PI</td>
<td>6%</td>
<td>18%</td>
<td>24%</td>
<td>25%</td>
<td>22%</td>
</tr>
</tbody>
</table>
Proposed Rule Impact Data (by Subgroup)

Mathematics

Grade 7 Mathematics AL Percentages

- Level 5
- Level 4
- Level 3
- Level 2
- Level 1

Percentages for different groups:
- White: Level 5 - 14%, Level 4 - 23%, Level 3 - 30%, Level 2 - 20%, Level 1 - 12%
- African-American: Level 5 - 10%, Level 4 - 24%, Level 3 - 29%, Level 2 - 35%, Level 1 - 11%
- Hispanic: Level 5 - 8%, Level 4 - 28%, Level 3 - 25%, Level 2 - 11%, Level 1 - 22%
- Asian: Level 5 - 9%, Level 4 - 31%, Level 3 - 24%, Level 2 - 19%, Level 1 - 8%
- Indian: Level 5 - 12%, Level 4 - 20%, Level 3 - 30%, Level 2 - 23%, Level 1 - 15%
- Multi: Level 5 - 10%, Level 4 - 20%, Level 3 - 26%, Level 2 - 26%, Level 1 - 17%
- PI: Level 5 - 10%, Level 4 - 20%, Level 3 - 26%, Level 2 - 26%, Level 1 - 17%
Proposed Rule Impact Data (by Subgroup) Mathematics

Grade 8 Mathematics AL Percentages

- White: Level 5 (15%), Level 4 (24%), Level 3 (21%), Level 2 (17%), Level 1 (25%
- African-American: Level 5 (36%), Level 4 (23%), Level 3 (21%), Level 2 (20%), Level 1 (33%)
- Hispanic: Level 5 (30%), Level 4 (26%), Level 3 (23%), Level 2 (12%), Level 1 (8%)
- Asian: Level 5 (8%), Level 4 (30%), Level 3 (24%), Level 2 (26%), Level 1 (7%)
- Indian: Level 5 (11%), Level 4 (15%), Level 3 (15%), Level 2 (7%), Level 1 (7%)
- Multi: Level 5 (15%), Level 4 (17%), Level 3 (32%), Level 2 (21%), Level 1 (17%)
- PI: Level 5 (15%), Level 4 (15%), Level 3 (33%), Level 2 (20%), Level 1 (25%)
Setting Standards is a Multi-Stage Process

1. Achievement Level Descriptions
2. Educator Panel
3. Reactor Panel
4. State Board of Education
5. Public Input
6. Commissioner’s Recommendations
# Standard-Setting Timeline

<table>
<thead>
<tr>
<th>Month/Year</th>
<th>Task</th>
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<tbody>
<tr>
<td>August 2011</td>
<td>Advertise Intent to Revise FCAT Rule</td>
</tr>
<tr>
<td>September 19-23, 2011</td>
<td>Conduct Standard-Setting Meetings – Orlando, FL 15-20 Educators per Subject/Grade (15 panels)</td>
</tr>
<tr>
<td>September 29-30, 2011</td>
<td>Conduct Reactor Panel Meeting – Tallahassee, FL 20-25 Superintendents and Community Leaders (1 panel)</td>
</tr>
<tr>
<td>October 2011</td>
<td>Conduct Rule-Development Workshops and Advertise Proposed State Board of Education FCAT Rule</td>
</tr>
<tr>
<td>December 2011</td>
<td>State Board of Education Rule Adoption – New Achievement Levels for FCAT 2.0 Reading, Mathematics, and Algebra 1 EOC Assessment</td>
</tr>
</tbody>
</table>
Your turn to provide input...

- For each grade and subject:
  - Review recommendations and impact data
  - Reflect
  - Provide input on the proposed cut scores. Options...
    - Higher – Move the cut score higher to increase expectations (fewer students classified as proficient)
    - No Change – Maintain proposed cut scores
    - Lower – Move the cut score lower to lower expectations (more students classified as proficient)
  - Provide written comments as desired