

**Oklahoma Alternate Assessment
Program (OAAP)
Grade 4 Rubrics
2013–2014**

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Oklahoma Alternate Assessment Program
Mapping Cut Scores from the 4-point Scale to the 6-point Scale
August 2013

Background

The Oklahoma Alternate Assessment Program (OAAP) Portfolio assessment is designed to assess students with the most significant cognitive disabilities. The Oklahoma State Department of Education (OSDE) has received feedback from educators regarding access limitations to required assessment items collected for the OAAP portfolio assessment.

In order to measure a broader range of performance, the OSDE decided to incorporate two lower score levels into the existing 4-point scale. The new scale, a 6-point scale, will have a scoring rubric that captures the performance of students functioning at extremely low levels of ability; hence, measuring the growth of this group of students. This method, while providing access to students functioning at lower levels, also satisfies Federal requirements for measuring grade-level academic content standards.

The OSDE made changes to the task specifications/rubrics as follows:

- created new score points of 1 and 2;
- changed the scoring range from 1–4 to 1–6;
- increased the existing score points by moving 1 to 3, 2 to 4, 3 to 5, and 4 to 6.

Even with the rubric extension, the same achievement standards are required for students to earn a Proficient score on the assessment. In other words, the performance level descriptors, which were derived from the expectations for student performance and guide the establishment of cut scores during standard setting, remain the same. Maintaining expectations of the existing performance levels removes the need for additional standard setting. In essence, score levels 1 and 2 in the new scoring rubric are added into the Unsatisfactory performance level. The section below describes the method and result of mapping the current cut scores to the new 6-point scale.

Method

From a scaling viewpoint, adding two score points below the existing scale results in a simple linear transfer of the scale by two (2) points. Those who would receive a score of three (3) points on the 4-point scale will now earn five (5) points on the 6-point scale. This linear relationship between the old and new scale presents a simple mapping solution: the new cut scores are computed by multiplying the number of objectives tested on a subject by two (2) score points and adding this product to the old cut score. The equation is as follows:

$$\text{New Cut Score} = \text{Old Cut Score} + [\text{Number of Objectives} \times 2]$$

For example, reading grade 3 has four (4) tasks that measure five (5) objectives. The maximum possible score on the 4-point scale is 20 points. The reading grade 3 cut scores for Limited Knowledge, Proficient, and Advanced levels are 8, 12, and 18, respectively (see Table 1). On a 6-point scale, the maximum possible reading grade 3 score becomes 30 points. When mapping the cut scores to the 6-point scale, the cut scores become 18, 22, and 28, respectively. For example,

$$\text{New cut score} = 8 + (5 \times 2) = 18$$

In this example, both the maximum possible score and the cut scores all shift by 10 points; since the number of objectives is multiplied by 2.

This method was validated through an examination of the impact data (percentage of students in each performance level) before and after the rubric and cut score transformations. A simulation study was conducted to compare the impact data when transforming cut scores from the 4-point scale to the

6-point scale. The results were identical—the percent classified into each of the performance levels was exactly the same. The mathematical explanation for this is if, for example, a student earns 16 points on the reading grade 3 test on the 4-point scale, this student is at the Proficient level (cut score of 12). After shifting to the 6-point scale, this student’s new score is 26 points and will still be classified in the Proficient level (transformed cut score of 22). In sum, because the raw scores and cut scores are transferred by the same constant, their spatial relationship remains the same.

Figure 1 demonstrates the mathematical association of the scale change using reading grade 3 as an example. Figure 1 shows that raw scores of 0 through 20 on the 4-point scale become 10 through 30 on the 6-point scale. The cut scores (8, 12 and 18 on the 4-point scale) shift in the same manner as raw scores (18, 22, and 28). The linear transformation maintains relations between raw scores and cut scores; hence, maintaining the integrity of achievement standards.

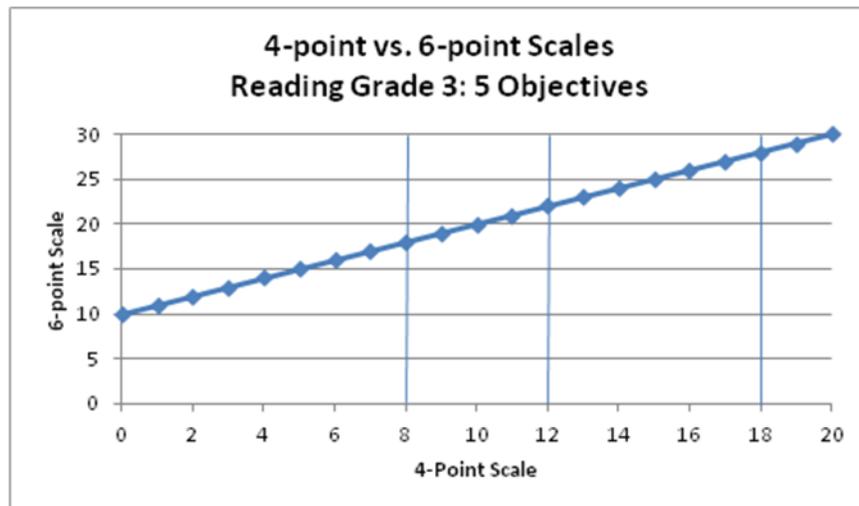


Figure 1: Relation between the 4-point and 6-point Scales

Summary

As a consequence of the above analyses, Pearson recommended moving from the 4-point scale to the 6-point scale by adding two points at the bottom of the scale and shifting the existing points by 2 and following the suggested methodology for transforming the cut scores. The existing cut scores for all OAAP subjects and grades on the 4-point and 6-point scales are presented in Table 1.

Table 1: Cut Scores on the 4-point and 6-point Scales

Subject	Grade	Number of Tasks	4-point Cut Scores			6-point Cut Scores		
			LK	Pro	Adv	LK	Pro	Adv
Math	3	5	8	12	18	18	22	28
	4	6	10	16	21	22	28	33
	5	5	7	12	17	17	22	27
	6	6	9	15	23	21	27	35
	7	5	6	13	19	16	23	29
	8	5	7	13	19	17	23	29
Reading	3	5	6	12	18	16	22	28
	4	5	6	11	17	16	21	27
	5	4	5	9	14	13	17	22
	6	4	5	10	14	13	18	22
	7	6	8	14	20	20	26	32
	8	6	8	14	21	20	26	33
Science	5	7	10	16	25	24	30	39
	8	9	14	22	32	32	40	50
Social Studies	5	8	13	20	29	29	36	45
	7	5	8	12	18	18	22	28
	8	6	9	15	22	21	27	34
Writing	5	5	5	11	18	15	21	28
	8	4	7	11	15	15	19	23
Algebra I	HS	4	6	10	15	14	18	23
Algebra II	HS	3	4	8	11	10	14	17
Biology	HS	10	16	25	35	36	45	55
English II	HS	9	14	22	31	32	40	49
English III	HS	7	10	17	25	24	31	39
Geometry	HS	4	5	10	15	13	18	23
U.S. History	HS	8	12	21	30	28	37	46

Based on peer review (consisting of experts in the fields of standards and assessment), the Oklahoma State Department of Education (OSDE) decided to increase the amount of videos included as part of the evidence to be collected by teachers for the OAAP Portfolio test. Video provides evidence that the task being performed aligns to the content/process standards being assessed. This provides an added measure to ensure content validity in the assessment. It minimizes bias and allows scorers to accurately assess the knowledge and skills of the student. For these reasons, the inclusion of videos signified a major improvement in the assessment. In addition to using the videos as evidence of student performance, the OSDE also uses them for monitoring of appropriate accommodations.

When you see the symbol below, a piece of video evidence is **required**.



Grade 4

Mathematics

Grade 4 Math		
Standard Measured	Number Sense and Operation	4.2
Task Specification	The student will add quantities with a sum less than or equal to 20 and subtract quantities with a minuend less than or equal to 20.	
Objective: Addition	(4.2.1)	
	6 points	Add quantities with a sum less than or equal to 50 without regrouping in 3 out of 4 trials.
	5 points	Add quantities with a sum less than or equal to 20 in 3 out of 4 trials.
	4 points	Add quantities with a sum less than or equal to 10 in 3 out of 4 trials.
	3 points	Identify the symbol for addition in 3 out of 4 trials.
	2 points	Respond when exposed to the symbol for addition in 3 out of 4 trials.
	1 point	React when exposed to the symbol for addition in 3 out of 4 trials.
	Total points possible	6
Objective: Subtraction	(4.2.2)	
	6 points	Subtract quantities using a minuend less than or equal to 50 without regrouping in 3 out of 4 trials.
	5 points	Subtract quantities using a minuend less than or equal to 20 in 3 out of 4 trials.
	4 points	Subtract quantities using a minuend less than or equal to 10 in 3 out of 4 trials.
	3 points	Identify the symbol for subtraction in 3 out of 4 trials.
	2 points	Respond when exposed to the symbol for subtraction in 3 out of 4 trials.
	1 point	React when exposed to the symbol for subtraction in 3 out of 4 trials.
	Total points possible	6
Total points possible (4.2.1, 4.2.2)		12

****Respond** refers to any attempted interaction from the student upon exposure to the activity (e.g., assisting, feeling, observing, listening).

****React** refers to any observable change caused by exposure to the activity (e.g., startle reflex, opening eyes, turning head towards sound or touch).

Grade 4 Math		
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Standard Measured	Geometry	4.3
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Task Specification	The student will identify differences between circles, squares, and triangles.
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Objective: Differentiating between shapes (4.3)

	6 points	Compare differences between circles, squares, and triangles in 3 out of 4 trials.
	5 points	Identify differences between circles, squares, and triangles in 3 out of 4 trials.
	4 points	Identify circles and squares in 3 out of 4 trials.
	3 points	Name circles and squares in 3 out of 4 trials.
	2 points	Respond when exposed to circles and squares in 3 out of 4 trials.
	1 point	React when exposed to circles and squares in 3 out of 4 trials.
	Total points possible	6

Grade 4 Math		
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Standard Measured	Measurement	4.4
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Task Specification	The student will indicate length of objects using nonstandard measurement.
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Objective: Length and weight (4.4)

6 points	Indicate the appropriate instruments to measure length and weight in 3 out of 4 trials.
5 points	The student will indicate length of objects using nonstandard measurement in 3 out of 4 trials.
4 points	Identify units of measurement for length in 3 out of 4 trials.
3 points	Name instruments used for measuring length in 3 out of 4 trials.
2 points	Respond when exposed to instruments used for measuring length in 3 out of 4 trials.
1 point	React when exposed to instruments used for measuring length in 3 out of 4 trials.
Total points possible	6

****Respond** refers to any attempted interaction from the student upon exposure to the activity (e.g., assisting, feeling, observing, listening).

****React** refers to any observable change caused by exposure to the activity (e.g., startle reflex, opening eyes, turning head towards sound or touch).

Grade 4 Math

Standard Measured **Data Analysis** **4.5**

Task Specification The student will represent data in a graph or chart.

Objective: Data representation **(4.5)**

6 points	Use data in a graph or chart to make predictions in 3 out of 4 trials.
5 points	Represent data in a graph or chart in 3 out of 4 trials.
4 points	Collect data for a graph or chart; use tally marks to count to 5 in 3 out of 4 trials.
3 points	Identify a graph or chart in 3 out of 4 trials.
2 points	Respond when exposed to a graph or chart in 3 out of 4 trials.
1 point	React when exposed to a graph or chart in 3 out of 4 trials.
Total points possible	6

****Respond** refers to any attempted interaction from the student upon exposure to the activity (e.g., assisting, feeling, observing, listening).

****React** refers to any observable change caused by exposure to the activity (e.g., startle reflex, opening eyes, turning head towards sound or touch).

Grade 4

Reading

Grade 4 Reading

Standard Measured **Vocabulary** **4.1**

Task Specification The student will define common affixes.

Objective: Affixes **(4.1)**



6 points	Use common affixes in context in 3 out of 4 trials.
5 points	Define common affixes in context in 3 out of 4 trials.
4 points	Recognize common affixes in context in 3 out of 4 trials.
3 points	Identify objects that correspond to common affixes in 3 out of 4 trials.
2 points	Respond when exposed to objects that correspond to common affixes in 3 out of 4 trials.
1 point	React when exposed to objects that correspond to common affixes in 3 out of 4 trials.
Total points possible	6

****Respond** refers to any attempted interaction from the student upon exposure to the activity (e.g., assisting, feeling, observing, listening).

****React** refers to any observable change caused by exposure to the activity (e.g., startle reflex, opening eyes, turning head towards sound or touch).

Grade 4 Reading		
Standard Measured	Comprehension/Critical Literacy	4.3
Task Specification		The student will preview text or media and make predictions about characters and main plot events.
Objective: Make predictions about characters		(4.3.1)
	6 points	Preview text or media and make predictions about two characters and then identify the best explanation or support for the predictions in 3 out of 4 trials.
	5 points	Preview text or media and make predictions about one character and then identify the best explanation or support for the predictions in 3 out of 4 trials.
	4 points	Preview text or media and make predictions about two characters in 3 out of 4 trials.
	3 points	Preview text or media and make a prediction about one character in 3 out of 4 trials.
	2 points	Preview text or media and respond when exposed to a prediction about one character in 3 out of 4 trials.
	1 point	Preview text or media and react when exposed to a prediction about one character in 3 out of 4 trials.
	Total points possible	6
Objective: Make predictions about plot events		(4.3.2)
	6 points	Preview text or media and make predictions about two events that will happen in the story and then identify the best explanation or support for the predictions in 3 out of 4 trials.
	5 points	Preview text or media and make predictions about one event that will happen in the story and then identify the best explanation or support for the predictions in 3 out of 4 trials.
	4 points	Preview text or media and make predictions about two events that will happen in 3 out of 4 trials.
	3 points	Preview text or media and make a prediction about one event in 3 out of 4 trials.
	2 points	Preview text or media and respond when exposed to a prediction about one event in 3 out of 4 trials.
	1 point	Preview text or media and react when exposed to a prediction about one event in 3 out of 4 trials.
	Total points possible	6
Total points possible (4.3.1, 4.3.2)		12

****Respond** refers to any attempted interaction from the student upon exposure to the activity (e.g., assisting, feeling, observing, listening).

****React** refers to any observable change caused by exposure to the activity (e.g., startle reflex, opening eyes, turning head towards sound or touch).

Grade 4 Reading		
Standard Measured	Literature	4.4
Task Specification	The student will identify at least two literary elements (setting/character/plot) from two genres.	
Objective: Story elements		(4.4)
	6 points	Compare at least two literary elements (setting/character/plot) from two genres in 3 out of 4 trials.
	5 points	Identify two literary elements in two genres in 3 out of 4 trials.
	4 points	Identify two literary elements in one genre in 3 out of 4 trials.
	3 points	Identify setting in a reading of a selected genre in 3 out of 4 trials.
	2 points	Respond when exposed to the setting in a reading of a selected genre in 3 out of 4 trials.
	1 point	React when exposed to the setting in a reading of a selected genre in 3 out of 4 trials.
Total points possible		6

Grade 4 Reading		
Standard Measured	Research and Information	4.5
Task Specification	The student will locate three resources on a topic (e.g., pictures from the Internet and from books, magazines, and newspapers).	
Objective: Locating resources		(4.5)
	6 points	Demonstrate how to gather information from three resources about a selected topic of interest in 3 out of 4 trials.
	5 points	Compare three resources for locating information about a selected topic of interest in 3 out of 4 trials.
	4 points	Identify two sources of information about a selected topic of interest in 3 out of 4 trials.
	3 points	Identify one source of information about a selected topic of interest in 3 out of 4 trials.
	2 points	Respond when exposed to one source of information about a selected topic of interest in 3 out of 4 trials.
	1 point	React when exposed to one source of information about a selected topic of interest in 3 out of 4 trials.
Total points possible		6

****Respond** refers to any attempted interaction from the student upon exposure to the activity (e.g., assisting, feeling, observing, listening).

****React** refers to any observable change caused by exposure to the activity (e.g., startle reflex, opening eyes, turning head towards sound or touch).