

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

Arkansas Mathematics Standards Correlation to *Eureka Math*[™]

GRADE 4 MATHEMATICS

The Grade 4 Arkansas Mathematics Standards are fully covered by the Grade 4 *Eureka Math* curriculum. A detailed analysis of alignment is provided in the table below.

INDICATORS

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

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Operations and Algebraic Thinking	Cluster: Use the four operations with whole numbers to solve problems	
	<p>AR.Math.Content.4.OA.A.1</p> <ul style="list-style-type: none"> ▪ Interpret a multiplication equation as a comparison (e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5) ▪ Represent verbal statements of multiplicative comparisons as multiplication <i>equations</i> 	<p>G4 M1 Topic A: Place Value of Multi-Digit Whole Numbers</p> <p>G4 M3 Lesson 2: Solve multiplicative comparison word problems by applying the area and perimeter formulas.</p> <p>G4 M3 Topic D: Multiplication Word Problems</p> <p>G4 M7 Lesson 4: Solve multiplicative comparison word problems using measurement conversion tables.</p>
	<p>AR.Math.Content.4.OA.A.2</p> <ul style="list-style-type: none"> ▪ Multiply or divide to solve word problems involving multiplicative comparison ▪ Use drawings and <i>equations</i> with a letter for the unknown number to represent the problem, distinguishing multiplicative comparison from additive 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>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>AR.Math.Content.4.OA.A.3</p> <ul style="list-style-type: none"> ▪ Solve multistep word problems posed with <i>whole numbers</i> and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using <i>equations</i> with a letter standing for the unknown quantity ▪ Assess the reasonableness of answers using mental computation and estimation strategies including rounding 	<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>
	Cluster: Gain familiarity with factors and multiples	
	<p>AR.Math.Content.4.OA.B.4</p> <ul style="list-style-type: none"> ▪ Find all factor pairs for a whole number in the range 1–100 ▪ Recognize that a whole number is a multiple of each of its <i>factors</i> ▪ Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number ▪ Determine whether a given whole number in the range 1–100 is prime or composite 	<p>G4 M3 Topic F: Reasoning with Divisibility</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>Cluster: Generate and analyze patterns</p> <p>AR.Math.Content.4.OA.C.5</p> <ul style="list-style-type: none"> ▪ Generate a number or shape pattern that follows a given rule ▪ Identify apparent features of the pattern that were not explicit in the rule itself 	<p>G4 M3 Topic F: Reasoning with Divisibility</p> <p>G4 M5 Topic H: Exploring a Fraction Pattern</p>
<p>Number and Operations in Base Ten</p>	<p>Cluster: Generalize place value understanding for multi-digit whole numbers</p>	
	<p>AR.Math.Content.4.NBT.A.1</p> <p>Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right</p>	<p>G4 M1 Topic A: Place Value of Multi-Digit Whole Numbers</p> <p>G4 M3 Topic B: Multiplication by 10, 100, and 1,000</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>AR.Math.Content.4.NBT.A.2</p> <ul style="list-style-type: none"> ▪ Read and write multi-digit <i>whole numbers</i> using base-ten numerals, number names, and <i>expanded form</i> ▪ Compare two multi-digit numbers based on meanings of the digits in each place, using symbols ($>$, $=$, $<$) to record the results of comparisons 	<p>G4 M1 Topic A: Place Value of Multi-Digit Whole Numbers</p> <p>G4 M1 Topic B: Comparing Multi-Digit Whole Numbers</p>
	<p>AR.Math.Content.4.NBT.A.3</p> <p>Use <i>place value</i> understanding to round multi-digit <i>whole numbers</i> to any place</p>	<p>G4 M1 Topic C: Rounding Multi-Digit Whole Numbers</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic</p>	
	<p>AR.Math.Content.4.NBT.B.4 Add and subtract multi-digit <i>whole numbers</i> with <i>computational fluency</i> using a standard <i>algorithm</i></p>	<p>G4 M1 Topic D: Multi-Digit Whole Number Addition G4 M1 Topic E: Multi-Digit Whole Number Subtraction</p>
	<p>AR.Math.Content.4.NBT.B.5</p> <ul style="list-style-type: none"> ▪ Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on <i>place value</i> and the properties of operations ▪ Illustrate and explain the calculation by using <i>equations, rectangular arrays, and area models</i> 	<p>G4 M3: Multi-Digit Multiplication and Division</p>
	<p>AR.Math.Content.4.NBT.B.6</p> <ul style="list-style-type: none"> ▪ Find whole-number <i>quotients</i> and remainders with up to four-digit <i>dividends</i> and one-digit <i>divisors</i>, using strategies based on <i>place value</i>, the properties of operations, and the relationship between multiplication and division ▪ Illustrate and explain the calculation by using <i>equations, rectangular arrays, and area models</i> 	<p>G4 M3 Topic E: Division of Tens and Ones with Successive Remainders G4 M3 Topic G: Division of Thousands, Hundreds, Tens, and Ones</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Number and Operations—Fractions	Cluster: Extend understanding of fraction equivalence and ordering	
	<p>AR.Math.Content.4.NF.A.1</p> <ul style="list-style-type: none"> ▪ By using <i>visual fraction models</i>, explain why a <i>fraction</i> a/b is equivalent to a fraction $(n \times a)/(n \times b)$ with attention to how the number and size of the parts differ even though the two <i>fractions</i> themselves are the same size ▪ Use this principle to recognize and generate equivalent <i>fractions</i> 	<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>AR.Math.Content.4.NF.A.2</p> <ul style="list-style-type: none"> ▪ Compare two <i>fractions</i> with different <i>numerators</i> and different <i>denominators</i> (e.g., by creating common <i>denominators</i> or <i>numerators</i>, or by comparing to a benchmark fraction such as $1/2$) ▪ Recognize that comparisons are valid only when the two <i>fractions</i> refer to the same whole. Record the results of comparisons with symbols ($>$, $=$, $<$), and justify the conclusions (e.g., by using a <i>visual fraction model</i>) 	<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>	

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>Cluster: Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers</p> <p>AR.Math.Content.4.NF.B.3</p> <p>Understand a <i>fraction</i> a/b with $a > 1$ as a <i>sum of fractions</i> $1/b$ (e.g., $3/8 = 1/8 + 1/8 + 1/8$):</p> <ul style="list-style-type: none"> ▪ Understand addition and subtraction of <i>fractions</i> as joining and separating parts referring to the same whole ▪ Decompose a <i>fraction</i> into a <i>sum of fractions</i> with the same <i>denominator</i> in more than one way, recording each decomposition by an equation and justify decompositions (e.g., by using a <i>visual fraction model</i>) (e.g., $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$) ▪ Add and subtract mixed numbers with like <i>denominators</i> (e.g., by using properties of operations and the relationship between addition and subtraction and/or by replacing each number with an equivalent <i>fraction</i>) ▪ Solve word problems involving addition and subtraction of <i>fractions</i> referring to the same whole and having like <i>denominators</i> (e.g., by using <i>visual fraction models</i> and <i>equations</i> to represent the problem) 	G4 M5: Fraction Equivalence, Ordering, and Operations

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>AR.Math.Content.4.NF.B.4</p> <p>Apply and extend previous understandings of multiplication to multiply a <i>fraction</i> by a whole number:</p> <ul style="list-style-type: none"> ▪ Understand a <i>fraction</i> a/b as a multiple of $1/b$ (e.g., use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$) ▪ Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a <i>fraction</i> by a whole number (e.g., use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this <i>product</i> as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$) ▪ Solve word problems involving multiplication of a fraction by a whole number (e.g., by using <i>visual fraction models</i> and equations to represent the problem) 	<p>G4 M5 Topic A: Decomposition and Fraction Equivalence</p> <p>G4 M5 Lesson 23: Add and multiply unit fractions to build fractions greater than 1 using visual models.</p> <p>G4 M5 Topic G: Repeated Addition of Fractions as Multiplication</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	Cluster: Understand decimal notation for fractions, and compare decimal fractions	
	<p>AR.Math.Content.4.NF.C.5 Express a <i>fraction</i> with <i>denominator</i> 10 as an equivalent <i>fraction</i> with denominator 100, and use this technique to add two <i>fractions</i> with respective <i>denominators</i> 10 and 100</p>	<p>G4 M6 Topic B: Tenths and Hundredths G4 M6 Topic D: Addition with Tenths and Hundredths G4 M6 Topic E: Money Amounts as Decimal Numbers</p>
	<p>AR.Math.Content.4.NF.C.6 Use decimal notation for <i>fractions</i> with <i>denominators</i> 10 or 100</p>	<p>G4 M6: Decimal Fractions</p>
	<p>AR.Math.Content.4.NF.C.7</p> <ul style="list-style-type: none"> ▪ Compare two decimals to hundredths by reasoning about their size ▪ Recognize that comparisons are valid only when the two decimals refer to the same whole ▪ Record the results of comparisons using symbols ($>$, $=$, $<$), and justify the conclusions (e.g., by using a visual model) 	<p>G4 M6 Topic C: Decimal Comparison</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Measurement and Data	Cluster: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit	
	AR.Math.Content.4.MD.A.1 <ul style="list-style-type: none"> ▪ Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec; yd, ft, in; gal, qt, pt, c ▪ Within a single system of measurement, express measurements in the form of a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table 	<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>
	AR.Math.Content.4.MD.A.2 <ul style="list-style-type: none"> ▪ Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money including the ability to make change; including problems involving simple <i>fractions</i> or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit ▪ Represent measurement quantities using diagrams such as <i>number line diagrams</i> that feature a measurement scale 	<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>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>AR.Math.Content.4.MD.A.3</p> <p>Apply the area and perimeter formulas for rectangles in real-world and mathematical problems</p>	G4 M3 Topic A: Multiplicative Comparison Word Problems
	Cluster: Represent and interpret data	
	<p>AR.Math.Content.4.MD.B.4</p> <ul style="list-style-type: none"> ▪ Make a <i>line plot</i> to display a data set of measurements in <i>fractions</i> of a unit (e.g., $1/2$, $1/4$, $1/8$) ▪ Solve problems involving addition and subtraction of <i>fractions</i> by using information presented in <i>line plots</i> 	<p>G4 M5 Lesson 28: Solve word problems with line plots.</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>

Domain

Standards for Mathematical Content

Aligned Components of *Eureka Math*

	<p>Cluster: Geometric measurement: understand concepts of angle and measure angles</p> <p>AR.Math.Content.4.MD.C.5</p> <p>Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:</p> <ul style="list-style-type: none"> ▪ An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the <i>fraction</i> of the circular arc between the points where the two rays intersect the circle ▪ An angle that turns through $1/360$ of a circle is called a “<i>one-degree angle</i>,” and can be used to measure angles ▪ An angle that turns through n one-degree angles is said to have an angle measure of n degree 	<p>G4 M4 Topic B: Angle Measurement</p>
	<p>AR.Math.Content.4.MD.C.6</p> <ul style="list-style-type: none"> ▪ Measure angles in whole-number degrees using a protractor ▪ Sketch angles of specified measure 	<p>G4 M4 Topic B: Angle Measurement</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>AR.Math.Content.4.MD.C.7</p> <ul style="list-style-type: none"> ▪ Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the <i>sum</i> of the angle measures of the parts ▪ Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems 	G4 M4 Topic C: Problem Solving with the Addition of Angle Measures
Geometry	<p>Cluster: Draw and identify lines and angles, and classify shapes by properties of their lines and angles</p>	
	<p>AR.Math.Content.G.A.1</p> <ul style="list-style-type: none"> ▪ Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines ▪ Identify these in two-dimensional figures 	G4 M4: Angle Measure and Plane Figures
	<p>AR.Math.Content.G.A.2</p> <ul style="list-style-type: none"> ▪ Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size ▪ Recognize right triangles as a category and identify right triangles 	G4 M4 Topic D: Two-Dimensional Figures and Symmetry

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>AR.Math.Content.G.A.3</p> <ul style="list-style-type: none"> ▪ Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts ▪ Identify line-symmetric figures and draw lines of symmetry 	<p>G4 M4 Topic D: Two-Dimensional Figures and Symmetry</p>