
Grade 5 | Arkansas Academic Standards – 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.

Standards for Mathematical Practice

Aligned Components of *Eureka Math*²

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

Operations and Algebraic Thinking

AR.Math.Content.5.OA.A Write and interpret numerical expressions.

Arkansas Academic Standards – Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>AR.Math.Content.5.OA.A.1</p> <p>Use grouping symbols including parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p>	<p>5 M1 Lesson 7: Multiply by using familiar methods.</p> <p>5 M1 Lesson 8: Multiply two- and three-digit numbers by two-digit numbers by using the distributive property.</p> <p>5 M1 Topic D: Multi-Step Problems with Whole Numbers</p> <p>5 M3 Lesson 18: Compare and evaluate expressions with parentheses.</p> <p>5 M3 Lesson 22: Evaluate expressions involving nested grouping symbols.</p> <p>5 M4 Lesson 29: Interpret, evaluate, and compare numerical expressions involving decimals.</p> <p>5 M4 Lesson 30: Create and solve real-world problems for given numerical expressions involving decimals.</p>
<p>AR.Math.Content.5.OA.A.2</p> <p>Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.</p>	<p>5 M1 Topic D: Multi-Step Problems with Whole Numbers</p> <p>5 M3 Lesson 12: Divide a nonzero whole number by a unit fraction to find the number of groups.</p> <p>5 M3 Lesson 16: Reason about the size of quotients of whole numbers and unit fractions and quotients of unit fractions and whole numbers.</p> <p>5 M3 Lesson 18: Compare and evaluate expressions with parentheses.</p> <p>5 M4 Lesson 29: Interpret, evaluate, and compare numerical expressions involving decimals.</p> <p>5 M4 Lesson 30: Create and solve real-world problems for given numerical expressions involving decimals.</p>

Operations and Algebraic Thinking

AR.Math.Content.5.OA.B Analyze patterns and relationships.

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<p>AR.Math.Content.5.OA.B.3</p> <p>Generate two numerical patterns, each using a given rule. Identify apparent relationships between corresponding terms by completing a function table or input/output table. Using the terms created, form and graph ordered pairs in the first quadrant of the coordinate plane.</p>	<p>5 M6 Lesson 7: Generate number patterns to form ordered pairs.</p> <p>5 M6 Lesson 8: Identify addition and subtraction relationships between corresponding terms in number patterns.</p> <p>5 M6 Lesson 9: Identify multiplication and division relationships between corresponding terms in number patterns.</p> <p>5 M6 Lesson 11: Draw lines in the coordinate plane and identify points on the lines.</p> <p>5 M6 Lesson 20: Reason about patterns in real-world situations.</p>

Number and Operations in Base Ten

AR.Math.Content.5.NBT.A Understand the place value system.

Arkansas Academic Standards – Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>AR.Math.Content.5.NBT.A.1</p> <p>Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.</p>	<p>5 M1 Lesson 1: Relate adjacent place value units by using place value understanding.</p> <p>5 M1 Lesson 2: Multiply and divide by 10, 100, and 1,000 and identify patterns in the products and quotients.</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>

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<p>AR.Math.Content.5.NBT.A.2</p> <p>Understand why multiplying or dividing by a power of 10 shifts the value of the digits of a whole number or decimal. Explain patterns in the number of zeros of the product when multiplying a whole number by powers of 10. Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.</p>	<p>5 M1 Lesson 2: Multiply and divide by 10, 100, and 1,000 and identify patterns in the products and quotients.</p> <p>5 M1 Lesson 3: Use exponents to multiply and divide by powers of 10.</p> <p>5 M1 Lesson 4: Estimate products and quotients by using powers of 10 and their multiples.</p> <p>5 M4 Lesson 5: Multiply and divide decimal numbers by powers of 10.</p>
<p>AR.Math.Content.5.NBT.A.3</p> <p>Read, write, and compare decimals to thousandths. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form(s). Compare two decimals to thousandths based on the value of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</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 6: Compare decimal numbers to the thousandths place.</p>
<p>AR.Math.Content.5.NBT.A.4</p> <p>Apply place value understanding to round decimals to any place.</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>

Number and Operations in Base Ten

AR.Math.Content.5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths.

Arkansas Academic Standards – Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>AR.Math.Content.5.NBT.B.5</p> <p>Fluently (efficiently, accurately and with some degree of flexibility) multiply multi-digit whole numbers using a standard algorithm.</p>	<p>5 M1 Topic B: Multiplication of Whole Numbers</p>
<p>AR.Math.Content.5.NBT.B.6</p> <p>Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on: place value; the properties of operations; divisibility rules; and the relationship between multiplication and division. Illustrate and explain calculations by using equations, rectangular arrays, and area models.</p>	<p>5 M1 Topic C: Division of Whole Numbers</p>

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<p>AR.Math.Content.5.NBT.B.7</p> <p>Perform basic operations on decimals to the hundredths place. Add and subtract decimals to hundredths using concrete models or drawings and strategies based on place value, properties of operations, and the relationship between addition and subtraction. Multiply and divide decimals to hundredths using concrete models or drawings and strategies based on place value, properties of operations, and the relationship between multiplication and division.</p>	<p>5 M4 Lesson 9: Add decimal numbers by using different methods.</p> <p>5 M4 Lesson 10: Add decimal numbers by using place value understanding.</p> <p>5 M4 Lesson 11: Subtract decimal numbers by using different methods.</p> <p>5 M4 Lesson 12: Subtract decimal numbers by using place value understanding.</p> <p>5 M4 Topic C: Multiplication of Decimal Numbers</p> <p>5 M4 Topic D: Division of Decimal Numbers</p>
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Number and Operations—Fractions

AR.Math.Content.5.NF.A Use equivalent fractions as a strategy to add and subtract fractions.

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<p>AR.Math.Content.5.NF.A.1</p> <p>Efficiently, accurately, and with some degree of flexibility, add and subtract fractions with unlike denominators (including mixed numbers) using equivalent fractions and common denominators.</p>	<p>5 M2 Lesson 7: Add and subtract fractions with related units by finding equivalent fractions numerically.</p> <p>5 M2 Lesson 8: Add and subtract fractions with unrelated units by finding equivalent fractions pictorially.</p> <p>5 M2 Lesson 9: Add and subtract fractions with unrelated units by finding equivalent fractions numerically.</p> <p>5 M2 Topic C: Addition and Subtraction of Fractions, Whole Numbers, and Mixed Numbers</p>
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<p>AR.Math.Content.5.NF.A.2</p> <p>Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.</p>	<p>5 M2 Topic C: Addition and Subtraction of Fractions, Whole Numbers, and Mixed Numbers</p> <p>5 M2 Lesson 17: Solve problems by equally redistributing a total amount.</p>
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Number and Operations—Fractions

AR.Math.Content.5.NF.B Apply and extend previous understandings of multiplication and division.

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<p>AR.Math.Content.5.NF.B.3</p> <p>Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b} = a \div b$), where a and b are natural numbers. Solve word problems involving division of natural numbers leading to answers in the form of fractions or mixed numbers.</p>	<p>5 M2 Topic A: Fractions and Division</p>
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<p>AR.Math.Content.5.NF.B.4</p> <p>Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. Interpret the product $\frac{a}{b} \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. Find the area of a rectangle with fractional (less than and/or greater than 1) side lengths, by tiling it with unit squares of the appropriate unit fraction side lengths, by multiplying the fractional side lengths, and then show that both procedures yield the same area.</p>	<p>5 M3 Topic A: Multiplication of a Whole Number by a Fraction</p> <p>5 M3 Topic B: Multiplication of Fractions</p> <p>5 M5 Lesson 8: Find areas of square tiles with fraction side lengths by relating the tile to a unit square.</p> <p>5 M5 Lesson 9: Organize, count, and represent a collection of square tiles.</p> <p>5 M5 Lesson 10: Find the area of a rectangle with fraction side lengths by relating the rectangle to a unit square.</p> <p>5 M5 Lesson 11: Find areas of rectangles with fraction side lengths by using multiplication.</p> <p>5 M5 Lesson 12: Multiply mixed numbers.</p> <p>5 M5 Lesson 13: Solve mathematical problems involving areas of composite figures with mixed-number side lengths.</p> <p>5 M5 Lesson 14: Solve real-world problems involving areas of composite figures with mixed-number side lengths.</p> <p>5 M6 Lesson 15: Use the coordinate plane to reason about perimeters and areas of rectangles.</p>
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<p>AR.Math.Content.5.NF.B.5</p> <p>Interpret multiplication as scaling (resizing), by: comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication; explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number; explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; relating the principle of fraction equivalence $\frac{a}{b} = \frac{n \times a}{n \times b}$ to the effect of multiplying $\frac{a}{b}$ by 1.</p>	<p>5 M3 Topic A: Multiplication of a Whole Number by a Fraction</p> <p>5 M3 Topic B: Multiplication of Fractions</p>
<p>AR.Math.Content.5.NF.B.6</p> <p>Solve real world problems involving multiplication of fractions and mixed numbers.</p>	<p>5 M3 Lesson 17: Solve word problems involving fractions with multiplication and division.</p> <p>5 M3 Lesson 21: Solve multi-step word problems involving fractions.</p> <p>5 M5 Lesson 14: Solve real-world problems involving areas of composite figures with mixed-number side lengths.</p> <p>5 M5 Lesson 15: Solve multi-step word problems involving multiplication of mixed numbers.</p>

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<p>AR.Math.Content.5.NF.B.7</p> <p>Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Interpret division of a unit fraction by a natural number, and compute such quotients. Interpret division of a whole number by a unit fraction, and compute such quotients. Solve real world problems involving division of unit fractions by natural numbers and division of whole numbers by unit fractions.</p>	<p>5 M3 Topic C: Division with a Unit Fraction and a Whole Number</p> <p>5 M3 Lesson 19: Create and solve one-step word problems involving fractions.</p> <p>5 M3 Lesson 20: Solve multi-step word problems involving fractions and write equations with parentheses.</p> <p>5 M3 Lesson 21: Solve multi-step word problems involving fractions.</p>
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Measurement and Data

AR.Math.Content.5.MD.A Convert like measurement units within a given measurement system.

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<p>AR.Math.Content.5.MD.A.1</p> <p>Convert among different-sized standard measurement units within the metric system. Convert among different-sized standard measurement units within the customary system. Use these conversions in solving multi-step, real world problems.</p>	<p>5 M1 Lesson 5: Convert measurements and describe relationships between metric units.</p> <p>5 M1 Lesson 6: Solve multi-step word problems by using metric measurement conversion.</p> <p>5 M3 Lesson 5: Convert larger customary measurement units to smaller measurement units.</p> <p>5 M3 Lesson 6: Convert smaller customary measurement units to larger measurement units.</p> <p>5 M4 Lesson 26: Solve a real-world problem involving metric measurements.</p> <p>5 M4 Lesson 27: Convert metric measurements involving decimals.</p> <p>5 M4 Lesson 28: Convert customary measurements involving decimals.</p>
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Measurement and Data

AR.Math.Content.5.MD.B Represent and interpret data.

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<p>AR.Math.Content.5.MD.B.2</p> <p>Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots.</p>	<p>5 M2 Topic D: Problem Solving and Line Plots with Fractional Measurements</p>

Measurement and Data

AR.Math.Content.5.MD.C Geometric measurement: understand concepts of volume.

Arkansas Academic Standards – Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>AR.Math.Content.5.MD.C.3</p> <p>Recognize volume as an attribute of solid figures and understand concepts of volume measurement. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume. A solid figure, which can be packed without gaps or overlaps using n unit cubes, is said to have a volume of n cubic units.</p>	<p>5 M5 Lesson 16: Identify attributes and properties of right rectangular prisms.</p> <p>5 M5 Lesson 17: Find the volume of right rectangular prisms by packing with unit cubes and counting.</p> <p>5 M5 Lesson 19: Compose and decompose right rectangular prisms to find their volume by using layers.</p> <p>5 M5 Lesson 20: Interpret volume as filling.</p> <p>5 M5 Lesson 21: Relate volumes of solids and liquid volume.</p>
<p>AR.Math.Content.5.MD.C.4</p> <p>Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p>	<p>5 M5 Lesson 17: Find the volume of right rectangular prisms by packing with unit cubes and counting.</p> <p>5 M5 Lesson 18: Find the volume of right rectangular prisms by packing with improvised units.</p> <p>5 M5 Lesson 19: Compose and decompose right rectangular prisms to find their volume by using layers.</p> <p>5 M5 Lesson 21: Relate volumes of solids and liquid volume.</p>

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<p>AR.Math.Content.5.MD.C.5</p> <p>Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base (B). Represent threefold whole-number products as volumes (e.g., to represent the associative property of multiplication). Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.</p>	<p>5 M5 Topic D: Volume and the Operations of Multiplication and Addition</p>
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Geometry

AR.Math.Content.5.G.A Graph points on the coordinate plane to solve real-world and mathematical problems.

Arkansas Academic Standards – Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>AR.Math.Content.5.G.A.1</p> <p>Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p>	<p>5 M6 Lesson 1: Construct a coordinate system on a line.</p> <p>5 M6 Lesson 2: Construct a coordinate system in a plane.</p> <p>5 M6 Lesson 3: Identify and plot points by using ordered pairs.</p>
<p>AR.Math.Content.5.G.A.2</p> <p>Represent real world and mathematical problems by graphing points in the first quadrant and on the non-negative x- and y-axes of the coordinate plane. Interpret coordinate values of points in the context of the situation.</p>	<p>5 M6 Lesson 4: Describe the distance and direction between points in the coordinate plane.</p> <p>5 M6 Lesson 5: Identify properties of horizontal and vertical lines.</p> <p>5 M6 Lesson 6: Use properties of horizontal and vertical lines to solve problems.</p> <p>5 M6 Lesson 7: Generate number patterns to form ordered pairs.</p> <p>5 M6 Lesson 8: Identify addition and subtraction relationships between corresponding terms in number patterns.</p> <p>5 M6 Lesson 9: Identify multiplication and division relationships between corresponding terms in number patterns.</p>

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<p>AR.Math.Content.5.G.A.2 <i>continued</i></p>	<p>5 M6 Topic C: Solve Mathematical Problems in the Coordinate Plane</p> <p>5 M6 Lesson 16: Interpret graphs that represent real-world situations.</p> <p>5 M6 Lesson 17: Plot data in the coordinate plane and analyze relationships.</p> <p>5 M6 Lesson 18: Interpret line graphs.</p> <p>5 M6 Lesson 20: Reason about patterns in real-world situations.</p>
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Geometry

AR.Math.Content.5.G.B Classify two-dimensional figures into categories based on their properties.

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<p>AR.Math.Content.5.G.B.3</p> <p>Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.</p>	<p>5 M5 Topic A: Drawing, Analysis, and Classification of Two-Dimensional Figures</p>
<p>AR.Math.Content.5.G.B.4</p> <p>Classify two-dimensional figures in a hierarchy based on properties.</p>	<p>5 M5 Topic A: Drawing, Analysis, and Classification of Two-Dimensional Figures</p> <p>5 M6 Lesson 12: Graph and classify quadrilaterals in the coordinate plane.</p>