| **Virginia Board of Education Agenda Item** | **Seal of the Commonwealth of Virginia** |
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# Agenda Item: F

## Date: May 7, 2020

### Title: Final Review of Recommended Cut Scores for the Grades 3-8 and End-of-Course Standards of Learning Reading Tests Based on the 2017 English Standards

#### Presenter: Mrs. Shelley Loving-Ryder, Assistant Superintendent for Student Assessment, Accountability & ESEA Programs

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## Purpose of Presentation:

Action required by state or federal law or regulation.

## Executive Summary:

In the spring of 2020, new Standards of Learning (SOL) reading tests measuring the 2017 English content standards will be administered. Because of the changes in the content measured by these tests, the Virginia Board of Education must adopt new “cut” scores. Consistent with the process used in 1998 and in 2012-2013, committees of educators were convened in December 2019 to recommend to the Board of Education (BOE) minimum cut scores for the achievement levels of *fail/basic*, *pass/proficient,* and *pass/advanced* for the grades 3-8 SOL reading tests and the achievement levels of *pass/proficient* and *pass/advanced* for the SOL end-of-course reading test.

## Action Requested:

Final review: Action requested at this meeting.

## Superintendent’s Recommendation:

The Superintendent of Public Instruction recommends that the Board of Education approve the final review scaled scores of at least 400 for *pass/proficient* and at least 500 for *pass/advanced* for the grades 3-8 and end-of-course SOL reading tests based on the 2017 English SOL. These scaled scores shall be equivalent to the following number of items correct on the test forms reviewed by the educator committees convened for standard setting:

* Grade 3 reading: 22 out of 40 for *pass/proficient* and 35 out of 40 for *pass/advanced*
* Grade 4 reading: 23 out of 40 for *pass/proficient* and 35 out of 40 for *pass/advanced*
* Grade 5 reading: 24 out of 40 for *pass/proficient* and 36 out of 40 for *pass/advanced*
* Grade 6 reading: 26 out of 45 for *pass/proficient* and 39 out of 45 for *pass/advanced*
* Grade 7 reading: 26 out of 45 for *pass/proficient* and 39 out of 45 for *pass/advanced*
* Grade 8 reading: 26 out of 45 for *pass/proficient* and 39 out of 45 for *pass/advanced*
* End-of-Course reading: 24 out of 47 for *pass/proficient* and 38 out of 47 for *pass/advanced*

Because the minimum scaled score for the *fail/basic* achievement level for the grades 3-8 SOL reading tests will be specific to each test, the Superintendent of Public Instruction recommends that the Board adopt cut scores based on the following number of items correct on the test forms reviewed by the educator committees convened for standard setting. Scaled scores that represent the same level of achievement shall be determined once the Board adopts the cuts scores for each test.

* Grade 3 reading: 10 items correct
* Grade 4 reading: 12 items correct
* Grade 5 reading: 11 items correct
* Grade 6 reading; 12 items correct
* Grade 7 reading: 13 items correct
* Grade 8 reading: 12 items correct

## **Rationale for Action:**

## Approval by the Board will allow for the implementation of the adopted cut scores with the future administration of SOL Reading tests.

## Previous Review or Action:

Previous review and action. Specify date and action taken below:

## Date: January 23, 2020

## Action: First Review

## **Background Information and Statutory Authority:**

In the spring of 2020, new SOL reading tests measuring the 2017 English content standards will be administered. Because of the changes in the content measured by these tests, “cut” scores must be adopted by the Virginia Board of Education. Consistent with the process used in 1998 and in 2012-2013, committees of educators were convened in December 2019 to recommend to the Board minimum cut scores for the achievement levels of *fail/basic*, *pass/proficient,* and *pass/advanced* for the grades 3-8 SOL reading tests. Information about the standard setting process is provided in Attachment A. The range of cut scores recommended by the committees for the achievement levels of *fail/ basic*, *pass/proficient,* and *pass/advanced* for the grades 3-8 SOL reading tests and for the achievement levels of, *pass/proficient* and *pass/advanced* for the end-of-course SOL reading tests is contained in Attachment B.

## **Timetable for Further Review/Action:** Upon approval by the Board of Education, the adopted cut scores will be communicated to the testing contractor so that they can be implemented with the SOL reading tests administration.

## Impact on Fiscal and Human Resources:

Costs associated with the implementation of new cut scores for the grades 3-8 and end-of-course SOL reading tests will be covered by existing funds.

# Attachment A

**Description of Standard Setting Procedure**

**March 2020**

Standard setting is a systematic way of making a professional judgment on the level of achievement required to signify that a student’s performance is at a particular performance level (e.g., *proficient* or *advanced).* In the case of the grades 3-8 *Standards of Learning (SOL) Assessments* in reading, four performance level categories have been established:

*Advanced Attainment of the Standards* (Pass)

*Proficient in the Standards* (Pass)

*Basic* (Fail)

*Below Basic (Fail)*

In the case of the *End-of-Course SOL reading* test, three performance level categories have been established:

*Advanced Attainment of the Standards* (Pass)

*Proficient in the Standards* (Pass)

*Does Not Meet the Standard* (Fail)

The procedure used for standard setting for the SOL tests is known as the Angoff procedure. This procedure has been widely used on tests for a number of years and has been used with the SOL Assessments since 1998. Steps used in the procedure are described below.

1. Panelists receive training in the standard-setting process.
2. Panelists discuss the performance level descriptor for each achievement level (i.e., Below Basic, Basic, Proficient, and Advanced for grades 3-8 reading). An example of a performance level descriptor for the “proficient” achievement level for the Grade 3 reading test is shown below.

A student performing at the proficient level should be able to:

* Read with accuracy.
* Identify homophones.
* Use roots or affixes to expand vocabulary.
* Identify synonyms and antonyms.
* Use context to choose correct meaning of vocabulary.
* Apply information from word-reference materials.
* Make and confirm predictions based on textual evidence.
* Identify literary elements.
* Retell plot events in a logical sequence.
* Locate information from texts to ask and answer questions.
* Draw conclusions and make inferences based on textual evidence.
* Explain the characteristics of fiction and nonfiction.
* Identify the author’s purpose for including specific information.
* Use text features to aid in comprehension.
* Summarize information.
* Identify main idea or supporting details.

Panelists then discuss the characteristics of students who just make it into an achievement level: those who are “just proficient” and “just advanced,” to further define the particular knowledge and skills that separate those students in one achievement level from those in the others.

1. ***Round 1 Ratings***:

Panelists independently examine each question on the test, thinking of students who are “just” *proficient* and estimating whether or not these students would answer each item correctly MOST of the time (2/3 of the time). Panelists use the same procedure for the *basic* and *advanced* categories. When Round 1 is completed, each panelist has recorded “yes” or “no” for each question on the test for “proficient,” “advanced,” and “basic.” Each panelist’s ratings on the questions are converted to a cut score. A cut score is defined as the number of questions that a student must answer correctly to be classified in a particular performance category.

The grades 3-8 SOL reading tests are computer adaptive. A computer adaptive testing (CAT) model uses a computer algorithm to customize the items administered to each student. The first test question a student encounters is generally of average difficulty. If the student answers the item correctly, then a more difficult item is presented. If the student answers incorrectly, then an item with a lower difficulty value is presented.

Because the CAT algorithm selects items for students, there is not a single set of items for the standard setting committee to review. To facilitate the work of the standard setting committee, a set of items that matched the test blueprint was prepared for the committee members to use in making their judgments. This test form had slightly more test items than a student would encounter when taking the reading tests in the CAT format to ensure that committee member had the opportunity to review items with a greater range of difficulty.

1. ***Round 2 Ratings***:

Panelists are provided with a table of each panelist’s ratings from Round 1, discuss the results, refine the definitions and descriptors, and repeat the process used in Round 1.

1. ***Round 3 Ratings***:

Panelists are provided with a table of each panelist’s ratings from Round 2, discuss the results, and make any changes to their recommended cut scores.

**Articulation Committee**:

After the work of the standard setting committees has been completed, a smaller group of educators composed of two or three members from each of the standard setting committees is convened to review the results of round 3 for each test. In the case of the reading tests, the purpose of this “articulation committee” will be to review the round 3 results for the tests to determine the reasonableness of the recommended cut scores in light of the performance level descriptors and estimated impact data. The impact data reviewed by the articulation committee provided estimates of the number of students who would fall into each achievement level if the recommended cut scores were adopted. Based on their review, the articulation committee may recommend adjustments to the cut scores for some of the tests.

**Recommendation Presented to the Board of Education:**

The results of the standard setting committees and the articulation committee are presented as recommendations to the Board of Education. For each test and each achievement level, the Board is provided with background information, including the cut score on the previous version of the test and an estimate of what the cut score on the new test would be if the same level of rigor required on the old test were maintained. In addition, the “round 3” cut score for the standard setting committee is provided as well as the recommendation from the articulation committee. Finally the superintendent’s recommendation for the cut score for each level is provided. The Board of Education is asked to consider this information and to adopt cut scores for each SOL test.

# Attachment B

**Summary and Background Information on Proposed Cut Scores   
for the Reading Tests for Grades 3-8 and End-of-Course Based on the 2017 Standards of Learning**

| **Test**  **Name** | **Pass/Proficient** | | | | | **Pass/Advanced** | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Background**  **Information** | | **Standard Setting  Summary** | | | **Background**  **Information** | | **Standard Setting  Summary** | | |
| Pass/Proficient Cut Score for Previous Reading Test\* | Pass/Proficient Cut Score for  New Test  to Maintain Previous Level of Rigor | Round 3 Median for Proficient\* | Articulation Committee  Rec. | Supt.’s Rec. | Pass/Advanced  Cut Score for Previous Reading Test\* | Pass/Advanced Cut Score for New Test  to Maintain Previous Level  of Rigor | Round 3 Median for Advanced | Articulation Committee  Rec. | Supt.’s Rec. |
| Grade 3 | 25 out of 40 | 25 out of 40 | 16 out of 40 | 21 out of 40 | 22 out of 40 | 35 out of 40 | 35 out of 40 | 33 out of 40 | 35 out of 40 | 35 out of 40 |
| Grade 4 | 25 out of 40 | 26 out of 40 | 22 out of 40 | 22 out of 40 | 23 out of 40 | 35 out of 40 | 36 out of 40 | 34 out of 40 | 35 out of 40 | 35 out of 40 |
| Grade 5 | 25 out of 40 | 25 out of 40 | 22 out of 40 | 23 out of 40 | 24 out of 40 | 35 out of 40 | 35 out of 40 | 34 out of 40 | 36 out of 40 | 36 out of 40 |
| Grade 6 | 28 out of 45 | 27 out of 45 | 27 out of 45 | 25 out of 45 | 26 out of 45 | 40 out of 45 | 40 out of 45 | 39 out of 45 | 39 out of 45 | 39 out of 45 |
| Grade 7 | 28 out of 45 | 27 out of 45 | 26 out of 45 | 25 out of 45 | 26 out of 45 | 40 out of 45 | 40 out of 45 | 39 out of 45 | 39 out of 45 | 39 out of 45 |
| Grade 8 | 28 out of 45 | 28 out of 45 | 25 out of 45 | 25 out of 45 | 26 out of 45 | 40 out of 45 | 41 out of 45 | 39 out of 45 | 39 out of 45 | 39 out of 45 |
| End-of-Course | 31 out of 55 | 26 out of 47 | 22 out of 47 | 23 out of 47 | 24 out of 47 | 49 out of 55 | 42 out of 47 | 37 out of 47 | 38 out of 47 | 38 out of 47 |

**Summary and Background Information on Proposed Cut Scores   
for the Reading Tests for Grades 3-8 Based on the 2017 Standards of Learning**

| **Test**  **Name** | **Fail/Basic** | | | | |
| --- | --- | --- | --- | --- | --- |
| **Background**  **Information** | | **Standard Setting  Summary** | | |
| Fail/Basic Cut Score for Previous Reading Test\* | Fail/Basic Cut Score for New Test to Maintain Previous Level  of Rigor | Round 3 Median for Fail/Basic | Articulation Committee  Recommendation | Superintendent’s Recommendation |
| Grade 3 | 13 out of 40 | 13 out of 40 | 7 out of 40 | 10 out of 40 | 10 out of 40 |
| Grade 4 | 12 out of 40 | 12 out of 40 | 11 out of 40 | 12 out of 40 | 12 out of 40 |
| Grade 5 | 11 out of 40 | 11 out of 40 | 7 out of 40 | 10 out of 40 | 11 out of 40 |
| Grade 6 | 14 out of 45 | 14 out of 45 | 11 out of 45 | 11 out of 45 | 12 out of 45 |
| Grade 7 | 14 out of 45 | 14 out of 45 | 12 out of 45 | 13 out of 45 | 13 out of 45 |
| Grade 8 | 14 out of 45 | 14 out of 45 | 11 out of 45 | 12 out of 45 | 12 out of 45 |

**\*** Test based on the 2010 English Standards of Learning