EUREKA MATH™

GREAT MINDS

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.

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.

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.

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

GRADE 1 MATHEMATICS

The majority of the Grade 1 Mathematics Standards of Learning for Virginia Public Schools are fully covered by the Grade 1 *Eureka Math* curriculum. The areas where the Grade 1 Mathematics Standards of Learning for Virginia Public Schools and Grade 1 *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*
Mathematical Problem Solving 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.	This process goal is analogous to the CCSSM Standards for Mathematical Practice 1 and 2, which are specifically addressed in the following modules: G1 M1: Sums and Differences to 10 G1 M2: Introduction to Place Value Through Addition and Subtraction Within 20 G1 M3: Ordering and Comparing Length Measurements as Numbers G1 M5: Identifying, Composing, and Partitioning Shapes G1 M6: Place Value, Comparison, Addition and Subtraction to 100

Mathematical Process Goals	Aligned Components of *Eureka Math*
Mathematical Communication 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.	This process goal is analogous to the CCSSM Standards for Mathematical Practice 3 and 6, which are specifically addressed in the following modules: G1 M1: Sums and Differences to 10 G1 M3: Ordering and Comparing Length Measurements as Numbers G1 M4: Place Value, Comparison, Addition and Subtraction to 40 G1 M5: Identifying, Composing, and Partitioning Shapes G1 M6: Place Value, Comparison, Addition and Subtraction to 100
Mathematical Reasoning 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.	This process goal is analogous to the CCSSM Standards for Mathematical Practice 2 and 8, which are specifically addressed in the following modules: G1 M1: Sums and Differences to 10 G1 M2: Introduction to Place Value Through Addition and Subtraction Within 20 G1 M3: Ordering and Comparing Length Measurements as Numbers

Mathematical Process Goals	Aligned Components of *Eureka Math*
Mathematical Connections 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.	This process goal is analogous to the CCSSM Standards for Mathematical Practice 4 and 5, which are specifically addressed in the following modules: G1 M2: Introduction to Place Value Through Addition and Subtraction Within 20 G1 M4: Place Value, Comparison, Addition and Subtraction to 40 G1 M6: Place Value, Comparison, Addition and Subtraction to 100
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 is specifically addressed in the following modules: G1 M2: Introduction to Place Value Through Addition and Subtraction Within 20 G1 M6: Place Value, Comparison, Addition and Subtraction to 100

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
Number and Number Sense	**1.1** The student will		
	a. count forward orally by ones to 110, starting at any number between 0 and 110;		G1 M4 Lesson 1: Compare the efficiency of counting by ones and counting by tens. G1 M6 Lesson 7: Count and write numbers to 120. Use Hide Zero cards to relate numbers 0 to 20 to 100 to 120. G1 M6 Lesson 8: Count to 120 in unit form using only tens and ones. Represent numbers to 120 as tens and ones on the place value chart. G1 M6 Lesson 9: Represent up to 120 objects with a written numeral.
	b. write the numerals 0 to 110 in sequence and out-of-sequence;		G1 M4 Lesson 1: Compare the efficiency of counting by ones and counting by tens. G1 M6 Lesson 7: Count and write numbers to 120. Use Hide Zero cards to relate numbers 0 to 20 to 100 to 120. G1 M6 Lesson 8: Count to 120 in unit form using only tens and ones. Represent numbers to 120 as tens and ones on the place value chart. G1 M6 Lesson 9: Represent up to 120 objects with a written numeral.

Domain	Mathematical Content Standards	Aligned Components of *Eureka Math*
	c. count backward orally by ones when given any number between 1 and 30; and	G1 M4 Lesson 5: Identify 10 more, 10 less, 1 more, and 1 less than a two-digit number. G1 M4 Lesson 6: Use dimes and pennies as representations of tens and ones. G1 M6 Lesson 5: Identify 10 more, 10 less, 1 more, and 1 less than a two-digit number within 100. Note: Supplemental material may be necessary to completely address this standard.
	d. count forward orally by ones, twos, fives, and tens to determine the total number of objects to 110.	GK M5 Topic D: Extend the Say Ten and Regular Count Sequence to 100 G2 M7 Lesson 6: Recognize the value of coins and count up to find their total value. G2 M8 Topic D: Application of Fractions to Tell Time Note: Students build fluency of skip-counting with twos, fives, and tens in a variety of fluency activities in Grades 1 and 2.

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	1.2 The student, given up to 110 objects, will		
	a. group a collection into tens and ones and write the corresponding numeral;		G1 M2 Topic D: Varied Problems with Decompositions of Teen Numbers as 1 Ten and Some Ones G1 M4 Topic A: Tens and Ones G1 M4 Lesson 23: Interpret two-digit numbers as tens and ones, including cases with more than 9 ones. G1 M6 Lesson 3: Use the place value chart to record and name tens and ones within a two-digit number up to 100. G1 M6 Lesson 4: Write and interpret two-digit numbers to 100 as addition sentences that combine tens and ones.
	b. compare two numbers between 0 and 110 represented pictorially or with concrete objects, using the words *greater than*, *less than* or *equal to*; and		G1 M4 Topic B: Comparison of Pairs of Two-Digit Numbers G1 M6 Lesson 6: Use the symbols >, =, and < to compare quantities and numerals to 100.
	c. order three or fewer sets from least to greatest and greatest to least.		G1 M4 Topic B: Comparison of Pairs of Two-Digit Numbers G1 M6 Lesson 6: Use the symbols >, =, and < to compare quantities and numerals to 100. Note: Supplemental material is necessary to order sets of numbers.

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	1.3 The student, given an ordered set of ten objects and/or pictures, will indicate the ordinal position of each object, first through tenth.		GK M6 Lesson 4: Describe the relative position of shapes using ordinal numbers.
	1.4 The student will		
	a. represent and solve practical problems involving equal sharing with two or four sharers;		G2 M8 Lesson 8: Interpret equal shares in composite shapes as halves, thirds, and fourths. G2 M8 Topic C: Halves, Thirds, and Fourths of Circles and Rectangles 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.
	b. represent and name fractions for halves and fourths, using models.		G2 M8 Lesson 8: Interpret equal shares in composite shapes as halves, thirds, and fourths. G2 M8 Topic C: Halves, Thirds, and Fourths of Circles and Rectangles 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.

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	1.5 The student, given a familiar problem situation involving magnitude, will		
	a. select a reasonable order of magnitude from three given quantities: a one-digit numeral, a two-digit numeral, and a three-digit numeral (e.g., 5, 50, 500); and		G1 M4 Topic B: Comparison of Pairs of Two-Digit Numbers G1 M6 Lesson 6: Use the symbols >, =, and < to compare quantities and numerals to 100. G2 M3 Topic F: Comparing Two Three-Digit Numbers
	b. explain the reasonableness of the choice.		G1 M4 Topic B: Comparison of Pairs of Two-Digit Numbers G1 M6 Lesson 6: Use the symbols >, =, and < to compare quantities and numerals to 100.
Computation and Estimation	**1.6** The student will create and solve single-step story and picture problems using addition and subtraction within 20.		G1 M4 Topic E: Varied Problem Types Within 20
	1.7 The student will		
	a. recognize and describe with fluency part-whole relationships for numbers up to 10; and		G1 M1: Sums and Differences to 10 Note: Students build fluency of part–whole relationships for numbers up to 10 in a variety of fluency activities in Grade 1.
	b. demonstrate fluency with addition and subtraction within 10.		G1 M1: Sums and Differences to 10 Note: Students build fluency of addition and subtraction within 10 in a variety of fluency activities in Grade 1.

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
Measurement and Geometry	**1.8** The student will determine the value of a collection of like coins (pennies, nickels, or dimes) whose total value is 100 cents or less.		G1 M6 Topic E: Coins and Their Values
	1.9 The student will investigate the passage of time and		
	a. tell time to the hour and half-hour, using analog and digital clocks; and		G1 M5 Topic D: Application of Halves to Tell Time
	b. read and interpret a calendar.		*Eureka Math* does not specifically teach calendar skills except for use in word problem situations.
	1.10 The student will use nonstandard units to measure and compare length, weight, and volume.		G1 M3: Ordering and Comparing Length Measurements as Numbers
	1.11 The student will		
	a. identify, trace, describe, and sort plane figures (triangles, squares, rectangles, and circles) according to number of sides, vertices, and angles; and		G1 M5 Topic A: Attributes of Shapes
	b. identify and describe representations of circles, squares, rectangles, and triangles in different environments, regardless of orientation, and explain reasoning.		G1 M5 Topic A: Attributes of Shapes

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
Probability and Statistics	**1.12** The student will		
	a. collect, organize, and represent various forms of data using tables, picture graphs, and object graphs; and		G1 M3 Topic D: Data Interpretation
	b. read and interpret data displayed in tables, picture graphs, and object graphs, using the vocabulary *more*, *less*, *fewer*, *greater than*, *less than*, and *equal to*.		G1 M3 Topic D: Data Interpretation
Patterns, Functions, and Algebra	**1.13** The student will sort and classify concrete objects according to one or two attributes.		GK M2: Two-Dimensional and Three-Dimensional Shapes GK M6: Analyzing, Comparing, and Composing Shapes G1 M3 Topic A: Indirect Comparison in Length Measurement G1 M3 Lesson 6: Order, measure, and compare the length of objects before and after measuring with centimeter cubes, solving *compare with difference unknown* word problems.
	1.14 The student will identify, describe, extend, create, and transfer growing and repeating patterns.		*Eureka Math* does not explicitly address patterns.
	1.15 The student will demonstrate an understanding of equality through the use of the equal symbol.		G1 M1 Topic E: The Commutative Property of Addition and the Equal Sign G1 M2 Lesson 25: Strategize and apply understanding of the equal sign to solve equivalent expressions.