

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

Missouri Learning Standards: Mathematics Correlation to *Eureka Math*[™]

GRADE 5 MATHEMATICS

The majority of the Grade 5 Missouri Learning Standards: Mathematics are fully covered by the Grade 5 *Eureka Math* curriculum. The areas where the Grade 5 Missouri Learning Standards: Mathematics and Grade 5 *Eureka Math* do not align will require the use of *Eureka Math* content from another grade level 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 Missouri Learning Standards: Mathematics while still benefiting from the coherence and rigor of *Eureka Math*.

INDICATORS

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

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Number Sense and Operations in Base Ten	Cluster: Use place value system understanding to perform operations with multi-digit whole numbers to billions and decimals to thousandths.	
	5.NBT.A.1 Read, write and identify numbers from billions to thousandths using number names, base ten numerals and expanded form.	G5 M1: Place Value and Decimal Fractions
	5.NBT.A.2 Compare two numbers from billions to thousandths using the symbols $>$, $=$ or $<$, and justify the solution.	G5 M1 Lesson 6: Compare decimal fractions to the thousandths using like units, and express comparisons with $>$, $<$, $=$. Note: Supplemental material may be necessary to include numbers to the billions.
5.NBT.A.3 Understand that in a multi-digit number, a digit represents $1/10$ times what it would represent in the place to its left.	G5 M1 Topic A: Multiplicative Patterns on the Place Value Chart G5 M2 Topic A: Mental Strategies for Multi-Digit Whole Number Multiplication G5 M2 Lesson 16: Use <i>divide by 10</i> patterns for multi-digit whole number division.	

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	<p>5.NBT.A.4 Evaluate the value of powers of 10 and understand the relationship to the place value system.</p>	<p>G5 M1 Topic A: Multiplicative Patterns on the Place Value Chart</p> <p>G5 M1 Topic E: Multiplying Decimals</p> <p>G5 M2 Topic A: Mental Strategies for Multi-Digit Whole Number Multiplication</p> <p>G5 M2 Lesson 16: <i>Use divide by 10</i> patterns for multi-digit whole number division.</p> <p>G5 M2 Lesson 24: Divide decimal dividends by multiples of 10, reasoning about the placement of the decimal point and making connections to a written method.</p>
	<p>5.NBT.A.5 Round numbers from billions to thousandths place.</p>	<p>G5 M1 Topic C: Place Value and Rounding Decimal Fractions</p> <p>Note: Supplemental material may be necessary to include numbers to the billions.</p>
	<p>5.NBT.A.6 Add and subtract multi-digit whole numbers and decimals to the thousandths place, and justify the solution.</p>	<p>G5 M1: Place Value and Decimal Fractions</p> <p>G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations</p>
	<p>5.NBT.A.7 Multiply multi-digit whole numbers and decimals to the hundredths place, and justify the solution.</p>	<p>G5 M1: Place Value and Decimal Fractions</p> <p>G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations</p> <p>G5 M4 Lessons 17–18: Relate decimal and fraction multiplication.</p>

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	<p>5.NBT.A.8 Divide multi-digit whole numbers and decimals to the hundredths place using up to two-digit divisors and four-digit dividends, and justify the solution.</p>	<p>G5 M1: Place Value and Decimal Fractions</p> <p>G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations</p> <p>G5 M4 Lesson 29: Connect division by a unit fraction to division by 1 tenth and 1 hundredth.</p> <p>G5 M4 Lessons 30–31: Divide decimal dividends by non-unit decimal divisors.</p>
<p>Number Sense and Operations in Fractions</p>	<p>Cluster: Understand the relationship between fractions and decimals (denominators that are factors of 100).</p>	
	<p>5.NF.A.1 Understand that parts of a whole can be expressed as fractions and/or decimals.</p>	<p>G5 M3 Lesson 16: Explore part-to-whole relationships.</p>
	<p>5.NF.A.2 Convert decimals to fractions and fractions to decimals.</p>	<p>G5 M4 Topic F: Multiplication with Fractions and Decimals as Scaling and Word Problems</p>
	<p>5.NF.A.3 Compare and order fractions and/or decimals to the thousandths place using the symbols $>$, $=$ or $<$, and justify the solution.</p>	<p>G5 M1 Lesson 6: Compare decimal fractions to the thousandths using like units, and express comparisons with $>$, $<$, $=$.</p>

Domain

Standards for Mathematical Content

Aligned Components of *Eureka Math*

	Cluster: Perform operations and solve problems with fractions and decimals.	
	<p>5.NF.B.4 Estimate results of sums, differences and products with fractions and decimals to the thousandths.</p>	<p>G5 M1 Lesson 12: Multiply a decimal fraction by single-digit whole numbers, including using estimation to confirm the placement of the decimal point.</p> <p>G5 M2 Topic C: Decimal Multi-Digit Multiplication</p> <p>G5 M4 Lesson 23: Compare the size of the product to the size of the factors.</p>
	<p>5.NF.B.5 Justify the reasonableness of a product when multiplying with fractions.</p>	
	<p>a. Estimate the size of the product based on the size of the two factors.</p>	<p>G5 M4 Topic F: Multiplication with Fractions and Decimals as Scaling and Word Problems</p>
	<p>b. Explain why multiplying a given number by a fraction greater than 1 results in a product larger than the given number.</p>	<p>G5 M4 Topic F: Multiplication with Fractions and Decimals as Scaling and Word Problems</p>
	<p>c. Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number.</p>	<p>G5 M4 Topic F: Multiplication with Fractions and Decimals as Scaling and Word Problems</p>
	<p>d. Explain why multiplying the numerator and denominator by the same number is equivalent to multiplying the fraction by 1.</p>	<p>G5 M4 Topic F: Multiplication with Fractions and Decimals as Scaling and Word Problems</p>

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	<p>5.NF.B.6 Solve problems involving addition and subtraction of fractions and mixed numbers with unlike denominators, and justify the solution.</p>	<p>G5 M3 Lesson 7: Solve two-step word problems.</p> <p>G5 M3 Lesson 9: Add fractions making like units numerically.</p> <p>G5 M3 Topic D: Further Applications</p>
	<p>5.NF.B.7 Extend the concept of multiplication to multiply a fraction or whole number by a fraction.</p>	
	<p>a. Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths.</p>	<p>G5 M5 Topic C: Area of Rectangular Figures with Fractional Side Lengths</p>
	<p>b. Calculate and interpret the product of a fraction by a whole number and a whole number by a fraction.</p>	<p>G5 M4 Topic C: Multiplication of a Whole Number by a Fraction</p> <p>G5 M4 Lesson 10: Compare and evaluate expressions with parentheses.</p> <p>G5 M4 Topic E: Multiplication of a Fraction by a Fraction</p> <p>G5 M4 Topic H: Interpretation of Numerical Expressions</p>

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	<p>c. Calculate and interpret the product of two fractions less than one.</p>	<p>G5 M4 Topic D: Fraction Expressions and Word Problems</p> <p>G5 M4 Lesson 16: Solve word problems using tape diagrams and fraction-by-fraction multiplication.</p> <p>G5 M4 Lesson 24: Solve word problems using fraction and decimal multiplication.</p> <p>G5 M5 Lessons 14–15: Solve real-world problems involving area of figures with fractional side lengths using visual models and/or equations.</p>
	<p>5.NF.B.8 Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations.</p>	
	<p>a. Calculate and interpret the quotient of a unit fraction by a non-zero whole number.</p>	<p>G5 M4 Lesson 26: Divide a unit fraction by a whole number.</p>
	<p>b. Calculate and interpret the quotient of a whole number by a unit fraction.</p>	<p>G5 M4 Lesson 25: Divide a whole number by a unit fraction.</p>

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Relationships and Algebraic Thinking	Cluster: Represent and analyze patterns and relationships.	
	5.RA.A.1 Investigate the relationship between two numeric patterns.	
	a. Generate two numeric patterns given two rules.	G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G5 M6 Lesson 18: Draw symmetric figures on the coordinate plane.
	b. Translate two numeric patterns into two sets of ordered pairs.	G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G5 M6 Lesson 18: Draw symmetric figures on the coordinate plane.
	c. Graph numeric patterns on the Cartesian coordinate plane.	G5 M6 Lessons 5–6: Investigate patterns in vertical and horizontal lines, and interpret points on the plane as distances from the axes. G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G5 M6 Lesson 18: Draw symmetric figures on the coordinate plane.
d. Identify the relationship between two numeric patterns.	G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G5 M6 Lesson 18: Draw symmetric figures on the coordinate plane.	

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	<p>5.RA.A.2 Write a rule to describe or explain a given numeric pattern.</p>	<p>G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules</p> <p>G5 M6 Lesson 18: Draw symmetric figures on the coordinate plane.</p>
	<p>Cluster: Write and interpret numerical expressions.</p>	
	<p>5.RA.B.3 Write, evaluate and interpret numeric expressions using the order of operations.</p>	<p>G5 M2 Lesson 3: Write and interpret numerical expressions, and compare expressions using a visual model.</p> <p>G5 M2 Lesson 4: Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication.</p> <p>G5 M4 Lesson 10: Compare and evaluate expressions with parentheses.</p> <p>G5 M4 Topic H: Interpretation of Numerical Expressions</p> <p>G6 M4 Topic B: Special Notations of Operations</p>
	<p>5.RA.B.4 Translate written expressions into algebraic expressions.</p>	<p>G5 M2 Lesson 3: Write and interpret numerical expressions, and compare expressions using a visual model.</p> <p>G5 M4 Topic H: Interpretation of Numerical Expressions</p>
	<p>Cluster: Use the four operations to represent and solve problems.</p>	
	<p>5.RA.C.5 Solve and justify multi-step problems involving variables, whole numbers, fractions and decimals.</p>	<p>G5 M2 Lesson 15: Solve two-step word problems involving measurement conversions.</p> <p>G5 M3 Lesson 7: Solve two-step word problems.</p>

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Geometry and Measurement	Cluster: Classify two- and three-dimensional geometric shapes.	
	5.GM.A.1 Understand that attributes belonging to a category of figures also belong to all subcategories.	G5 M5 Topic D: Drawing, Analysis, and Classification of Two-Dimensional Shapes
	5.GM.A.2 Classify figures in a hierarchy based on properties.	G5 M5 Lesson 20: Classify two-dimensional figures in a hierarchy based on properties. G5 M5 Lesson 21: Draw and identify varied two-dimensional figures from given attributes.
	5.GM.A.3 Analyze and describe the properties of prisms and pyramids.	<i>Eureka Math</i> does not address properties of prisms and pyramids.
	Cluster: Understand and compute volume.	
	5.GM.B.4 Understand the concept of volume and recognize that volume is measured in cubic units.	
	a. Describe a cube with edge length 1 unit as a “unit cube” and is said to have “one cubic unit” of volume and can be used to measure volume.	G5 M5 Lesson 1: Explore volume by building with and counting unit cubes.
	b. Understand that the volume of a right rectangular prism can be found by stacking multiple layers of the base.	G5 M5 Lesson 2: Find the volume of a right rectangular prism by packing with cubic units and counting.

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	<p>5.GM.B.5 Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for volume of right rectangular prisms with whole-number edge lengths.</p>	G5 M5 Lesson 7: Solve word problems involving the volume of rectangular prisms with whole number edge lengths.
	<p>Cluster: Graph points on the Cartesian coordinate plane within the first quadrant to solve problems.</p>	
	<p>5.GM.C.6 Define a first quadrant Cartesian coordinate system.</p>	
	<p>a. Represent the axes as scaled perpendicular number lines that both intersect at 0, the origin.</p>	G5 M6 Lesson 1: Construct a coordinate system on a line.
	<p>b. Identify any point on the Cartesian coordinate plane by its ordered pair coordinates.</p>	<p>G5 M6 Topic A: Coordinate Systems</p> <p>G5 M6 Lesson 14: Construct parallel line segments, and analyze relationships of the coordinate pairs.</p> <p>G5 M6 Lesson 16: Construct perpendicular line segments, and analyze relationships of the coordinate pairs.</p>

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	c. Define the first number in an ordered pair as the horizontal distance from the origin.	<p>G5 M6 Topic A: Coordinate Systems</p> <p>G5 M6 Lesson 7: Plot points, use them to draw lines in the plane, and describe patterns within the coordinate pairs.</p> <p>G5 M6 Lesson 14: Construct parallel line segments, and analyze relationships of the coordinate pairs.</p> <p>G5 M6 Lesson 16: Construct perpendicular line segments, and analyze relationships of the coordinate pairs.</p>
	d. Define the second number in an ordered pair as the vertical distance from the origin.	<p>G5 M6 Topic A: Coordinate Systems</p> <p>G5 M6 Lesson 7: Plot points, use them to draw lines in the plane, and describe patterns within the coordinate pairs.</p> <p>G5 M6 Lesson 14: Construct parallel line segments, and analyze relationships of the coordinate pairs.</p> <p>G5 M6 Lesson 16: Construct perpendicular line segments, and analyze relationships of the coordinate pairs.</p>
	<p>5.GM.C.7</p> <p>Plot and interpret points in the first quadrant of the Cartesian coordinate plane.</p>	<p>G5 M6 Topic A: Coordinate Systems</p> <p>G5 M6 Lesson 12: Create a rule to generate a number pattern, and plot the points.</p> <p>G5 M6 Lesson 14: Construct parallel line segments, and analyze relationships of the coordinate pairs.</p> <p>G5 M6 Lesson 19: Plot data on line graphs and analyze trends.</p> <p>G5 M6 Lesson 20: Use coordinate systems to solve real world problems.</p>

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	<p>Cluster: Solve problems involving measurement and conversions within a measurement system.</p>	
	<p>5.GM.D.8 Convert measurements of capacity, length and weight within a given measurement system.</p>	<p>G5 M1 Lesson 4: Use exponents to denote powers of 10 with application to metric conversions.</p> <p>G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication</p> <p>G5 M4 Topic C: Multiplication of a Whole Number by a Fraction</p> <p>G5 M4 Lesson 19: Convert measures involving whole numbers, and solve multi-step word problems.</p> <p>G5 M4 Lesson 20: Convert mixed unit measurements, and solve multi-step word problems.</p>
	<p>5.GM.D.9 Solve multi-step problems that require measurement conversions.</p>	<p>G5 M1 Lesson 4: Use exponents to denote powers of 10 with application to metric conversions.</p> <p>G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication</p> <p>G5 M4 Topic C: Multiplication of a Whole Number by a Fraction</p> <p>G5 M4 Lesson 19: Convert measures involving whole numbers, and solve multi-step word problems.</p> <p>G5 M4 Lesson 20: Convert mixed unit measurements, and solve multi-step word problems.</p>

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Data and Statistics	Cluster: Represent and analyze data.	
	5.DS.A.1 Create a line graph to represent a data set, and analyze the data to answer questions and solve problems.	G5 M4 Topic A: Line Plots of Fraction Measurements
	5.DS.A.2 Create a line plot to represent a given or generated data set, and analyze the data to answer questions and solve problems, recognizing the outliers and generating the median.	G5 M4 Topic A: Line Plots of Fraction Measurements G6 M6 Lesson 12: Describing the Center of a Distribution Using the Median Note: Supplemental material is necessary to include outliers.