

## 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](http://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](http://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](http://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*<sup>™</sup>

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## GRADE 4 MATHEMATICS

The majority of the Grade 4 Missouri Learning Standards: Mathematics are fully covered by the Grade 4 *Eureka Math* curriculum. The areas where the Grade 4 Missouri Learning Standards: Mathematics and Grade 4 *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 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>
<b>Number and Operations in Base Ten</b>	<b>Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic with numbers up to one million.</b>	
	<b>4.NBT.A.1</b> Round multi-digit whole numbers to any place.	G4 M1 Topic C: Rounding Multi-Digit Whole Numbers
	<b>4.NBT.A.2</b> Read, write and identify multi-digit whole numbers up to one million using number names, base ten numerals and expanded form.	G4 M1 Topic A: Place Value of Multi-Digit Whole Numbers G4 M1 Topic B: Comparing Multi-Digit Whole Numbers
	<b>4.NBT.A.3</b> Compare two multi-digit numbers using the symbols $>$ , $=$ or $<$ , and justify the solution.	G4 M1 Lesson 5: Compare numbers based on meanings of the digits using $>$ , $<$ , or $=$ to record the comparison.
	<b>4.NBT.A.4</b> Understand that in a multi-digit whole number, a digit represents 10 times what it would represent in the place to its right.	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>4.NBT.A.5</b> Demonstrate fluency with addition and subtraction of whole numbers.	G4 M1 Topic D: Multi-Digit Whole Number Addition G4 M1 Topic E: Multi-Digit Whole Number Subtraction
	<b>4.NBT.A.6</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, and justify the solution.	G4 M3: Multi-Digit Multiplication and Division

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	<p><b>4.NBT.A.7</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, and justify the solution.</p>	<p>G4 M3 Topic E: Division of Tens and Ones with Successive Remainders</p> <p>G4 M3 Topic G: Division of Thousands, Hundreds, Tens, and Ones</p>
<p><b>Number Sense and Operations in Fractions</b></p>	<p><b>Cluster: Extend understanding of fraction equivalence and ordering. (Limit denominators to 2, 3, 4, 5, 6, 8, 10, 12 and 100.)</b></p>	
	<p><b>4.NF.A.1</b> Explain and/or illustrate why two fractions are equivalent.</p>	<p>G4 M5 Lesson 5: Decompose unit fractions using area models to show equivalence.</p> <p>G4 M5 Lesson 6: Decompose fractions using area models to show equivalence.</p> <p>G4 M5 Topic B: Fraction Equivalence Using Multiplication and Division</p> <p>G4 M5 Lessons 20–21: Use visual models to add two fractions with related units using the denominators 2, 3, 4, 5, 6, 8, 10, and 12.</p> <p>G4 M6 Lesson 5: Model the equivalence of tenths and hundredths using the area model and place value disks.</p>

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	<p><b>4.NF.A.2</b> Recognize and generate equivalent fractions.</p>	<p>G4 M5 Lesson 5: Decompose unit fractions using area models to show equivalence.</p> <p>G4 M5 Lesson 6: Decompose fractions using area models to show equivalence.</p> <p>G4 M5 Topic B: Fraction Equivalence Using Multiplication and Division</p> <p>G4 M5 Lessons 20–21: Use visual models to add two fractions with related units using the denominators 2, 3, 4, 5, 6, 8, 10, and 12.</p> <p>G4 M6 Lesson 5: Model the equivalence of tenths and hundredths using the area model and place value disks.</p>
	<p><b>4.NF.A.3</b> Compare two fractions using the symbols <math>&gt;</math>, <math>=</math> or <math>&lt;</math>, and justify the solution.</p>	<p>G4 M5 Topic C: Fraction Comparison</p> <p>G4 M5 Lesson 26: Compare fractions greater than 1 by reasoning using benchmark fractions.</p> <p>G4 M5 Lesson 27: Compare fractions greater than 1 by creating common numerators or denominators.</p> <p>G4 M5 Lesson 28: Solve word problems with line plots.</p>
<p><b>Cluster: Extend understanding of operations on whole numbers to fraction operations.</b></p>		
	<p><b>4.NF.B.4</b> Understand addition and subtraction of fractions as joining/composing and separating/decomposing parts referring to the same whole.</p>	<p>G4 M5 Topic D: Fraction Addition and Subtraction</p> <p>G4 M5 Lesson 22: Add a fraction less than 1 to, or subtract a fraction less than 1 from, a whole number using decomposition and visual models.</p>

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	<p><b>4.NF.B.5</b> Decompose a fraction into a sum of fractions with the same denominator and record each decomposition with an equation and justification.</p>	<p>G4 M5 Topic A: Decomposition and Fraction Equivalence  G4 M5 Lesson 25: Decompose and compose fractions greater than 1 to express them in various forms.</p>
	<p><b>4.NF.B.6</b> Solve problems involving adding and subtracting fractions and mixed numbers with like denominators.</p>	<p>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</p>
	<p><b>4.NF.B.7</b> Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p>	<p>G4 M5 Topic G: Repeated Addition of Fractions as Multiplication</p>
	<p><b>4.NF.B.8</b> Solve problems involving multiplication of a fraction by a whole number.</p>	<p>G4 M5 Topic G: Repeated Addition of Fractions as Multiplication</p>
<p><b>Cluster: Understand decimal notation for fractions, and compare decimal fractions. (Denominators of 10 or 100)</b></p>		
	<p><b>4.NF.C.9</b> Use decimal notation for fractions with denominators of 10 or 100.</p>	<p>G4 M6: Decimal Fractions</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p><b>4.NF.C.10</b> Understand that fractions and decimals are equivalent representations of the same quantity.</p>	<p>G4 M6 Lesson 8: Use understanding of fraction equivalence to investigate decimal numbers on the place value chart expressed in different units.</p>
	<p><b>4.NF.C.11</b> Read, write and identify decimals to the hundredths place using number names, base ten numerals and expanded form.</p>	<p>G4 M6 Lesson 7: Model mixed numbers with units of hundreds, tens, ones, tenths, and hundredths in expanded form and on the place value chart.</p> <p>G4 M6 Lesson 8: Use understanding of fraction equivalence to investigate decimal numbers on the place value chart expressed in different units.</p> <p>G4 M6 Lesson 9: Use the place value chart and metric measurement to compare decimals and answer comparison questions.</p>
	<p><b>4.NF.C.12</b> Compare two decimals to the hundredths place using the symbols <math>&gt;</math>, <math>=</math> or <math>&lt;</math>, and justify the solution.</p>	<p>G4 M6 Topic C: Decimal Comparison</p>

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<b>Relationships and Algebraic Thinking</b>	<b>Cluster: Use the four operations with whole numbers to solve problems.</b>	
	<b>4.RA.A.1</b> Multiply or divide to solve problems involving a multiplicative comparison.	<p>G4 M3 Topic A: Multiplicative Comparison Word Problems</p> <p>G4 M3 Lesson 11: Connect the area model and the partial products method to the standard algorithm.</p> <p>G4 M3 Topic D: Multiplication Word Problems</p> <p>G4 M3 Lesson 26: Divide multiples of 10, 100, and 1,000 by single-digit numbers.</p> <p>G4 M7 Lesson 4: Solve multiplicative comparison word problems using measurement conversion tables.</p> <p>G4 M7 Lesson 5: Share and critique peer strategies.</p> <p>G4 M7 Lesson 8: Solve problems involving mixed units of weight.</p> <p>G4 M7 Lesson 10: Solve multi-step measurement word problems.</p>



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	<p><b>4.RA.A.2</b> Solve multi-step whole number problems involving the four operations and variables and using estimation to interpret the reasonableness of the answer.</p>	<p>G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction</p> <p>G4 M3 Topic D: Multiplication Word Problems</p> <p>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.</p> <p>G4 M3 Lesson 31: Interpret division word problems as either <i>number of groups unknown</i> or <i>group size unknown</i>.</p> <p>G4 M7 Topic B: Problem Solving with Measurement</p> <p>G4 M7 Lesson 14: Solve multi-step word problems involving converting mixed number measurements to a single unit.</p>
	<p><b>4.RA.A.3</b> Solve whole number division problems involving variables in which remainders need to be interpreted, and justify the solution.</p>	<p>G4 M3 Lesson 14: Solve division word problems with remainders.</p> <p>G4 M3 Lesson 19: Explain remainders by using place value understanding and models.</p> <p>G4 M3 Lesson 21: Solve division problems with remainders using the area model.</p> <p>Note: Supplemental material may be necessary to solidify students' ability to interpret remainders.</p>

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	<b>Cluster: Work with factors and multiples.</b>	
	<b>4.RA.B.4</b> Recognize that a whole number is a multiple of each of its factors and find the multiples for a given whole number.	G4 M3 Topic F: Reasoning with Divisibility
	<b>4.RA.B.5</b> Determine if a whole number within 100 is composite or prime, and find all factor pairs for whole numbers within 100.	G4 M3 Topic F: Reasoning with Divisibility
	<b>Cluster: Generate and analyze patterns.</b>	
	<b>4.RA.C.6</b> Generate a number pattern that follows a given rule.	G4 M3 Topic F: Reasoning with Divisibility G4 M5 Topic H: Exploring a Fraction Pattern
	<b>4.RA.C.7</b> Use words or mathematical symbols to express a rule for a given pattern.	G4 M3 Topic F: Reasoning with Divisibility Note: Supplemental material may be necessary to solidify students' ability to express rules with mathematical symbols.
<b>Geometry and Measurement</b>	<b>Cluster: Classify 2-dimensional shapes by properties of their lines and angles.</b>	
	<b>4.GM.A.1</b> Draw and identify points, lines, line segments, rays, angles, perpendicular lines and parallel lines.	G4 M4: Angle Measure and Plane Figures

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	<b>4.GM.A.2</b> Classify two-dimensional shapes by their sides and/or angles.	G4 M4 Topic D: Two-Dimensional Figures and Symmetry
	<b>4.GM.A.3</b> Construct lines of symmetry for a two-dimensional figure.	G4 M4 Topic D: Two-Dimensional Figures and Symmetry
	<b>Cluster: Understand the concepts of angle and measure angles.</b>	
	<b>4.GM.B.4</b> Identify and estimate angles and their measure.	G4 M4 Topic B: Angle Measurement
	<b>4.GM.B.5</b> Draw and measure angles in whole-number degrees using a protractor.	G4 M4 Topic B: Angle Measurement

**Domain**

**Standards for Mathematical Content**

**Aligned Components of *Eureka Math***

	<p><b>Cluster: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.</b></p>	
<p><b>4.GM.C.6</b> Know relative sizes of measurement units within one system of units.</p>		
<p>a. Convert measurements in a larger unit in terms of a smaller unit.</p>		<p>G4 M2: Unit Conversions and Problem Solving with Metric Measurement</p> <p>G4 M5 Lesson 40: Solve word problems involving the multiplication of a whole number and a fraction including those involving line plots.</p> <p>G4 M7: Exploring Measurement with Multiplication</p>
<p><b>4.GM.C.7</b> Use the four operations to solve problems involving distances, intervals of time, liquid volume, weight of objects and money.</p>		<p>G4 M2: Unit Conversions and Problem Solving with Metric Measurement</p> <p>G4 M6 Lesson 14: Solve word problems involving the addition of measurements in decimal form.</p> <p>G4 M6 Topic E: Money Amounts as Decimal Numbers</p> <p>G4 M7 Topic B: Problem Solving with Measurement</p> <p>G4 M7 Lesson 14: Solve multi-step word problems involving converting mixed number measurements to a single unit.</p>
<p><b>4.GM.C.8</b> Apply the area and perimeter formulas for rectangles to solve problems.</p>		<p>G4 M3 Topic A: Multiplicative Comparison Word Problems</p>

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<b>Data and Statistics</b>	<b>Cluster: Represent and analyze data.</b>	
	<b>4.DS.A.1</b> Create a frequency table and/or line plot to display measurement data.	G3 M6: Collecting and Displaying Data  G4 M5 Lesson 28: Solve word problems with line plots.  G4 M5 Lesson 40: Solve word problems involving the multiplication of a whole number and a fraction including those involving line plots.  G5 M4 Topic A: Line Plots of Fraction Measurements  G5 M4 Lesson 10: Compare and evaluate expressions with parentheses.
	<b>4.DS.A.2</b> Solve problems involving addition and subtraction by using information presented in a data display.	G4 M5 Lesson 28: Solve word problems with line plots.
	<b>4.DS.A.3</b> Analyze the data in a frequency table, line plot, bar graph or picture graph.	G3 M6: Collecting and Displaying Data  G4 M5 Lesson 28: Solve word problems with line plots.