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 3 MATHEMATICS

The majority of the Grade 3 Mathematics Standards of Learning for Virginia Public Schools are fully covered by the Grade 3 *Eureka Math* curriculum. The areas where the Grade 3 Mathematics Standards of Learning for Virginia Public Schools and Grade 3 *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: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M2: Place Value and Problem Solving with Units of Measure G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10 G3 M4: Multiplication and Area G3 M5: Fractions as Numbers on the Number Line G3 M6: Collecting and Displaying Data G3 M7: Geometry and Measurement Word Problems

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: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M2: Place Value and Problem Solving with Units of Measure G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10 G3 M4: Multiplication and Area G3 M5: Fractions as Numbers on the Number Line G3 M6: Collecting and Displaying Data G3 M7: Geometry and Measurement Word Problems

Mathematical Process Goals	Aligned Components of *Eureka Math*
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: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M2: Place Value and Problem Solving with Units of Measure G3 M4: Multiplication and Area G3 M5: Fractions as Numbers on the Number Line G3 M6: Collecting and Displaying Data

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: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M2: Place Value and Problem Solving with Units of Measure G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10 G3 M6: Collecting and Displaying Data G3 M7: Geometry and Measurement Word Problems
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: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M2: Place Value and Problem Solving with Units of Measure G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
Number and Number Sense	**3.1** The student will		
	a. read, write, and identify the place and value of each digit in a six-digit whole number, with and without models;		G4 M1 Topic A: Place Value of Multi-Digit Whole Numbers G4 M3 Topic B: Multiplication by 10, 100, and 1,000 G4 M6 Lesson 8: Use understanding of fraction equivalence to investigate decimal numbers on the place value chart expressed in different units.
	b. round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand; and		G3 M2 Topic C: Rounding to the Nearest Ten and Hundred G3 M2 Lesson 17: Estimate sums by rounding and apply to solve measurement word problems. G3 M2 Topic E: Two- and Three-Digit Measurement Subtraction Using the Standard Algorithm G4 M1 Topic C: Rounding Multi-Digit Whole Numbers
	c. compare and order whole numbers, each 9,999 or less.		G4 M1 Topic A: Place Value of Multi-Digit Whole Numbers G4 M1 Topic B: Comparing Multi-Digit Whole Numbers
	3.2 The student will		
	a. name and write fractions and mixed numbers represented by a model;		G3 M5 Topic B: Unit Fractions and Their Relation to the Whole G3 M5 Lesson 12: Specify the corresponding whole when presented with one equal part.

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	b. represent fractions and mixed numbers with models and symbols; and		G3 M5 Topic D: Fractions on the Number Line
	c. compare fractions having like and unlike denominators, using words and symbols (>, <, =, or ≠), with models.		G3 M5 Topic C: Comparing Unit Fractions and Specifying the Whole G3 M5 Topic F: Comparison, Order, and Size of Fractions
Computation and Estimation	**3.3** The student will		
	a. estimate and determine the sum or difference of two whole numbers; and		G3 M2 Topic D: Two- and Three-Digit Measurement Addition Using the Standard Algorithm G3 M2 Topic E: Two- and Three-Digit Measurement Subtraction Using the Standard Algorithm
	b. create and solve single-step and multi-step practical problems involving sums or differences of two whole numbers, each 9,999 or less.		G3 M2 Lesson 4: Solve word problems involving time intervals within 1 hour by counting backward and forward using the number line and clock. G3 M2 Lesson 5: Solve word problems involving time intervals within 1 hour by adding and subtracting on the number line. G3 M2 Lesson 8: Solve one-step word problems involving metric weights within 100 and estimate to reason about solutions. G3 M2 Lesson 11: Solve mixed word problems involving all four operations with grams, kilograms, liters, and milliliters given in the same units.

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	3.4 The student will		
	a. represent multiplication and division through 10 × 10, using a variety of approaches and models;		G3 M1 Topic E: Multiplication and Division Using Units of 4 G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10
	b. create and solve single-step practical problems that involve multiplication and division through 10 × 10; and		G3 M1 Topic E: Multiplication and Division Using Units of 4 G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10
	c. demonstrate fluency with multiplication facts of 0, 1, 2, 5, and 10; and		G3 M1 Topic E: Multiplication and Division Using Units of 4 G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10
	d. solve single-step practical problems involving multiplication of whole numbers, where one factor is 99 or less and the second factor is 5 or less.		G4 M3 Topic C: Multiplication of up to Four Digits by Single-Digit Numbers G4 M3 Topic D: Multiplication Word Problems
	3.5 The student will solve practical problems that involve addition and subtraction with proper fractions having like denominators of 12 or less.		G4 M5 Lesson 24: Decompose and compose fractions greater than 1 to express them in various forms. G4 M5 Topic F: Addition and Subtraction of Fractions by Decomposition

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Measurement and Geometry	**3.6** The student will		
	a. determine the value of a collection of bills and coins whose total value is $5.00 or less;		G2 M7 Topic B: Problem Solving with Coins and Bills
	b. compare the value of two sets of coins or two sets of coins and bills; and		G2 M7 Topic B: Problem Solving with Coins and Bills
	c. make change from $5.00 or less.		G2 M7 Topic B: Problem Solving with Coins and Bills
	3.7 The student will estimate and use U.S. Customary and metric units to measure		
	a. length to the nearest 1/2 inch, inch, foot, yard, centimeter, and meter; and		G3 M6: Collecting and Displaying Data G3 M7 Lesson 19: Use a line plot to record the number of rectangles constructed from a given number of unit squares. G3 M7 Lesson 22: Use a line plot to record the number of rectangles constructed in Lessons 20 and 21.
	b. liquid volume in cups, pints, quarts, gallons, and liters.		G3 M2 Topic B: Measuring Weight and Liquid Volume in Metric Units G3 M2 Lesson 12: Round two-digit measurements to the nearest ten on the vertical number line. G3 M2 Lesson 21: Estimate sums and differences of measurements by rounding, and then solve mixed word problems.

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	3.8 The student will estimate and		
	a. measure the distance around a polygon in order to determine its perimeter using U.S. Customary and metric units; and		G3 M7: Geometry and Measurement Word Problems
	b. count the number of square units needed to cover a given surface in order to determine its area.		G3 M4 Topic A: Foundations for Understanding Area G3 M4 Lesson 6: Draw rows and columns to determine the area of a rectangle given an incomplete array.
	3.9 The student will		
	a. tell time to the nearest minute, using analog and digital clocks;		G3 M2 Topic A: Time Measurement and Problem Solving
	b. solve practical problems related to elapsed time in one-hour increments within a 12-hour period; and		G3 M2 Topic A: Time Measurement and Problem Solving
	c. identify equivalent periods of time and solve practical problems related to equivalent periods of time.		G3 M2 Topic A: Time Measurement and Problem Solving
	3.10 The student will read temperature to the nearest degree.		*Eureka Math* does not address temperature until integers are introduced in Grade 6.

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	3.11 The student will identify and draw representations of points, lines, line segments, rays, and angles.		G4 M4: Angle Measure and Plane Figures
	3.12 The student will		
	a. define polygon;		G3 M7 Topic B: Attributes of Two-Dimensional Figures
	b. identify and name polygons with 10 or fewer sides; and		G3 M7 Topic B: Attributes of Two-Dimensional Figures Note: Supplemental material is necessary to completely address this standard.
	c. combine and subdivide polygons with three or four sides and name the resulting polygon(s).		G3 M7 Topic B: Attributes of Two-Dimensional Figures
	3.13 The student will identify and describe congruent and noncongruent figures.		G3 M7 Topic B: Attributes of Two-Dimensional Figures Note: Congruence is not formally introduced until Grade 8 through the use of rigid motions.
Probability and Statistics	**3.14** The student will investigate and describe the concept of probability as a measurement of chance and list possible outcomes for a single event.		G7 M5 Topic A: Calculating and Interpreting Probabilities

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	3.15 The student will		
	a. collect, organize, and represent data in pictographs or bar graphs; and		G3 M6: Collecting and Displaying Data
	b. read and interpret data represented in pictographs and bar graphs.		G3 M6: Collecting and Displaying Data G3 M7 Lesson 19: Use a line plot to record the number of rectangles constructed from a given number of unit squares. G3 M7 Lesson 22: Use a line plot to record the number of rectangles constructed in Lessons 20 and 21.
Patterns, Functions, and Algebra	**3.16** The student will identify, describe, create, and extend patterns found in objects, pictures, numbers and tables.		G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10
	3.17 The student will create equations to represent equivalent mathematical relationships.		G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10