Grade 4 | Missouri Mathematics Learning Standards Correlation to *Eureka Math*²™

When the original *Eureka Math*® curriculum was released, it quickly became the most widely used K–5 mathematics curriculum in the country. Now, the Great Minds® teacher–writers have created *Eureka Math*²™, a groundbreaking new curriculum that helps teachers deliver exponentially better math instruction while still providing students with the same deep understanding of and fluency in math. *Eureka Math*² carefully sequences mathematical content to maximize vertical alignment—a principle tested and proven to be essential in students' mastery of math—from kindergarten through high school.

While this innovative new curriculum includes all the trademark *Eureka Math* aha moments that have been delighting students and teachers for years, it also boasts these exciting new features:

Teachability

*Eureka Math*² employs streamlined materials that allow teachers to plan more efficiently and focus their energy on delivering high-quality instruction that meets the individual needs of their students. Differentiation suggestions, slide decks, digital interactives, and multiple forms of assessment are just a few of the resources built right into the teacher materials.

Accessibility

*Eureka Math*² incorporates Universal Design for Learning principles so all learners can access the mathematics and take on challenging math concepts. Student supports are built into the instructional design and are clearly identified in the *Teach* book. Further, the curriculum carries a focus on readability. By eliminating unnecessary words and using simple, clear sentences, the *Eureka Math*² teacher–writers have created one of the most readable mathematics curricula on the market. The curriculum's readability and accessibility help all students see themselves as mathematical thinkers and doers who are fully capable of owning their mathematics learning.

Digital Engagement

The digital elements of *Eureka Math*² add to students' engagement with the math. The curriculum provides teachers with digital slides for each lesson. In addition, each grade level includes wordless videos that spark students' interest and curiosity. Students at all levels work through mathematical explorations that help lead to their own mathematical discoveries. Digital lessons and videos provide opportunities for students to wonder, explore, and make sense of mathematics, which contributes to the development of a strong, positive mathematical identity.

Standards for Mathematical Practice	Aligned Components of *Eureka Math²*
MP.1 Make sense of problems and persevere in solving them.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.2 Reason abstractly and quantitatively.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.3 Construct viable arguments and critique the reasoning of others.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.4 Model with mathematics.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.5 Use appropriate tools strategically.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.6 Attend to precision.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.7 Look for and make use of structure.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.8 Look for and express regularity in repeated reasoning.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.

Number Sense and Operations in Base Ten

4.NBT.A Use place value understanding and properties of operations to perform multi-digit arithmetic with numbers up to one million.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.NBT.A.1 Round multi-digit whole numbers to any place.	4 M1 Lesson 12: Round to the nearest thousand. 4 M1 Lesson 13: Round to the nearest ten thousand and hundred thousand. 4 M1 Lesson 14: Round multi-digit numbers to any place. 4 M1 Lesson 15: Apply estimation to real-world situations by using rounding.
4.NBT.A.2 Read, write and identify multi-digit whole numbers up to one million using number names, base ten numerals and expanded form.	4 M1 Lesson 5: Organize, count, and represent a collection of objects. 4 M1 Lesson 7: Write numbers to $1{,}000{,}000$ in unit form and expanded form by using place value structure. 4 M1 Lesson 8: Write numbers to $1{,}000{,}000$ in standard form and word form. 4 M1 Lesson 10: Name numbers by using place value understanding. 4 M1 Lesson 11: Find 1, 10, and 100 thousand more than and less than a given number.
4.NBT.A.3 Compare two multi-digit numbers using the symbols $>$, $=$ or $<$, and justify the solution.	4 M1 Lesson 9: Compare numbers within $1{,}000{,}000$ by using $>$, $=$, and $<$.
4.NBT.A.4 Understand that in a multi-digit whole number, a digit represents 10 times what it would represent in the place to its right.	4 M1 Lesson 6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right.
4.NBT.A.5 Demonstrate fluency with addition and subtraction of whole numbers.	4 M1 Topic D: Multi-Digit Whole Number Addition and Subtraction

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.NBT.A.6 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.	4 M2 Lesson 1: Multiply multiples of 10 by one-digit numbers by using the associative property of multiplication. 4 M2 Topic B: Multiplication of Tens and Ones by One-Digit Numbers 4 M3 Lesson 2: Multiply by multiples of 100 and 1,000. 4 M3 Lesson 3: Multiply a two-digit multiple of 10 by a two-digit multiple of 10. 4 M3 Topic C: Multiplication of up to Four-Digit Numbers by One-Digit Numbers 4 M3 Topic D: Multiplication of Two-Digit Numbers by Two-Digit Numbers
4.NBT.A.7 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, and justify the solution.	4 M2 Lesson 2: Divide two- and three-digit multiples of 10 by one-digit numbers. 4 M2 Topic C: Division of Tens and Ones by One-Digit Numbers 4 M3 Lesson 1: Divide multiples of 100 and 1,000. 4 M3 Topic B: Division of Thousands, Hundreds, Tens, and Ones 4 M3 Lesson 21: Find whole-number quotients and remainders. 4 M3 Lesson 22: Represent, estimate, and solve division word problems.

Number Sense and Operations in Fractions

4.NF.A Extend understanding of fraction equivalence and ordering. (Limit denominators to 2, 3, 4, 5, 6, 8, 10, 12 and 100.)

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.NF.A.1 Explain and/or illustrate why two fractions are equivalent.	4 M4 Lesson 8: Generate equivalent fractions with smaller units for unit fractions. 4 M4 Lesson 9: Generate equivalent fractions with smaller units for non-unit fractions. 4 M4 Lesson 10: Generate equivalent fractions with larger units. 4 M4 Lesson 11: Represent equivalent fractions by using tape diagrams, number lines, and multiplication or division. 4 M4 Lesson 12: Generate equivalent fractions for fractions greater than 1 and generate equivalent mixed numbers.
4.NF.A.2 Recognize and generate equivalent fractions.	4 M4 Lesson 8: Generate equivalent fractions with smaller units for unit fractions. 4 M4 Lesson 9: Generate equivalent fractions with smaller units for non-unit fractions. 4 M4 Lesson 10: Generate equivalent fractions with larger units. 4 M4 Lesson 11: Represent equivalent fractions by using tape diagrams, number lines, and multiplication or division. 4 M4 Lesson 12: Generate equivalent fractions for fractions greater than 1 and generate equivalent mixed numbers.
4.NF.A.3 Compare two fractions using the symbols $>$, $=$ or $<$, and justify the solution.	4 M4 Topic C: Compare Fractions

Number Sense and Operations in Fractions

4.NF.B Extend understanding of operations on whole numbers to fraction operations.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.NF.B.4 Understand addition and subtraction of fractions as joining/composing and separating/decomposing parts referring to the same whole.	4 M4 Topic A: Fraction Decomposition and Equivalence 4 M4 Lesson 7: Rename fractions as a sum of equivalent smaller unit fractions. 4 M4 Topic D: Add and Subtract Fractions
4.NF.B.5 Decompose a fraction into a sum of fractions with the same denominator and record each decomposition with an equation and justification.	4 M4 Topic A: Fraction Decomposition and Equivalence 4 M4 Lesson 7: Rename fractions as a sum of equivalent smaller unit fractions. 4 M4 Topic D: Add and Subtract Fractions
4.NF.B.6 Solve problems involving adding and subtracting fractions and mixed numbers with like denominators.	4 M4 Lesson 18: Estimate sums and differences of fractions by using benchmarks. 4 M4 Lesson 20: Subtract a fraction from a whole number. 4 M4 Lesson 21: Solve addition and subtraction word problems and estimate the reasonableness of the answers. 4 M4 Lesson 23: Add a fraction to a mixed number. 4 M4 Lesson 24: Add a mixed number to a mixed number. 4 M4 Lesson 25: Subtract a fraction from a mixed number, part 1. 4 M4 Lesson 26: Subtract a fraction from a mixed number, part 2. 4 M4 Lesson 27: Subtract a mixed number from a mixed number. 4 M4 Lesson 28: Represent and solve word problems with mixed numbers by using drawings and equations.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.NF.B.7 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.	4 M4 Topic F: Repeated Addition of Fractions as Multiplication
4.NF.B.8 Solve problems involving multiplication of a fraction by a whole number.	4 M4 Lesson 33: Solve word problems involving multiplication of a fraction by a whole number.

Number Sense and Operations in Fractions

4.NF.C Understand decimal notation for fractions, and compare decimal fractions. (Denominators of 10 or 100)

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.NF.C.9 Use decimal notation for fractions with denominators of 10 or 100.	4 M5 Topic A: Exploration of Tenths 4 M5 Topic B: Tenths and Hundredths
4.NF.C.10 Understand that fractions and decimals are equivalent representations of the same quantity.	4 M5 Topic A: Exploration of Tenths 4 M5 Topic B: Tenths and Hundredths
4.NF.C.11 Read, write and identify decimals to the hundredths place using number names, base ten numerals and expanded form.	4 M5 Topic A: Exploration of Tenths 4 M5 Topic B: Tenths and Hundredths

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.NF.C.12 Compare two decimals to the hundredths place using the symbols >, = or <, and justify the solution.	4 M5 Topic C: Comparison of Decimal Numbers

Relationships and Algebraic Thinking

4.RA.A Use the four operations with whole numbers to solve problems.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.RA.A.1 Multiply or divide to solve problems involving a multiplicative comparison.	4 M1 Topic A: Multiplication as Multiplicative Comparison 4 M1 Lesson 6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right. 4 M2 Lesson 9: Solve multiplication word problems. 4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons.
4.RA.A.2 Solve multi-step whole number problems involving the four operations and variables and using estimation to interpret the reasonableness of the answer.	4 M1 Lesson 15: Apply estimation to real-world situations by using rounding. 4 M1 Lesson 16: Add by using the standard algorithm. 4 M1 Lesson 17: Solve multi-step addition word problems by using the standard algorithm. 4 M1 Lesson 21: Solve two-step word problems by using addition and subtraction. 4 M1 Lesson 22: Solve multi-step word problems by using addition and subtraction. 4 M3 Topic F: Remainders, Estimating, and Problem Solving

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.RA.A.3 Solve whole number division problems involving variables in which remainders need to be interpreted, and justify the solution.	4 M1 Lesson 15: Apply estimation to real-world situations by using rounding. 4 M1 Lesson 16: Add by using the standard algorithm. 4 M1 Lesson 17: Solve multi-step addition word problems by using the standard algorithm. 4 M1 Lesson 21: Solve two-step word problems by using addition and subtraction. 4 M1 Lesson 22: Solve multi-step word problems by using addition and subtraction. 4 M3 Topic F: Remainders, Estimating, and Problem Solving

Relationships and Algebraic Thinking

4.RA.B Work with factors and multiples.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.RA.B.4 Recognize that a whole number is a multiple of each of its factors and find the multiples for a given whole number.	4 M2 Lesson 21: Find factor pairs for numbers up to 100 and use factors to identify numbers as prime or composite. 4 M2 Lesson 22: Use division and the associative property of multiplication to find factors. 4 M2 Lesson 23: Determine whether a whole number is a multiple of another number. 4 M2 Lesson 24: Recognize that a number is a multiple of each of its factors. 4 M2 Lesson 25: Explore properties of prime and composite numbers up to 100 by using multiples.
4.RA.B.5 Determine if a whole number within 100 is composite or prime, and find all factor pairs for whole numbers within 100.	4 M2 Lesson 21: Find factor pairs for numbers up to 100 and use factors to identify numbers as prime or composite. 4 M2 Lesson 22: Use division and the associative property of multiplication to find factors. 4 M2 Lesson 23: Determine whether a whole number is a multiple of another number. 4 M2 Lesson 24: Recognize that a number is a multiple of each of its factors. 4 M2 Lesson 25: Explore properties of prime and composite numbers up to 100 by using multiples.

Relationships and Algebraic Thinking

4.RA.C Generate and analyze patterns.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.RA.C.6 Generate a number pattern that follows a given rule.	4 M2 Lesson 26: Use relationships within a pattern to find an unknown term in the sequence.
4.RA.C.7 Use words or mathematical symbols to express a rule for a given pattern.	4 M2 Lesson 26: Use relationships within a pattern to find an unknown term in the sequence.

Geometry and Measurement

4.GM.A Classify 2-dimensional shapes by properties of their lines and angles.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.GM.A.1 Draw and identify points, lines, line segments, rays, angles, perpendicular lines and parallel lines.	4 M6 Topic A: Lines and Angles 4 M6 Lesson 10: Use $180°$ protractors to measure angles. 4 M6 Lesson 11: Estimate and measure angles with a $180°$ protractor. 4 M6 Lesson 12: Use a protractor to draw angles up to $180°$. 4 M6 Lesson 18: Analyze and classify triangles based on side length, angle measures, or both. 4 M6 Lesson 19: Construct and classify triangles based on given attributes. 4 M6 Lesson 20: Sort polygons based on a given rule.
4.GM.A.2 Classify two-dimensional shapes by their sides and/or angles.	4 M6 Lesson 18: Analyze and classify triangles based on side length, angle measures, or both. 4 M6 Lesson 19: Construct and classify triangles based on given attributes. 4 M6 Lesson 20: Sort polygons based on a given rule.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.GM.A.3 Construct lines of symmetry for a two-dimensional figure.	4 M6 Lesson 17: Recognize, identify, and draw lines of symmetry.

Geometry and Measurement

4.GM.B Understand the concepts of angle and measure angles.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.GM.B.4 Identify and estimate angles and their measure.	4 M6 Lesson 7: Explore angles as fractional turns through a circle. 4 M6 Lesson 8: Use a circular protractor to recognize a $1°$ angle as a turn through $\frac{1}{360}$ of a circle. 4 M6 Lesson 9: Identify and measure angles as turns and recognize them in various contexts. 4 M6 Lesson 10: Use $180°$ protractors to measure angles. 4 M6 Lesson 11: Estimate and measure angles with a $180°$ protractor.
4.GM.B.5 Draw and measure angles in whole-number degrees using a protractor.	4 M6 Lesson 8: Use a circular protractor to recognize a $1°$ angle as a turn through $\frac{1}{360}$ of a circle. 4 M6 Lesson 10: Use $180°$ protractors to measure angles. 4 M6 Lesson 11: Estimate and measure angles with a $180°$ protractor. 4 M6 Lesson 12: Use a protractor to draw angles up to $180°$.

Geometry and Measurement

4.GM.C Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.GM.C.6 Know relative sizes of measurement units within one system of units.	*This standard is fully addressed by the lessons aligned to its subsection.*
4.GM.C.6.a Convert measurements in a larger unit in terms of a smaller unit.	4 M1 Topic E: Metric Measurement Conversion Tables 4 M2 Lesson 17: Express measurements of length in terms of smaller units. 4 M3 Topic E: Problem Solving with Measurement
4.GM.C.7 Use the four operations to solve problems involving distances, intervals of time, liquid volume, weight of objects and money.	4 M2 Lesson 17: Express measurements of length in terms of smaller units. 4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons. 4 M3 Topic E: Problem Solving with Measurement 4 M4 Lesson 18: Estimate sums and differences of fractions by using benchmarks. 4 M4 Lesson 20: Subtract a fraction from a whole number. 4 M4 Lesson 21: Solve addition and subtraction word problems and estimate the reasonableness of the answers. 4 M4 Lesson 24: Add a mixed number to a mixed number. 4 M4 Lesson 27: Subtract a mixed number from a mixed number. 4 M4 Lesson 28: Represent and solve word problems with mixed numbers by using drawings and equations. 4 M4 Lesson 33: Solve word problems involving multiplication of a fraction by a whole number.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.GM.C.8 Apply the area and perimeter formulas for rectangles to solve problems.	4 M2 Lesson 3: Investigate and use a formula for the area of a rectangle. 4 M2 Lesson 7: Multiply by using an area model and the distributive property. 4 M2 Lesson 18: Investigate and use formulas for the perimeter of a rectangle. 4 M2 Lesson 19: Apply area and perimeter formulas to solve problems. 4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons.

Data and Statistics

4.DS.A Represent and analyze data.

Missouri Mathematics Learning Standards	Aligned Components of *Eureka Math²*
4.DS.A.1 Create a frequency table and/or line plot to display measurement data.	4 M4 Lesson 29: Solve problems by using data from a line plot. 4 M4 Lesson 30: Represent data on a line plot.
4.DS.A.2 Solve problems involving addition and subtraction by using information presented in a data display.	4 M4 Lesson 29: Solve problems by using data from a line plot. 4 M4 Lesson 30: Represent data on a line plot. *Supplemental material is necessary to address bar graphs and picture graphs.*
4.DS.A.3 Analyze the data in a frequency table, line plot, bar graph or picture graph.	4 M4 Lesson 29: Solve problems by using data from a line plot. 4 M4 Lesson 30: Represent data on a line plot. *Supplemental material is necessary to address bar graphs, picture graphs, mode, and range.*