
Grade 4 | Minnesota K–12 Academic Standards in Mathematics 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.

Number & Operation

Demonstrate mastery of multiplication and division basic facts; multiply multi-digit numbers; solve real-world and mathematical problems using arithmetic.

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Aligned Components of *Eureka Math*²

<p>4.1.1.1</p> <p>Demonstrate fluency with multiplication and division facts.</p>	<p>3 M1 Lesson 12: Demonstrate the distributive property using a unit of 4.</p> <p>3 M1 Lesson 14: Demonstrate the distributive property using units of 2, 3, 4, 5, and 10.</p> <p>3 M1 Topic E: Application of Multiplication and Division Concepts</p> <p>3 M3 Lesson 1: Organize, count, and represent a collection of objects.</p> <p>3 M3 Lesson 14: Apply strategies and identify patterns to multiply with units of 9.</p> <p>3 M3 Lesson 17: Identify and complete patterns with input–output tables.</p> <p>3 M3 Lesson 24: Organize, count, and represent a collection of objects.</p>
<p>4.1.1.2</p> <p>Use an understanding of place value to multiply a number by 10, 100 and 1,000.</p>	<p>4 M1 Lesson 4: Represent the composition of larger units of money by using multiplicative comparison.</p> <p>4 M1 Lesson 5: Organize, count, and represent a collection of objects.</p> <p>4 M1 Lesson 6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right.</p> <p>4 M1 Lesson 7: Write numbers to 1,000,000 in unit form and expanded form by using place value structure.</p>
<p>4.1.1.3</p> <p>Multiply multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms.</p>	<p>4 M2 Lesson 1: Multiply multiples of 10 by one-digit numbers by using the associative property of multiplication.</p> <p>4 M2 Topic B: Multiplication of Tens and Ones by One-Digit Numbers</p> <p>4 M3 Lesson 2: Multiply by multiples of 100 and 1,000.</p> <p>4 M3 Lesson 3: Multiply a two-digit multiple of 10 by a two-digit multiple of 10.</p> <p>4 M3 Topic C: Multiplication of up to Four-Digit Numbers by One-Digit Numbers</p> <p>4 M3 Topic D: Multiplication of Two-Digit Numbers by Two-Digit Numbers</p> <p>5 M1 Topic B: Multiplication of Whole Numbers</p>

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<p>4.1.1.4</p> <p>Estimate products and quotients of multi-digit whole numbers by using rounding, benchmarks and place value to assess the reasonableness of results.</p>	<p>4 M2 Lesson 13: Divide three-digit numbers by one-digit numbers by using an area model.</p> <p>4 M3 Lesson 13: Multiply two-digit numbers by two-digit multiples of 10.</p> <p>4 M3 Lesson 22: Represent, estimate, and solve division word problems.</p> <p>4 M3 Lesson 24: Solve multi-step word problems and assess the reasonableness of solutions.</p> <p><i>Supplemental material is necessary to address assessing the reasonableness of results by using benchmarks.</i></p>
<p>4.1.1.5</p> <p>Solve multi-step real-world and mathematical problems requiring the use of addition, subtraction and multiplication of multi-digit whole numbers. Use various strategies, including the relationship between operations, the use of technology, and the context of the problem to assess the reasonableness of results.</p>	<p>4 M1 Lesson 15: Apply estimation to real-world situations by using rounding.</p> <p>4 M1 Lesson 16: Add by using the standard algorithm.</p> <p>4 M1 Lesson 17: Solve multi-step addition word problems by using the standard algorithm.</p> <p>4 M1 Lesson 21: Solve two-step word problems by using addition and subtraction.</p> <p>4 M1 Lesson 22: Solve multi-step word problems by using addition and subtraction.</p> <p>4 M3 Lesson 23: Solve multi-step word problems and interpret remainders.</p> <p>4 M3 Lesson 24: Solve multi-step word problems and assess the reasonableness of solutions.</p>
<p>4.1.1.6</p> <p>Use strategies and algorithms based on knowledge of place value, equality and properties of operations to divide multi-digit whole numbers by one- or two-digit numbers. Strategies may include mental strategies, partial quotients, the commutative, associative, and distributive properties and repeated subtraction.</p>	<p>4 M2 Lesson 2: Divide two- and three-digit multiples of 10 by one-digit numbers.</p> <p>4 M2 Topic C: Division of Tens and Ones by One-Digit Numbers</p> <p>4 M3 Lesson 1: Divide multiples of 100 and 1,000.</p> <p>4 M3 Topic B: Division of Thousands, Hundreds, Tens, and Ones</p> <p>4 M3 Lesson 21: Find whole-number quotients and remainders.</p> <p>4 M3 Lesson 22: Represent, estimate, and solve division word problems.</p> <p>5 M1 Topic C: Division of Whole Numbers</p>

Number & Operation

Represent and compare fractions and decimals in real-world and mathematical situations; use place value to understand how decimals represent quantities.

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<p>4.1.2.1</p> <p>Represent equivalent fractions using fraction models such as parts of a set, fraction circles, fraction strips, number lines and other manipulatives. Use the models to determine equivalent fractions.</p>	<p>4 M4 Lesson 8: Generate equivalent fractions with smaller units for unit fractions.</p> <p>4 M4 Lesson 9: Generate equivalent fractions with smaller units for non-unit fractions.</p> <p>4 M4 Lesson 10: Generate equivalent fractions with larger units.</p> <p>4 M4 Lesson 11: Represent equivalent fractions by using tape diagrams, number lines, and multiplication or division.</p> <p>4 M4 Lesson 12: Generate equivalent fractions for fractions greater than 1 and generate equivalent mixed numbers.</p>
<p>4.1.2.2</p> <p>Locate fractions on a number line. Use models to order and compare whole numbers and fractions, including mixed numbers and improper fractions.</p>	<p>4 M4 Topic A: Fraction Decomposition and Equivalence</p> <p>4 M4 Lesson 7: Rename fractions as a sum of equivalent smaller unit fractions.</p> <p>4 M4 Lesson 11: Represent equivalent fractions by using tape diagrams, number lines, and multiplication or division.</p> <p>4 M4 Lesson 12: Generate equivalent fractions for fractions greater than 1 and generate equivalent mixed numbers.</p> <p>4 M4 Topic C: Compare Fractions</p>
<p>4.1.2.3</p> <p>Use fraction models to add and subtract fractions with like denominators in real-world and mathematical situations. Develop a rule for addition and subtraction of fractions with like denominators.</p>	<p>4 M4 Topic A: Fraction Decomposition and Equivalence</p> <p>4 M4 Lesson 7: Rename fractions as a sum of equivalent smaller unit fractions.</p> <p>4 M4 Lesson 19: Add and subtract fractions with like units.</p> <p>4 M4 Lesson 20: Subtract a fraction from a whole number.</p> <p>4 M4 Lesson 21: Solve addition and subtraction word problems and estimate the reasonableness of the answers.</p> <p>4 M4 Lesson 23: Add a fraction to a mixed number.</p>

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<p>4.1.2.3 <i>continued</i></p>	<p>4 M4 Lesson 24: Add a mixed number to a mixed number.</p> <p>4 M4 Lesson 25: Subtract a fraction from a mixed number, part 1.</p> <p>4 M4 Lesson 26: Subtract a fraction from a mixed number, part 2.</p> <p>4 M4 Lesson 27: Subtract a mixed number from a mixed number.</p>
<p>4.1.2.4</p> <p>Read and write decimals with words and symbols; use place value to describe decimals in terms of thousands, hundreds, tens, ones, tenths, hundredths and thousandths.</p>	<p>4 M5 Topic A: Exploration of Tenths</p> <p>4 M5 Topic B: Tenths and Hundredths</p> <p>5 M4 Lesson 1: Model and relate decimal place value units to thousandths.</p> <p>5 M4 Lesson 2: Represent thousandths as a place value unit.</p> <p>5 M4 Lesson 3: Represent decimal numbers to the thousandths place in different forms.</p> <p>5 M4 Lesson 4: Relate the values of digits in a decimal number by using place value understanding.</p>
<p>4.1.2.5</p> <p>Compare and order decimals and whole numbers using place value, a number line and models such as grids and base 10 blocks.</p>	<p>4 M5 Topic C: Comparison of Decimal Numbers</p> <p>5 M4 Lesson 6: Compare decimal numbers to the thousandths place.</p>
<p>4.1.2.6</p> <p>Read and write tenths and hundredths in decimal and fraction notations using words and symbols; know the fraction and decimal equivalents for halves and fourths.</p>	<p>4 M5 Topic A: Exploration of Tenths</p> <p>4 M5 Topic B: Tenths and Hundredths</p>
<p>4.1.2.7</p> <p>Round decimals to the nearest tenth.</p>	<p>5 M4 Lesson 7: Round decimal numbers to the nearest one, tenth, or hundredth.</p> <p>5 M4 Lesson 8: Round decimal numbers to any place value unit.</p>

Algebra

Use input–output rules, tables and charts to represent patterns and relationships and to solve real-world and mathematical problems.

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<p>4.2.1.1</p> <p>Create and use input–output rules involving addition, subtraction, multiplication and division to solve problems in various contexts. Record the inputs and outputs in a chart or table.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>
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Algebra

Use number sentences involving multiplication, division and unknowns to represent and solve real-world and mathematical problems; create real-world situations corresponding to number sentences.

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<p>4.2.2.1</p> <p>Understand how to interpret number sentences involving multiplication, division and unknowns. Use real-world situations involving multiplication or division to represent number sentences.</p>	<p>4 M1 Topic A: Multiplication as Multiplicative Comparison</p> <p>4 M1 Lesson 15: Apply estimation to real-world situations by using rounding.</p> <p>4 M1 Lesson 16: Add by using the standard algorithm.</p> <p>4 M1 Lesson 17: Solve multi-step addition word problems by using the standard algorithm.</p> <p>4 M1 Lesson 21: Solve two-step word problems by using addition and subtraction.</p> <p>4 M1 Lesson 22: Solve multi-step word problems by using addition and subtraction.</p> <p>4 M2 Lesson 9: Solve multiplication word problems.</p> <p>4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons.</p> <p>4 M3 Topic F: Remainders, Estimating, and Problem Solving</p>
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<p>4.2.2.2</p> <p>Use multiplication, division and unknowns to represent a given problem situation using a number sentence. Use number sense, properties of multiplication, and the relationship between multiplication and division to find values for the unknowns that make the number sentences true.</p>	<p>4 M1 Lesson 15: Apply estimation to real-world situations by using rounding.</p> <p>4 M1 Lesson 16: Add by using the standard algorithm.</p> <p>4 M1 Lesson 17: Solve multi-step addition word problems by using the standard algorithm.</p> <p>4 M1 Lesson 21: Solve two-step word problems by using addition and subtraction.</p> <p>4 M1 Lesson 22: Solve multi-step word problems by using addition and subtraction.</p> <p>4 M3 Topic F: Remainders, Estimating, and Problem Solving</p>
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Geometry & Measurement

Name, describe, classify and sketch polygons.

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<p>4.3.1.1</p> <p>Describe, classify and sketch triangles, including equilateral, right, obtuse and acute triangles. Recognize triangles in various contexts.</p>	<p>4 M6 Lesson 18: Analyze and classify triangles based on side length, angle measures, or both.</p> <p>4 M6 Lesson 19: Construct and classify triangles based on given attributes.</p> <p>4 M6 Lesson 20: Sort polygons based on a given rule.</p>
<p>4.3.1.2</p> <p>Describe, classify and draw quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms and kites. Recognize quadrilaterals in various contexts.</p>	<p>5 M5 Topic A: Drawing, Analysis, and Classification of Two-Dimensional Figures</p>

Geometry & Measurement

Understand angle and area as measurable attributes of real-world and mathematical objects. Use various tools to measure angles and areas.

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<p>4.3.2.1</p> <p>Measure angles in geometric figures and real-world objects with a protractor or angle ruler.</p>	<p>4 M6 Topic B: Angle Measurement</p>
<p>4.3.2.2</p> <p>Compare angles according to size. Classify angles as acute, right and obtuse.</p>	<p>4 M6 Lesson 2: Identify right, acute, obtuse, and straight angles.</p> <p>4 M6 Lesson 3: Draw right, acute, obtuse, and straight angles.</p>
<p>4.3.2.3</p> <p>Understand that the area of a two-dimensional figure can be found by counting the total number of same size square units that cover a shape without gaps or overlaps. Justify why length and width are multiplied to find the area of a rectangle by breaking the rectangle into one unit by one unit squares and viewing these as grouped into rows and columns.</p>	<p>3 M4 Topic A: Foundations for Understanding Area</p> <p>3 M4 Topic B: Concepts for Area Measurement</p> <p>3 M4 Topic C: Applying Properties of Operations to Area</p> <p>3 M4 Topic D: Applications of Area</p>

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<p>4.3.2.4</p> <p>Find the areas of geometric figures and real-world objects that can be divided into rectangular shapes. Use square units to label area measurements.</p>	<p>3 M4 Lesson 10: Compose large rectangles and reason about their areas.</p> <p>3 M4 Lesson 11: Decompose to find the total area of a rectangle.</p> <p>3 M4 Lesson 14: Reason to find the area of composite shapes by using grids.</p> <p>3 M4 Lesson 15: Reason to find the area of composite shapes by using rectangles.</p> <p>3 M4 Lesson 17: Apply area concepts to a real-world context.</p> <p>3 M4 Lesson 18: Find the area of shapes and represent area data on a line plot.</p> <p>3 M4 Lesson 19: Apply area concepts to complete a multi-part task.</p>
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Geometry & Measurement

Use translations, reflections and rotations to establish congruency and understand symmetries.

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<p>4.3.3.1</p> <p>Apply translations (slides) to figures.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>
<p>4.3.3.2</p> <p>Apply reflections (flips) to figures by reflecting over vertical or horizontal lines and relate reflections to lines of symmetry.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>
<p>4.3.3.3</p> <p>Apply rotations (turns) of 90° clockwise or counterclockwise.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>

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<p>4.3.3.4</p> <p>Recognize that translations, reflections and rotations preserve congruency and use them to show that two figures are congruent.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>
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Data Analysis

Collect, organize, display and interpret data, including data collected over a period of time and data represented by fractions and decimals.

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<p>4.4.1.1</p> <p>Use tables, bar graphs, timelines and Venn diagrams to display data sets. The data may include fractions or decimals. Understand that spreadsheet tables and graphs can be used to display data.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>
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