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 6 MATHEMATICS

Many of the Grade 6 Mathematics Standards of Learning for Virginia Public Schools 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: G6 M1: Ratios and Unit Rates G6 M2: Arithmetic Operations Including Division of Fractions G6 M3: Rational Numbers G6 M4: Expressions and Equations G6 M5: Area, Surface Area, and Volume Problems G6 M6: Statistics
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: G6 M1: Ratios and Unit Rates G6 M2: Arithmetic Operations Including Division of Fractions G6 M3: Rational Numbers G6 M4: Expressions and Equations G6 M5: Area, Surface Area, and Volume Problems G6 M6: Statistics

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: G6 M1: Ratios and Unit Rates G6 M2: Arithmetic Operations Including Division of Fractions G6 M3: Rational Numbers G6 M4: Expressions and Equations G6 M6: Statistics
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: G6 M1: Ratios and Unit Rates G6 M3: Rational Numbers G6 M5: Area, Surface Area, and Volume Problems G6 M6: Statistics

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 is specifically addressed in the following modules: G6 M3: Rational Numbers G6 M5: Area, Surface Area, and Volume Problems G6 M6: Statistics

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
Number and Number Sense	**6.1** The student will represent relationships between quantities using ratios, and will use appropriate notations, such as a/b, a to b, and a:b.		G6 M1: Ratios and Unit Rates
	6.2 The student will		
	a. represent and determine equivalencies among fractions, mixed numbers, decimals, and percents; and		G6 M1 Topic D: Percent
	b. compare and order positive rational numbers.		G6 M1 Topic D: Percent
	6.3 The student will		
	a. identify and represent integers;		G6 M3: Rational Numbers
	b. compare and order integers; and		G6 M3 Topic B: Order and Absolute Value
	c. identify and describe absolute value of integers.		G6 M3 Lesson 11: Absolute Value—Magnitude and Distance G6 M3 Lesson 13: Statements of Order in the Real World
	6.4 The student will recognize and represent patterns with whole number exponents and perfect squares.		G6 M4 Topic B: Special Notations of Operations G8 M7 Lesson 2: Square Roots

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
Computation and Estimation	**6.5** The student will		
	a. multiply and divide fractions and mixed numbers;		G6 M2 Topic A: Arithmetic Operations Including Dividing by a Fraction
	b. solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and		G5 M3: Addition and Subtraction of Fractions G5 M4 Topic C: Multiplication of a Whole Number by a Fraction G5 M4 Topic E: Multiplication of a Fraction by a Fraction G6 M2 Topic A: Arithmetic Operations Including Dividing by a Fraction
	c. solve multistep practical problems involving addition, subtraction, multiplication, and division of decimals.		G5 M1: Place Value and Decimal Fractions G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M4 Lessons 17–18: Relate decimal and fraction multiplication. G5 M4 Lesson 29: Connect division by a unit fraction to division by 1 tenth and 1 hundredth. G5 M4 Lessons 30–31: Divide decimal dividends by non-unit decimal divisors. G6 M2: Arithmetic Operations Including Division of Fractions

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	6.6 The student will		
	a. add, subtract, multiply, and divide integers;		G7 M2: Rational Numbers
	b. solve practical problems involving operations with integers; and		G7 M2: Rational Numbers
	c. simplify numerical expressions involving integers.		G7 M2: Rational Numbers
Measurement and Geometry	**6.7** The student will		
	a. derive π (pi);		G7 M3 Lesson 16: The Most Famous Ratio of All
	b. solve problems, including practical problems, involving circumference and area of a circle; and		G7 M3 Lesson 16: The Most Famous Ratio of All G7 M3 Lesson 17: The Area of a Circle G7 M3 Lesson 18: More Problems on Area and Circumference G7 M3 Lesson 20: Composite Area Problems
	c. solve problems, including practical problems, involving area and perimeter of triangles and rectangles.		G6 M5 Topic A: Area of Triangles, Quadrilaterals, and Polygons

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	6.8 The student will		
	a. identify the components of the coordinate plane; and		G6 M3 Topic C: Rational Numbers and the Coordinate Plane
	b. identify the coordinates of a point and graph ordered pairs in a coordinate plane.		G6 M3 Topic C: Rational Numbers and the Coordinate Plane
	6.9 The student will determine congruence of segments, angles, and polygons.		G8 M2: The Concept of Congruence
Probability and Statistics	**6.10** The student, given a practical situation, will		
	a. represent data in a circle graph;		*Eureka Math* does not address circle graphs.
	b. make observations and inferences about data represented in a circle graph; and		*Eureka Math* does not address circle graphs.
	c. compare circle graphs with the same data represented in bar graphs, pictographs, and line plots.		G6 M6: Statistics Note: Supplemental material is necessary to address circle graphs.

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	6.11 The student will		
	a. represent the mean of a data set graphically as the balance point; and		G6 M6 Lesson 6: Describing the Center of a Distribution as the Mean G6 M6 Lesson 7: The Mean as a Balance Point
	b. determine the effect on measures of center when a single value of a data set is added, removed, or changed.		G6 M6: Statistics
Patterns, Functions, and Algebra	**6.12** The student will		
	a. represent a proportional relationship between two quantities, including those arising from practical situations;		G7 M1 Topic A: Proportional Relationships
	b. determine the unit rate of a proportional relationship and use it to find a missing value in a ratio table;		G7 M1 Topic B: Unit Rate and the Constant of Proportionality
	c. determine whether a proportional relationship exists between two quantities; and		G7 M1 Topic A: Proportional Relationships
	d. make connections between and among representations of a proportional relationship between two quantities using verbal descriptions, ratio tables, and graphs.		G7 M1: Ratios and Proportional Relationships

Domain	Mathematical Content Standards		Aligned Components of *Eureka Math*
	6.13 The student will solve one-step linear equations in one variable, including practical problems that require the solution of a one-step linear equation in one variable.		G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
	6.14 The student will		
	a. represent a practical situation with a linear inequality in one variable; and		G6 M4 Lesson 33: From Equations to Inequalities
	b. solve one-step linear inequalities in one variable, involving addition or subtraction, and graph the solution on a number line.		G6 M4 Lesson 33: From Equations to Inequalities G6 M4 Lesson 34: Writing and Graphing Inequalities in Real-World Problems