A photograph of a classroom with two wooden desks. Each desk has a black top and a white sheet of paper. A pencil lies on each desk. In the background, there is a whiteboard and a colorful abacus.

**DRAFT New Louisiana
Standards for 2016-2017
Correlation to Eureka Math**





Grade K
*April 2016
Draft*

**EUREKA
MATH™**

Grade K Mathematics

The majority of the Grade K Louisiana Standards for Mathematics are fully covered by the Grade K *Eureka Math* curriculum. The primary areas where the Grade K Louisiana Standards for Mathematics and *Eureka Math* do not align are in the domains of Number and Operations in Base Ten and Measurement and Data. Standards from these domains will require use of *Eureka Math* content from another grade level. A detailed analysis of alignment is provided in the table below. With strategic placement of supplemental materials, *Eureka Math* can ensure students are successful in achieving the proficiencies of the Louisiana Standards for Mathematics while benefiting from the coherence and rigor of *Eureka Math*.

Indicators

-  Green indicates that the Louisiana standard is fully addressed in *Eureka Math*.
-  Yellow indicates that the Louisiana standard may not be completely addressed in *Eureka Math*.
-  Red indicates that the Louisiana standard is not addressed in *Eureka Math*.
-  Blue indicates there is a discrepancy between the grade level at which this standard is addressed in the Louisiana standards and in *Eureka Math*.

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

1. Make sense of problems and persevere in solving them.

In Kindergarten, students begin to build the understanding that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Younger students may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, “Does this make sense?” or they may try another strategy.

Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 1, which is specifically addressed in the following modules:

- GK M2: Two-Dimensional and Three-Dimensional Shapes
- GK M4: Number Pairs, Addition and Subtraction to 10
- GK M6: Analyzing, Comparing, and Composing Shapes

2. Reason abstractly and quantitatively.

Younger students begin to recognize that a number represents a specific quantity. Then, they connect the quantity to written symbols. Quantitative reasoning entails creating a representation of a problem while attending to the meanings of the quantities.

Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 2, which is specifically addressed in the following modules:

- GK M1: Numbers to 10
- GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10
- GK M4: Number Pairs, Addition and Subtraction to 10
- GK M5: Numbers 10–20 and Counting to 100

3. Construct viable arguments and critique the reasoning of others.

Younger students construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They also begin to develop their mathematical communication skills as they participate in mathematical discussions involving questions like “How did you get that?” and “Why is that true?” They explain their thinking to others and respond to others’ thinking.

Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 3, which is specifically addressed in the following modules:

- GK M1: Numbers to 10
- GK M2: Two-Dimensional and Three-Dimensional Shapes
- GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10
- GK M5: Numbers 10–20 and Counting to 100

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

4. Model with mathematics.

In early grades, students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed.

Lessons in every module engage students in modeling with mathematics as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 4, which is specifically addressed in the following modules:

- GK M1: Numbers to 10
- GK M4: Number Pairs, Addition and Subtraction to 10
- GK M5: Numbers 10–20 and Counting to 100
- GK M6: Analyzing, Comparing, and Composing Shapes

5. Use appropriate tools strategically.

Younger students begin to consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, kindergarteners may decide that it might be advantageous to use linking cubes to represent two quantities and then compare the two representations side-by-side.

Lessons in every module engage students in using appropriate tools strategically as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 5, which is specifically addressed in the following modules:

- GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10
- GK M4: Number Pairs, Addition and Subtraction to 10

6. Attend to precision.

As kindergarteners begin to develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and in their own reasoning.

Lessons in every module engage students in attending to precision as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 6, which is specifically addressed in the following modules:

- GK M2: Two-Dimensional and Three-Dimensional Shapes
- GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10
- GK M6: Analyzing, Comparing, and Composing Shapes

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

7. Look for and make use of structure.

Younger students begin to discern a pattern or structure. For instance, students recognize the pattern that exists in the teen numbers; every teen number is written with a 1 (representing one ten) and ends with the digit that is first stated. They also recognize that $3 + 2 = 5$ and $2 + 3 = 5$.

Lessons in every module engage students in looking for and making use of structure as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 7, which is specifically addressed in the following modules:

- GK M1: Numbers to 10
- GK M2: Two-Dimensional and Three-Dimensional Shapes
- GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10
- GK M4: Number Pairs, Addition and Subtraction to 10
- GK M5: Numbers 10–20 and Counting to 100
- GK M6: Analyzing, Comparing, and Composing Shapes

8. Look for and express regularity in repeated reasoning.

In the early grades, students notice repetitive actions in counting and computation, etc. For example, they may notice that the next number in a counting sequence is one more. When counting by tens, the next number in the sequence is “ten more” (or one more group of ten). In addition, students continually check their work by asking themselves, “Does this make sense?”

Lessons in every module engage students in looking for and expressing regularity in repeated reasoning as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 8, which is specifically addressed in the following modules:

- GK M1: Numbers to 10
- GK M4: Number Pairs, Addition and Subtraction to 10

Domain	Standards	Aligned Components of <i>Eureka Math</i>
Counting and Cardinality	Cluster A: Know number names and count the sequence.	
	K.CC.A.1 Count to 100 by ones and by tens.	GK M5 Topic D: Extend the Say Ten and Regular Count Sequence to 100
	K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	GK M1: Numbers to 10 GK M5: Numbers 10–20 and Counting to 100
	K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).	GK M1: Numbers to 10 GK M5: Numbers 10–20 and Counting to 100
	Cluster B: Count to tell the number of objects.	
	K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.	
	a. When counting objects in standard order, say the number names as they relate to each object in the group, demonstrating one-to-one correspondence.	GK M1: Numbers to 10 GK M5: Numbers 10–20 and Counting to 100

Domain	Standards	Aligned Components of <i>Eureka Math</i>
	<p>b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.</p>	<p>GK M1: Numbers to 10 GK M5: Numbers 10–20 and Counting to 100</p>
	<p>c. Understand that each successive number name refers to a quantity that is one larger.</p>	<p>GK M1 Topic G: <i>One More</i> with Numbers 0–10 GK M5 Topic C: Decompose Numbers 11–20, and Count to Answer “How Many?” Questions in Varied Configurations</p>
	<p>K.CC.B.5 Count to answer "How many?" questions.</p>	
	<p>a. Count objects up to 20, arranged in a line, rectangular array, or a circle.</p>	<p>GK M1: Numbers to 10 GK M5: Numbers 10–20 and Counting to 100</p>
	<p>b. Count objects up to 10 in a scattered configuration.</p>	<p>GK M1: Numbers to 10 GK M5: Numbers 10–20 and Counting to 100</p>
	<p>c. When given a number from 1–20, count out that many objects.</p>	<p>GK M1: Numbers to 10 GK M5: Numbers 10–20 and Counting to 100</p>

Domain	Standards	Aligned Components of <i>Eureka Math</i>
	<p>Cluster C: Compare numbers.</p> <p>K.CC.C.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.</p> <p>K.CC.C.7 Compare two numbers between 1 and 10 presented as written numerals.</p>	<p>GK M3 Topic E: Are There Enough?</p> <p>GK M3 Topic F: Comparison of Sets Within 10</p> <p>GK M3 Topic G: Comparison of Numerals</p> <p>GK M3 Topic F: Comparison of Sets Within 10</p> <p>GK M3 Topic G: Comparison of Numerals</p>
<p>Operations and Algebraic Thinking</p>	<p>Cluster A: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</p> <p>K.OA.A.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</p> <p>K.OA.A.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.</p>	<p>GK M1 Topic C: Numbers to 5 in Different Configurations, Math Drawings, and Expressions</p> <p>GK M1 Topic D: The Concept of Zero and Working with Numbers 0–5</p> <p>GK M4: Number Pairs, Addition and Subtraction to 10</p> <p>GK M5 Topic E: Represent and Apply Compositions and Decompositions of Teen Numbers</p> <p>GK M4: Number Pairs, Addition and Subtraction to 10</p> <p>Note: Although not every application problem is a word problem in Grade K, this standard is addressed throughout many daily application problems.</p>

Domain	Standards	Aligned Components of <i>Eureka Math</i>
	<p>K.OA.A.3 Decompose numbers less than or equal to 10 into pairs in more than one way e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).</p>	<p>GK M4: Number Pairs, Addition and Subtraction to 10</p>
	<p>K.OA.A.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.</p>	<p>GK M1 Topic F: Working with Numbers 9–10 in Different Configurations</p> <p>GK M4 Topic E: Decompositions of 9 and 10 into Number Pairs</p> <p>GK M4 Topic F: Addition with Totals of 9 and 10</p> <p>GK M4 Topic G: Subtraction from 9 and 10</p> <p>GK M4 Topic H: Patterns with Adding 0 and 1 and Making 10</p>
	<p>K.OA.A.5 Fluently add and subtract within 5.</p>	<p>GK M1: Numbers to 10</p> <p>GK M4: Number Pairs, Addition and Subtraction to 10</p> <p>Note: Fluently adding and subtracting to 5 is a fluency goal in the <i>Eureka Math</i> curriculum and is addressed in many fluency activities throughout all modules.</p>

Domain	Standards	Aligned Components of <i>Eureka Math</i>
Number and Operations in Base 10	Cluster A: Work with numbers 11–19 to gain foundations for place value.	
	K.NBT.A.1 Gain understanding of place value.	
	a. Understand that the numbers 11–19 are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	GK M5: Numbers 10–20 and Counting to 100
	b. Compose and decompose numbers 11 to 19 using place value (e.g., by using objects or drawings).	GK M5: Numbers 10–20 and Counting to 100
Measurement and Data	Cluster A: Describe and compare measurable attributes.	
	K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10

Domain	Standards	Aligned Components of <i>Eureka Math</i>
	<p>K.MD.A.2 Directly compare two objects with a measurable attribute in common to see which object has “more of”/“less of” the attribute, and describe the difference. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></p>	<p>GK M3 Topic A: Comparison of Length and Height</p> <p>GK M3 Topic B: Comparison of Length and Height of Linking Cube Sticks Within 10</p> <p>GK M3 Topic C: Comparison of Weight</p> <p>GK M3 Topic D: Comparison of Volume</p>
<p>Cluster B: Classify objects and count the number of objects in each category.</p>		
	<p>K.MD.B.3 Classify objects into given categories based on their attributes; count the number of objects in each category and sort the categories by count</p>	<p>GK M1 Topic A: Attributes of Two Related Objects</p> <p>GK M1 Topic B: Classify to Make Categories and Count</p> <p>GK M2: Two-Dimensional and Three-Dimensional Shapes</p>
<p>Cluster C: Work with money.</p>		
	<p>K.MD.C.4 Recognize pennies, nickels, dimes, and quarters by name and value (e.g., This is a nickel and it is worth 5 cents.)</p>	<p>G1 M6 Topic E: Coins and Their Values</p> <p>Note: Pennies are used in Grade K as units to count (1 penny, 2 pennies, 3 pennies, etc.).</p>

Domain	Standards	Aligned Components of <i>Eureka Math</i>
Geometry	Cluster A: Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).	
	K.G.A.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as <i>above, below, beside, in front of, behind, and next to</i> .	GK M2 Lesson 5: Describe and communicate positions of all flat shapes using the words <i>above, below, beside, in front of, next to, and behind</i> . GK M2 Lesson 8: Describe and communicate positions of all solid shapes using the words <i>above, below, beside, in front of, next to, and behind</i> .
	K.G.A.2 Correctly name shapes regardless of their orientations or overall size.	GK M2: Two-Dimensional and Three-Dimensional Shapes
	K.G.A.3 Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).	GK M2: Two-Dimensional and Three-Dimensional Shapes
	Cluster B: Analyze, compare, create, and compose shapes.	
	K.G.B.4 Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”), and other attributes (e.g., having sides of equal length).	GK M2: Two-Dimensional and Three-Dimensional Shapes
K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.	GK M6 Topic A: Building and Drawing Flat and Solid Shapes	

Domain

Standards

Aligned Components of *Eureka Math*

	<p>K.G.B.6 Compose simple shapes to form larger shapes. <i>For example, "Can you join these two triangles with full sides touching to make a rectangle?"</i></p>	<p>GK M6 Topic B: Composing and Decomposing Shapes</p>
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