Learning Goals and Scales – An Introduction

Purpose: The grade-specific learning goals and scales contained in this document are designed using PA Core Standards-based language that has been scaffolded to assist in assessing level of student mastery.

Organization: The team of teachers who worked to create these learning goals and scales referenced the book *Using Common Core Standards to Enhance Classroom Instruction & Assessment* (see citation below). The starting point for each scale was using a large portion of a grade level standard(s) as the 3 and then working to determine which elements of that standard might represent less complex cognitive levels to be considered a 2 or higher cognitive levels to become part of the 4. Additional information appears below regarding the contents of each performance level. Note that in many cases, several standards may be combined to make a logical measurement item. (i.e. – shapes, fluency, time, etc.). This is consistent with the manner in which the state is now assessing students on the PSSA.

Score	Description
4	Represents concepts/skills that are more cognitively complex than a score of 3 but may contain portions of the actual grade level standard depending on complexity. Deeper work at the grade level where student demonstrates in-depth applications beyond core instruction through open-ended projects or performance tasks, not simple multiple-choice responses.
3	Contains a grade level standard(s) or a portion of a standard depending on the cognitive complexity. Students who have demonstrated proficiency with grade level content/standards would typically receive a score of a 3.
2	Contains vocabulary and precursory processes that a student would need to have knowledge of in order to be able to successfully demonstrate proficiency with a score of 3. These could be grade level skills/concepts or those from a previous grade level.
1	Represents a student who has only demonstrated pockets of knowledge in the score range of a 2 and/or 3.

Instructional Use: Each grade level has a selection of learning goals and scales that represent the standards for their grade level. At the bottom of each scale a notation is included as to which PA Core Standard(s) align with the scale and which units from Math Expressions an individual scale will be used with. Additionally, the Standard(s) for Mathematical Practice (SMP) that should be a focus with each scale are listed. This alignment was completed in an effort to ensure that all students are exposed to all SMP each year as these represent the habits of mind of mathematical thinkers. The appropriate learning goal/scales should be used with students throughout the year. These may be posted/projected in your classroom, given to students to actually highlight as they demonstrate mastery or possibly a combination of both. Ultimately, students need to know and be able to explain what it is that they are learning and what criteria is needed to demonstrate at least a proficient level of understanding.

Reference:

Marzano, R. J., Yanoski, D. C., Hoegh, J. K., & Simms, J. A. (2013). Using Common Core Standards to Enhance Classroom Instruction & Assessment (1st edition). Bloomington, IN: Marzano Research Laboratory.

Grade K Fluency	
4	In addition to the score of 3, I will be able to: • Add/subtract fluently within 10.
3	I will be able to: • Add/subtract fluently within 5.
2	I will recognize or recall vocabulary, such as: • add, subtract, addition, subtraction I will perform basic processes, such as: • Add and subtract with manipulatives. • Add and subtract with extended time.
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.1.K.A.1/Units: Understanding Addition and Subtraction, Consolidation of Concepts
Focus Standards for Mathematical Practice include SMP 6.

Grade K Number Names	
4	In addition to the score of 3, I will be able to: • Count numbers up to 120 or beyond. • Count numbers to 120, starting at any number less than 120. • Represent a group of objects of 30 or more with a written numeral.
3	I will be able to: • Count forward beginning from a given number within the known sequence. • Represent a number of objects between 0 and 20 with a written numeral. • Count to 100 by ones and tens.
2	I will recognize or recall vocabulary, such as: • count, number, numeral, ones, sequence, tens I will perform basic processes, such as: • Counting numbers in standard order. • Identify and write numbers from 0 to 20.
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.1.K.A.1/Units: All except Analyzing, Comparing, and Composing Shapes & Measurement and Data
Focus Standards for Mathematical Practice include SMP 6.

Grade K Counting Objects

4	In addition to the score of 3, I will be able to: • Count groups of objects equal to or greater than 30. • Use groupings of tens (twos, fives, etc.) to count objects.
3	I will be able to: • Count groups of objects to 20. • Given a number from 1 to 20, count out that many objects.
2	I will recognize or recall vocabulary, such as: • count, larger, last, number, number name, order, I will perform basic processes, such as: • Say the number names in standard order. • Count objects by pairing one object with one number name. • Use the last number name said (when counting) to determine the number of objects counted. • Explain that each successive number refers to a quantity that is one larger.
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.1.K.A.2/Units: All except Analyzing, Comparing, and Composing Shapes & Measurement and Data
Focus Standards for Mathematical Practice include SMP 4, 5, 6, and 8.

Grade K Compare Numbers

4	In addition to the score of 3, I will be able to: • Compare two numbers between 11 and 20 presented as written numerals. • Comparing three numbers between one and 10 presented as written numerals.
3	I will be able to: • Compare two numbers between one and 10 presented as written numerals.
2	I will recognize or recall vocabulary, such as: • compare, count, equal to, greater than, less than, matching strategy, number, numeral, set, same as I will perform basic processes, such as: • Identify sets of objects as greater than, less than, or equal to another set of objects using matching and counting strategies.
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.1.K.A.3/ Units: All except Analyzing, Comparing, and Composing Shapes & Measurement and Data
Focus Standards for Mathematical Practice include SMP 1, 4, 6 and 8.

Grade K Place Value

4	In addition to the score of 3, I will be able to: • Represent the two digits of a two-digit number as amounts of tens and ones.
3	I will be able to: • Compose numbers from 11 to 19 into ten ones and further ones (using drawings or objects). • Decompose numbers from 11 to 19 into ten ones and further ones (using drawings or objects). • Record compositions and decompositions using a drawing or equation.
2	I will recognize or recall vocabulary, such as: • add, compose, composition, decompose, decomposition, equation, number, ones, tens, record I will perform basic processes, such as: • Decompose numbers less than or equal to 10 in more than one way and record using a drawing or equation.
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.1.K.B.1/Units: Understanding Addition and Subtraction, Composing and Decomposing Numbers 11-19, Consolidation of Concepts

Focus Standards for Mathematical Practice include SMP 3, 4, 5 and 7.

Grade K Addition and Subtraction

4	In addition to the score of 3, I will be able to: • Determine whether addition or subtraction is required to solve word problems and accurately calculate the sum or difference.
3	I will be able to: • Solve addition and subtraction word problems. • Solve addition and subtraction within 10. • Decompose numbers less than or equal to 10 into pairs in more than one way (5=2+3; 5=1+4). • For any number from 1 to 9 find the number that makes 10 when added to the given number.
2	I will recognize or recall vocabulary, such as: • add, addition, equation, explanation, expression, represent, subtract, subtraction, word problem I will perform basic processes, such as: • Recognize symbols, such as +, -, and =. • Represent addition and subtraction problems (with objects, fingers, drawings, sounds, expressions, or equations).
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.2.K.A.1/Unit: Understanding Addition and Subtraction & Consolidation of Concepts
Focus Standards for Mathematical Practice include SMP 1, 2, 3, 4.

Grade K Shapes

4	In addition to the score of 3, I will be able to: • Distinguish between the defining and non-defining attributes of a variety of shapes (example, defining attributes of triangles: closed, three-sided; non-defining attributes include color, size, and orientation).
3	I will be able to: • Analyze and compare a variety of two- and three- dimensional shapes using informal language to describe similarities, differences, component parts and other attributes. • Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
2	I will recognize or recall vocabulary, such as: • attribute, compare, corner, vertices, vertex, number, shade, side, two- and three-dimensional I will perform basic processes, such as: • Correctly name two- and three-dimensional shapes regardless of their orientations or overall size. • Identify shapes as two-dimensional (flat) or three-dimensional (solid). • Identify attributes of two- and three-dimensional shapes.
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.3.K.A.1/Units: All except Composing and Decomposing Numbers 11-19 & Measurement and Data
Focus Standards for Mathematical Practice include SMP 6, 7 and 8.

Grade K Compose and Decompose Shapes

4	In addition to the score of 3, I will be able to: • Create composite shapes by composing three-dimensional shapes. • Decompose a larger shape into its component parts.
3	I will be able to: • Compose simple shapes to form larger shapes.
2	I will recognize or recall vocabulary, such as: • build, compose, larger, model, rectangle, shape, triangle, hexagon, square I will perform basic processes, such as: • Model shapes in the real world by building shapes from components and drawing shapes.
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.3.K.A.2/Units: Analyzing, Comparing, and Composing Shapes & Consolidation of Concepts
Focus Standards for Mathematical Practice include SMP 4, 6, & 7.

Grade K Measurement

4	In addition to the score of 3, I will be able to: • Measure attributes of an object using standard or non-standard units.
3	I will be able to: • Compare and describe the difference between two objects with a measureable attribute in common.
2	I will recognize or recall vocabulary, such as: • attribute, common, compare, length, weight, capacity, height I will perform basic processes, such as: • Describe several measureable attributes of an object (length, weight, capacity, and height).
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.4.K.A.1/Units: Measurement and Data & Consolidation of Concepts
Focus Standards for Mathematical Practice include SMP 2, 3, 6 and 8.

Grade K Represent and Interpret Data	
4	In addition to the score of 3, I will be able to: • Sort the same group of objects multiple times in more than one way and/or by multiple attributes.
3	I will be able to: • Classify and sort objects into given categories. • Count the numbers of objects in each category and sort the categories by count.
2	I will recognize or recall vocabulary, such as: • category, classify, sort I will perform basic processes, such as: • Recognize the appropriate category for an object when given options.
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.1.K.A.4/Units: Measurement and Data & Consolidation of Concepts
Focus Standards for Mathematical Practice include SMP 1, 2 and 6.

Grade K Money	
4	In addition to the score of 3, I will be able to: • Identify the value of each coin.
3	I will be able to: • Identify the penny, nickel, dime and quarter.
2	I will recognize or recall vocabulary, such as: • coin, penny, nickel, dime, quarter I will perform basic processes, such as: • Recognize coins when a teacher gives the coin name.
1	With help, partial success at score 2 and 3 content.

PA Core Standard CC.2.1.K.A.1/Units: Recognizing, Counting, and Comparing Numbers 0 to 5, Recognizing, Counting, and Comparing Numbers 0 to 10, Counting Numbers 0 to 20 and 0 to 100, & Consolidation of Concepts
Focus Standards for Mathematical Practice include SMP 6.