

## ABOUT *EUREKA MATH*

Created by the nonprofit Great Minds, *Eureka Math* helps teachers deliver unparalleled math instruction that provides students with a deep understanding and fluency in math. Crafted by teachers and math scholars, the curriculum carefully sequences the mathematical progressions to maximize coherence from Prekindergarten through Precalculus—a principle tested and proven to be essential in students’ mastery of math.

Teachers and students using *Eureka Math* find the trademark “Aha!” moments in *Eureka Math* to be a source of joy and inspiration, lesson after lesson, year after year.

## ALIGNED

*Eureka Math* is the only curriculum found by EdReports.org to align fully with the Common Core State Standards for Mathematics for all grades, Kindergarten through Grade 8. Great Minds offers detailed analyses which demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at [greatminds.org/state-studies](http://greatminds.org/state-studies).

## DATA

Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at [greatminds.org/data](http://greatminds.org/data).

## FULL SUITE OF RESOURCES

As a nonprofit, Great Minds offers the *Eureka Math* curriculum as PDF downloads for free, noncommercial use. Access the free PDFs at [greatminds.org/math/curriculum](http://greatminds.org/math/curriculum).

The teacher–writers who created the curriculum have also developed essential resources, available only from Great Minds, including the following:

- Printed material in English and Spanish
- Digital resources
- Professional development
- Classroom tools and manipulatives
- Teacher support materials
- Parent resources





# Mathematics Standards of Learning for Virginia Public Schools Correlation to *Eureka Math*<sup>™</sup>

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## GRADE K MATHEMATICS

The majority of the Grade K Mathematics Standards of Learning for Virginia Public Schools are fully covered by the Grade K *Eureka Math* curriculum. The areas where the Grade K Mathematics Standards of Learning for Virginia Public Schools and Grade K *Eureka Math* do not align will require the use of *Eureka Math* content from other grade levels or supplemental materials. 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 Mathematics Standards of Learning for Virginia Public Schools while still benefiting from the coherence and rigor of *Eureka Math*.

## INDICATORS

-  Green indicates that the Virginia standard is fully addressed in *Eureka Math*.
-  Yellow indicates that the Virginia standard may not be completely addressed in *Eureka Math*.
-  Red indicates that the Virginia 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 Virginia standards and in *Eureka Math*.

## Mathematical Process Goals

## Aligned Components of *Eureka Math*

<p><b>Mathematical Problem Solving</b></p> <p>Students will apply mathematical concepts and skills and the relationships among them to solve problem situations of varying complexities. Students also will recognize and create problems from real-world data and situations within and outside mathematics and then apply appropriate strategies to determine acceptable solutions. To accomplish this goal, students will need to develop a repertoire of skills and strategies for solving a variety of problem types. A major goal of the mathematics program is to help students apply mathematics concepts and skills to become mathematical problem solvers.</p>	<p>This process goal is analogous to the CCSSM Standards for Mathematical Practice 1 and 2, which are specifically addressed in the following modules:</p> <p>GK M1: Numbers to 10</p> <p>GK M2: Two-Dimensional and Three-Dimensional Shapes</p> <p>GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10</p> <p>GK M4: Number Pairs, Addition and Subtraction to 10</p> <p>GK M5: Numbers 10–20 and Counting to 100</p> <p>GK M6: Analyzing, Comparing, and Composing Shapes</p>
<p><b>Mathematical Communication</b></p> <p>Students will communicate thinking and reasoning using the language of mathematics, including specialized vocabulary and symbolic notation, to express mathematical ideas with precision. Representing, discussing, justifying, conjecturing, reading, writing, presenting, and listening to mathematics will help students to clarify their thinking and deepen their understanding of the mathematics being studied. Mathematical communication becomes visible where learning involves participation in mathematical discussions.</p>	<p>This process goal is analogous to the CCSSM Standards for Mathematical Practice 3 and 6, which are specifically addressed in the following modules:</p> <p>GK M1: Numbers to 10</p> <p>GK M2: Two-Dimensional and Three-Dimensional Shapes</p> <p>GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10</p> <p>GK M5: Numbers 10–20 and Counting to 100</p> <p>GK M6: Analyzing, Comparing, and Composing Shapes</p>

## Mathematical Process Goals

## Aligned Components of *Eureka Math*

<p><b>Mathematical Reasoning</b></p> <p>Students will recognize reasoning and proof as fundamental aspects of mathematics. Students will learn and apply inductive and deductive reasoning skills to make, test, and evaluate mathematical statements and to justify steps in mathematical procedures. Students will use logical reasoning to analyze an argument and to determine whether conclusions are valid. In addition, students will use number sense to apply proportional and spatial reasoning and to reason from a variety of representations.</p>	<p>This process goal is analogous to the CCSSM Standards for Mathematical Practice 2 and 8, which are specifically addressed in the following modules:</p> <p>GK M1: Numbers to 10</p> <p>GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10</p> <p>GK M4: Number Pairs, Addition and Subtraction to 10</p> <p>GK M5: Numbers 10–20 and Counting to 100</p>
<p><b>Mathematical Connections</b></p> <p>Students will build upon prior knowledge to relate concepts and procedures from different topics within mathematics and see mathematics as an integrated field of study. Through the practical application of content and process skills, students will make connections among different areas of mathematics and between mathematics and other disciplines, and to real-world contexts. Science and mathematics teachers and curriculum writers are encouraged to develop mathematics and science curricula that support, apply, and reinforce each other.</p>	<p>This process goal is analogous to the CCSSM Standards for Mathematical Practice 4 and 5, which are specifically addressed in the following modules:</p> <p>GK M1: Numbers to 10</p> <p>GK M2: Two-Dimensional and Three-Dimensional Shapes</p> <p>GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10</p> <p>GK M4: Number Pairs, Addition and Subtraction to 10</p> <p>GK M5: Numbers 10–20 and Counting to 100</p> <p>GK M6: Analyzing, Comparing, and Composing Shapes</p>

## Mathematical Process Goals

## Aligned Components of *Eureka Math*

### Mathematical Representations

Students will represent and describe mathematical ideas, generalizations, and relationships using a variety of methods. Students will understand that representations of mathematical ideas are an essential part of learning, doing, and communicating mathematics. Students should make connections among different representations—physical, visual, symbolic, verbal, and contextual—and recognize that representation is both a process and a product.

This process goal is analogous to the CCSSM Standards for Mathematical Practice 4, which are 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

Domain	Mathematical Content Standards	Aligned Components of <i>Eureka Math</i>
<b>Number and Number Sense</b>	<b>K.1</b> The student will	
	a. tell how many are in a given set of 20 or fewer objects by counting orally; and	<p>GK M1 Topic D: The Concept of Zero and Working with Numbers 0–5</p> <p>GK M1 Topic E: Working with Numbers 6–8 in Different Configurations</p> <p>GK M1 Topic F: Working with Numbers 9–10 in Different Configurations</p> <p>GK M5 Topic B: Compose Numbers 11–20 from 10 Ones and Some Ones; Represent and Write Teen Numbers</p> <p>GK M5 Lesson 14: Show, count, and write to answer <i>how many</i> questions with up to 20 objects in circular configurations.</p>

Domain	Mathematical Content Standards	Aligned Components of <i>Eureka Math</i>
	<p>b. read, write, and represent numbers 0 through 20.</p>	<p>GK M1 Topic D: The Concept of Zero and Working with Numbers 0–5</p> <p>GK M1 Topic E: Working with Numbers 6–8 in Different Configurations</p> <p>GK M1 Topic F: Working with Numbers 9–10 in Different Configurations</p> <p>GK M5 Topic B: Compose Numbers 11–20 from 10 Ones and Some Ones; Represent and Write Teen Numbers</p> <p>GK M5 Lesson 14: Show, count, and write to answer <i>how many</i> questions with up to 20 objects in circular configurations.</p>
	<p><b>K.2</b> The student, given no more than three sets, each set containing 10 or fewer concrete objects, will</p>	
	<p>a. compare and describe one set as having more, fewer, or the same number of objects as the other set(s); and</p>	<p>GK M1: Numbers to 10</p>
	<p>b. compare and order sets from least to greatest and greatest to least.</p>	<p>GK M1: Numbers to 10</p>

Domain	Mathematical Content Standards	Aligned Components of <i>Eureka Math</i>
	<p><b>K.3</b> The student will</p>	
	<p>a. count forward orally by ones from 0 to 100;</p>	<p>GK M5 Topic D: Extend the Say Ten and Regular Count Sequence to 100</p>
	<p>b. count backward orally by ones when given any number between 1 and 10;</p>	<p>GK M1 Topic G: <i>One More</i> with Numbers 0–10 GK M1 Topic H: <i>One Less</i> with Numbers 0–10</p>
	<p>c. identify the number after, without counting, when given any number between 0 and 100 and identify the number before, without counting, when given any number between 1 and 10; and</p>	<p>GK M1 Topic G: <i>One More</i> with Numbers 0–10 GK M1 Topic H: <i>One Less</i> with Numbers 0–10 GK M3 Lesson 23: Reason to identify and make a set that has 1 more. GK M4 Lesson 37: Add or subtract 0 to get the same number and relate to word problems wherein the same quantity that joins a set, separates. GK M4 Lesson 38: Add 1 to numbers 1–9 to see the pattern of <i>the next number</i> using 5-group drawings and equations. GK M5 Topic A: Count 10 Ones and Some Ones GK M5 Topic C: Decompose Numbers 11–20, and Count to Answer “How Many?” Questions in Varied Configurations</p>
	<p>d. count forward by tens to determine the total number of objects to 100.</p>	<p>GK M5 Topic D: Extend the Say Ten and Regular Count Sequence to 100</p>



Domain	Mathematical Content Standards	Aligned Components of <i>Eureka Math</i>
	<p><b>K.4</b> The student will</p>	
	<p>a. recognize and describe with fluency part-whole relationships for numbers up to 5; and</p>	<p>GK M4 Topic A: Compositions and Decompositions of 2, 3, 4, and 5</p>
	<p>b. investigate and describe part-whole relationships for numbers up to 10.</p>	<p>GK M1 Topic C: Numbers to 5 in Different Configurations, Math Drawings, and Expressions</p> <p>GK M1 Lesson 14: Write numerals 1–3. Represent decompositions with materials, drawings, and equations, <math>3 = 2 + 1</math> and <math>3 = 1 + 2</math>.</p> <p>GK M1 Lesson 16: Write numerals 1–5 in order. Answer and make drawings of decompositions with totals of 4 and 5 without equations.</p> <p>GK M3 Lesson 7: Compare objects using <i>the same as</i>.</p> <p>GK M4: Number Pairs, Addition and Subtraction to 10</p>
	<p><b>K.5</b> The student will investigate fractions by representing and solving practical problems involving equal sharing with two sharers.</p>	<p>G2 M8 Lesson 8: Interpret equal shares in composite shapes as halves, thirds, and fourths.</p> <p>G2 M8 Topic C: Halves, Thirds, and Fourths of Circles and Rectangles</p> <p>G2 M8 Lesson 13: Construct a paper clock by partitioning a circle into halves and quarters, and tell time to the half hour or quarter hour.</p>

Domain	Mathematical Content Standards	Aligned Components of <i>Eureka Math</i>
<b>Computation and Estimation</b>	<p><b>K.6</b> The student will model and solve single-step story and picture problems with sums to 10 and differences within 10, using concrete objects.</p>	GK M4: Number Pairs, Addition and Subtraction to 10
<b>Measurement and Geometry</b>	<p><b>K.7</b> The student will recognize the attributes of a penny, nickel, dime, and quarter and identify the number of pennies equivalent to a nickel, a dime, and a quarter.</p>	G1 M6 Topic E: Coins and Their Values
	<p><b>K.8</b> The student will investigate the passage of time by reading and interpreting a calendar.</p>	<i>Eureka Math</i> does not specifically teach calendar skills except for use in word problem situations.
	<p><b>K.9</b> The student will compare two objects or events, using direct comparisons, according to one or more of the following attributes: length (longer, shorter), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder), volume (more, less), and time (longer, shorter).</p>	GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10

Domain	Mathematical Content Standards	Aligned Components of <i>Eureka Math</i>
	<b>K.10</b> The student will	
	a. identify and describe plane figures (circle, triangle, square, and rectangle);	GK M1 Topic A: Attributes of Two Related Objects GK M1 Topic B: Classify to Make Categories and Count GK M2: Two-Dimensional and Three-Dimensional Shapes GK M6: Analyzing, Comparing, and Composing Shapes
	b. compare the size (larger, smaller) and shape of plane figures (circle, triangle, square, and rectangle); and	GK M2: Two-Dimensional and Three-Dimensional Shapes GK M6: Analyzing, Comparing, and Composing Shapes
	c. describe the location of one object relative to another (above, below, next to) and identify representations of plane figures (circle, triangle, square, and rectangle) regardless of their positions and orientations in space.	GK M2: Two-Dimensional and Three-Dimensional Shapes GK M6: Analyzing, Comparing, and Composing Shapes
<b>Probability and Statistics</b>	<b>K.11</b> The student will	
	a. collect, organize, and represent data; and	G1 M3 Topic D: Data Interpretation
	b. read and interpret data in object graphs, picture graphs, and tables.	G1 M3 Topic D: Data Interpretation

Domain	Mathematical Content Standards	Aligned Components of <i>Eureka Math</i>
<b>Patterns, Functions, and Algebra</b>	<b>K.12</b> The student will sort and classify objects according to one attribute.	GK M1 Topic A: Attributes of Two Related Objects  GK M1 Topic B: Classify to Make Categories and Count  GK M2 Topic C: Two-Dimensional and Three-Dimensional Shapes
	<b>K.13</b> The student will identify, describe, extend, create, and transfer repeating patterns.	<i>Eureka Math</i> does not explicitly address patterns.