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 5 MATHEMATICS

The majority of the Grade 5 Minnesota Academic Standards in Mathematics are fully covered by the Grade 5 *Eureka Math* curriculum. The areas where the Grade 5 Minnesota Academic Standards in Mathematics and Grade 5 *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*.

Strand	Academic Standards	Aligned Components of *Eureka Math*
Number & Operation	**Standard: Divide multi-digit numbers; solve real-world and mathematical problems using arithmetic.**	
	5.1.1.1 Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal.	G5 M2 Topic E: Mental Strategies for Multi-Digit Whole Number Division G5 M2 Topic F: Partial Quotients and Multi-Digit Whole Number Division G5 M2 Topic H: Measurement Word Problems with Multi-Digit Division
	5.1.1.2 Consider the context in which a problem is situated to select the most useful form of the quotient for the solution and use the context to interpret the quotient appropriately.	G5 M1 Topic F: Dividing Decimals G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M4 Topic B: Fractions as Division G5 M4 Topic G: Division of Fractions and Decimal Fractions
	5.1.1.3 Estimate solutions to arithmetic problems in order to assess the reasonableness of results.	G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations

Strand	Academic Standards	Aligned Components of *Eureka Math*
	5.1.1.4 Solve real-world and mathematical problems requiring addition, subtraction, multiplication, and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results.	G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction G4 M3 Topic D: Multiplication Word Problems G4 M3 Lesson 29: Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times. G4 M3 Lesson 31: Interpret division word problems as either *number of groups unknown* or *group size unknown*. G4 M7 Topic B: Problem Solving with Measurement G4 M7 Lesson 14: Solve multi-step word problems involving converting mixed number measurements to a single unit. Note: Supplemental material is necessary to incorporate technology.
	Standard: Read, write, represent, and compare fractions and decimals; recognize and write equivalent fractions; convert between fractions and decimals; use fractions and decimals in real-world and mathematical situations.	
	5.1.2.1 Read and write decimals using place value to describe decimals in terms of groups from millionths to millions.	G5 M1: Place Value and Decimal Fractions Note: Supplemental material is necessary to address millionths.

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	5.1.2.2 Find 0.1 more than a number and 0.1 less than a number. Find 0.01 more than a number and 0.01 less than a number. Find 0.001 more than a number and 0.001 less than a number.		G5 M1 Topic D: Adding and Subtracting Decimals
	5.1.2.3 Order fractions and decimals, including mixed numbers and improper fractions, and locate on a number line.		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
	5.1.2.4 Recognize and generate equivalent decimals, fractions, mixed numbers, and improper fractions in various contexts.		G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication G5 M3: Addition and Subtraction of Fractions G5 M4: Multiplication and Division of Fractions and Decimal Fractions
	5.1.2.5 Round numbers to the nearest 0.1, 0.01, and 0.001.		G5 M1 Topic C: Place Value and Rounding Decimal Fractions

Strand	Academic Standards	Aligned Components of *Eureka Math*
	Standard: Add and subtract fractions, mixed numbers, and decimals to solve real-world and mathematical problems.	
	5.1.3.1 Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms.	G5 M1: Place Value and Decimal Fractions G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M3: Addition and Subtraction of Fractions
	5.1.3.2 Model addition and subtraction of fractions and decimals using a variety of representations.	G5 M1 Topic D: Adding and Subtracting Decimals G5 M3: Addition and Subtraction of Fractions
	5.1.3.3 Estimate sums and differences of decimals and fractions to assess the reasonableness of results.	G5 M1 Topic D: Adding and Subtracting Decimals G5 M2 Lesson 8: Fluently multiply multi-digit whole numbers using the standard algorithm and using estimation to check for reasonableness of the product. G5 M3: Addition and Subtraction of Fractions G5 M4 Topic D: Fraction Expressions and Word Problems

Strand	Academic Standards	Aligned Components of *Eureka Math*
	5.1.3.4 Solve real-world and mathematical problems requiring addition and subtraction of decimals, fractions, and mixed numbers, including those involving measurement, geometry, and data.	G5 M1 Topic D: Adding and Subtracting Decimals G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication G5 M3: Addition and Subtraction of Fractions G5 M4 Topic C: Multiplication of a Whole Number by a Fraction G5 M4 Lesson 19: Convert measures involving whole numbers, and solve multi-step word problems. G5 M4 Lesson 20: Convert mixed unit measurements, and solve multi-step word problems.
Algebra	**Standard: Recognize and represent patterns of change; use patterns, tables, graphs, and rules to solve real-world and mathematical problems.**	
	5.2.1.1 Create and use rules, tables, spreadsheets, and graphs to describe patterns of change and solve problems.	G5 M6: Problem Solving with the Coordinate Plane Note: Supplemental material is necessary to incorporate spreadsheets.
	5.2.1.2 Use a rule or table to represent ordered pairs of positive integers and graph these ordered pairs on a coordinate system.	G5 M6: Problem Solving with the Coordinate Plane

Strand	Academic Standards	Aligned Components of *Eureka Math*
	Standard: Use properties of arithmetic to generate equivalent numerical expressions and evaluate expressions involving whole numbers.	
	5.2.2.1 Apply the commutative, associative, and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers.	G5 M2 Lesson 3: Write and interpret numerical expressions, and compare expressions using a visual model. G5 M2 Lesson 4: Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication. G5 M4 Lesson 10: Compare and evaluate expressions with parentheses. G5 M4 Topic H: Interpretation of Numerical Expressions G6 M4 Topic B: Special Notations of Operations
	Standard: Understand and interpret equations and inequalities involving variables and whole numbers, and use them to represent and solve real-world and mathematical problems.	
	5.2.3.1 Determine whether an equation or inequality involving a variable is true or false for a given value of the variable.	G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
	5.2.3.2 Represent real-world situations using equations and inequalities involving variables. Create real-world situations corresponding to equations and inequalities.	G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations

Strand	Academic Standards	Aligned Components of *Eureka Math*
	5.2.3.3 Evaluate expressions and solve equations involving variables when values for the variables are given.	G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G6 M4: Expressions and Equations
Geometry & Measurement	**Standard: Describe, classify, and draw representations of three-dimensional figures.**	
	5.3.1.1 Describe and classify three-dimensional figures including cubes, prisms, and pyramids by the number of edges, faces, or vertices as well as the types of faces.	G5 M5: Addition and Multiplication with Volume and Area
	5.3.1.2 Recognize and draw a net for a three-dimensional figure.	G6 M5 Lesson 15: Representing Three-Dimensional Figures Using Nets G6 M5 Lesson 16: Constructing Nets
	Standard: Determine the area of triangles and quadrilaterals; determine the surface area and volume of rectangular prisms in various contexts.	
	5.3.2.1 Develop and use formulas to determine the area of triangles, parallelograms, and figures that can be decomposed into triangles.	G6 M5: Area, Surface Area, and Volume Problems
	5.3.2.2 Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms.	G5 M5 Topic A: Concepts of Volume G5 M5 Topic B: Volume and the Operations of Multiplication and Addition

Strand	Academic Standards	Aligned Components of *Eureka Math*
	5.3.2.3 Understand that the volume of a three-dimensional figure can be found by counting the total number of same-size cubic units that fill a shape without gaps or overlaps. Use cubic units to label volume measurements.	G5 M5 Lesson 3: Compose and decompose right rectangular prisms using layers. G5 M5 Lesson 4: Use multiplication to calculate volume. G5 M5 Lesson 5: Use multiplication to connect volume as *packing* with volume as *filling*.
	5.3.2.4 Develop and use the formulas $V = lwh$ and $V = Bh$ to determine the volume of rectangular prisms. Justify why base area B and height h are multiplied to find the volume of a rectangular prism by breaking the prism into layers of unit cubes.	G5 M5 Lesson 7: Solve word problems involving the volume of rectangular prisms with whole number edge lengths.
Data Analysis	**Standard: Display and interpret data; determine mean, median, and range.**	
	5.4.1.1 Know and use the definitions of the mean, median, and range of a set of data. Know how to use a spreadsheet to find the mean, median, and range of a data set. Understand that the mean is a "leveling out" of data.	G6 M6: Statistics Note: Supplemental material is necessary to address range and to incorporate spreadsheets.
	5.4.1.2 Create and analyze double-bar graphs and line graphs by applying understanding of whole numbers, fractions, and decimals. Know how to create spreadsheet tables and graphs to display data.	G5 M6: Problem Solving with the Coordinate Plane Note: Supplemental material is necessary to completely address this standard.