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

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GRADE 6 MATHEMATICS

The majority of the Grade 6 Minnesota Academic Standards in Mathematics are fully covered by the Grade 6 *Eureka Math* curriculum. The areas where the Grade 6 Minnesota Academic Standards in Mathematics and Grade 6 *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 Minnesota Academic Standards in Mathematics while still benefiting from the coherence and rigor of *Eureka Math*.

INDICATORS

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

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Strand	Academic Standards	Aligned Components of *Eureka Math*
Number & Operation	**Standard: Read, write, represent, and compare positive rational numbers expressed as fractions, decimals, percents, and ratios; write positive integers as products of factors; use these representations in real-world and mathematical situations.**	
	6.1.1.1 Locate positive rational numbers on a number line and plot pairs of positive rational numbers on a coordinate grid.	G6 M3: Rational Numbers
	6.1.1.2 Compare positive rational numbers represented in various forms. Use the symbols <, =, and >.	G4 M5 Topic C: Fraction Comparison G4 M5 Lesson 26: Compare fractions greater than 1 by reasoning using benchmark fractions. G4 M5 Lesson 27: Compare fractions greater than 1 by creating common numerators or denominators. G4 M5 Lesson 28: Solve word problems with line plots. G4 M6 Topic C: Decimal Comparison G5 M1 Lesson 6: Compare decimal fractions to the thousandths using like units, and express comparisons with >, <, =.
	6.1.1.3 Understand that percent represents parts out of 100 and ratios to 100.	G6 M1 Topic D: Percent
	6.1.1.4 Determine equivalences among fractions, decimals, and percents; select among these representations to solve problems	G6 M1 Topic D: Percent

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	6.1.1.5 Factor whole numbers; express a whole number as a product of prime factors with exponents.	G6 M2 Topic D: Number Theory—Thinking Logically About Multiplicative Arithmetic Note: Supplemental material is necessary to address prime factors.
	6.1.1.6 Determine greatest common factors and least common multiples. Use common factors and common multiples to calculate with fractions and find equivalent fractions.	G6 M2 Topic D: Number Theory—Thinking Logically About Multiplicative Arithmetic
	6.1.1.7 Convert between equivalent representations of positive rational numbers.	G6 M1 Topic D: Percent
	Standard: Understand the concept of ratio and its relationship to fractions and to the multiplication and division of whole numbers. Use ratios to solve real-world and mathematical problems.	
	6.1.2.1 Identify and use ratios to compare quantities; understand that comparing quantities using ratios is not the same as comparing quantities using subtraction.	G6 M1: Ratios and Unit Rates
	6.1.2.2 Apply the relationship between ratios, equivalent fractions, and percents to solve problems in various contexts, including those involving mixtures and concentrations.	G6 M1: Ratios and Unit Rates G7 M4 Topic D: Population, Mixtures, and Counting Problems Involving Percents

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	6.1.2.3 Determine the rate for ratios of quantities with different units.	G6 M1 Topic C: Unit Rates
	6.1.2.4 Use reasoning about multiplication and division to solve ratio and rate problems.	G6 M1: Ratios and Unit Rates
	Standard: Multiply and divide decimals, fractions, and mixed numbers; solve real-world and mathematical problems using arithmetic with positive rational numbers.	
	6.1.3.1 Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms.	G6 M2: Arithmetic Operations Including Division of Fractions
	6.1.3.2 Use the meanings of fractions, multiplication, division, and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions.	G5 M4: Multiplication and Division of Fractions and Decimal Fractions G6 M2 Topic A: Dividing Fractions by Fractions
	6.1.3.3 Calculate the percent of a number and determine what percent one number is of another number to solve problems in various contexts.	G6 M2: Arithmetic Operations Including Division of Fractions

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	6.1.3.4 Solve real-world and mathematical problems requiring arithmetic with decimals, fractions, and mixed numbers.	G6 M2: Arithmetic Operations Including Division of Fractions
	6.1.3.5 Estimate solutions to problems with whole numbers, fractions, and decimals and use the estimates to assess the reasonableness of results in the context of the problem.	G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M4: Multiplication and Division of Fractions and Decimal Fractions G6 M2: Arithmetic Operations Including Division of Fractions
Algebra	**Standard: Recognize and represent relationships between varying quantities; translate from one representation to another; use patterns, tables, graphs, and rules to solve real-world and mathematical problems.**	
	6.2.1.1 Understand that a variable can be used to represent a quantity that can change, often in relationship to another changing quantity. Use variables in various contexts.	G6 M4: Expressions and Equations
	6.2.1.2 Represent the relationship between two varying quantities with function rules, graphs, and tables; translate between any two of these representations.	G6 M1: Ratios and Unit Rates

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	Standard: Use properties of arithmetic to generate equivalent numerical expressions and evaluate expressions involving positive rational numbers.	
	6.2.2.1 Apply the associative, commutative, and distributive properties and order of operations to generate equivalent expressions and to solve problems involving positive rational numbers.	G6 M4: Expressions and Equations
	Standard: Understand and interpret equations and inequalities involving variables and positive rational numbers. Use equations and inequalities to represent real-world and mathematical problems; use the idea of maintaining equality to solve equations. Interpret solutions in the original context.	
	6.2.3.1 Represent real-world or mathematical situations using equations and inequalities involving variables and positive rational numbers.	G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
	6.2.3.2 Solve equations involving positive rational numbers using number sense, properties of arithmetic, and the idea of maintaining equality on both sides of the equation. Interpret a solution in the original context and assess the reasonableness of results.	G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations

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Geometry & Measurement	**Standard: Calculate perimeter, area, surface area, and volume of two- and three-dimensional figures to solve real-world and mathematical problems.**	
	6.3.1.1 Calculate the surface area and volume of prisms and use appropriate units, such as cm^2 and cm^3. Justify the formulas used. Justification may involve decomposition, nets, or other models.	G6 M5: Area, Surface Area, and Volume Problems
	6.3.1.2 Calculate the area of quadrilaterals. Quadrilaterals include squares, rectangles, rhombuses, parallelograms, trapezoids, and kites. When formulas are used, be able to explain why they are valid.	G3 M4: Multiplication and Area G4 M3 Topic A: Multiplicative Comparison Word Problems G5 M5 Topic C: Area of Rectangular Figures with Fractional Side Lengths G6 M5 Topic A: Area of Triangles, Quadrilaterals, and Polygons
	6.3.1.3 Estimate the perimeter and area of irregular figures on a grid when they cannot be decomposed into common figures and use correct units, such as cm and cm^2.	G6 M5 Topic B: Polygons on the Coordinate Plane

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	Standard: Understand and use relationships between angles in geometric figures.	
	6.3.2.1 Solve problems using the relationships between the angles formed by intersecting lines.	G7 M3 Lessons 10–11: Angle Problems and Solving Equations G7 M6 Topic A: Unknown Angles
	6.3.2.2 Determine missing angle measures in a triangle using the fact that the sum of the interior angles of a triangle is 180°. Use models of triangles to illustrate this fact.	G8 M2 Lesson 13: Angle Sum of a Triangle
	6.3.2.3 Develop and use formulas for the sums of the interior angles of polygons by decomposing them into triangles.	G4 M4 Lesson 9: Decompose angles using pattern blocks. Note: Supplemental material is necessary to incorporate the formulas.

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Strand	Academic Standards	Aligned Components of *Eureka Math*
	Standard: Choose appropriate units of measurement and use ratios to convert within measurement systems to solve real-world and mathematical problems.	
	6.3.3.1 Solve problems in various contexts involving conversion of weights, capacities, geometric measurements, and times within measurement systems using appropriate units.	G4 M2: Unit Conversions and Problem Solving with Metric Measurement G4 M5 Lesson 40: Solve word problems involving the multiplication of a whole number and a fraction including those involving line plots. G4 M7: Exploring Measurement with Multiplication G5 M1 Lesson 4: Use exponents to denote powers of 10 with application to metric conversions. G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication G5 M2 Topic H: Measurement Word Problems with Multi-Digit Division
	6.3.3.2 Estimate weights, capacities, and geometric measurements using benchmarks in measurement systems with appropriate units.	G2 M2: Addition and Subtraction of Length Units G3 M2 Topic B: Measuring Weight and Liquid Volume in Metric Units G5 M4 Lesson 1: Measure and compare pencil lengths to the nearest 1/2, 1/4, and 1/8 of an inch, and analyze the data through line plots.

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Data Analysis & Probability	**Standard: Use probabilities to solve real-world and mathematical problems; represent probabilities using fractions, decimals, and percents.**	
	6.4.1.1 Determine the sample space (set of possible outcomes) for a given experiment and determine which members of the sample space are related to certain events. Sample space may be determined by the use of tree diagrams, tables, or pictorial representations.	G7 M5 Topic A: Calculating and Interpreting Probabilities
	6.4.1.2 Determine the probability of an event using the ratio between the size of the event and the size of the sample space; represent probabilities as percents, fractions, and decimals between 0 and 1 inclusive. Understand that probabilities measure likelihood.	G7 M5 Lesson 1: Chance Experiments
	6.4.1.3 Perform experiments for situations in which the probabilities are known, compare the resulting relative frequencies with the known probabilities; know that there may be differences.	G7 M5: Statistics and Probability

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Strand	Academic Standards	Aligned Components of *Eureka Math*
	6.4.1.4 Calculate experimental probabilities from experiments; represent them as percents, fractions, and decimals between 0 and 1 inclusive. Use experimental probabilities to make predictions when actual probabilities are unknown.	G7 M5: Statistics and Probability

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