

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 3 MATHEMATICS

The majority of the Grade 3 Arkansas Mathematics Standards are fully covered by the Grade 3 *Eureka Math* curriculum. The primary area where the Grade 3 Arkansas Mathematics Standards and Grade 3 *Eureka Math* do not align is in the domain of Number and Operations in Base Ten. Standards from this domain will require the use of *Eureka Math* content from other grade levels. 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: Represent and solve problems involving multiplication and division	
	AR.Math.Content.3.OA.A.1 Interpret <i>products</i> of <i>whole numbers</i> (e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each)	G3 M1 Topic A: Multiplication and the Meaning of the Factors G3 M1 Topic C: Multiplication Using Units of 2 and 3
	AR.Math.Content.3.OA.A.2 Interpret whole-number <i>quotients</i> of <i>whole numbers</i> (e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each)	G3 M1 Topic B: Division as an Unknown Factor Problem G3 M1 Topic D: Division Using Units of 2 and 3 G3 M1 Lesson 17: Model the relationship between multiplication and division.
	AR.Math.Content.3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities (e.g., by using drawings and <i>equations</i> with a symbol for the unknown number to represent the problem)	G3 M1 Topic D: Division Using Units of 2 and 3 G3 M1 Topic F: Distributive Property and Problem Solving Using Units of 2–5 and 10 G3 M3 Lesson 7: Interpret the unknown in multiplication and division to model and solve problems using units of 6 and 7. G3 M3 Lesson 11: Interpret the unknown in multiplication and division to model and solve problems. G3 M3 Lesson 15: Interpret the unknown in multiplication and division to model and solve problems. G3 M3 Lesson 18: Solve two-step word problems involving all four operations and assess the reasonableness of solutions.

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	<p>AR.Math.Content.3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three <i>whole numbers</i></p>	<p>G3 M1 Topic D: Division Using Units of 2 and 3</p> <p>G3 M1 Lesson 17: Model the relationship between multiplication and division.</p> <p>G3 M3 Lesson 3: Multiply and divide with familiar facts using a letter to represent the unknown.</p> <p>G3 M3 Topic B: Multiplication and Division Using Units of 6 and 7</p> <p>G3 M3 Lesson 11: Interpret the unknown in multiplication and division to model and solve problems.</p> <p>G3 M3 Lesson 15: Interpret the unknown in multiplication and division to model and solve problems.</p>
	<p>Cluster: Understand properties of multiplication and the relationship between multiplication and division</p>	
	<p>AR.Math.Content.3.OA.B.5 Apply properties of operations as strategies to multiply and divide</p>	<p>G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10</p> <p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p>

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	<p>AR.Math.Content.3.OA.B.6</p> <p>Understand division as an unknown-factor problem</p>	<p>G3 M1 Topic B: Division as an Unknown Factor Problem</p> <p>G3 M1 Topic D: Division Using Units of 2 and 3</p> <p>G3 M1 Lesson 17: Model the relationship between multiplication and division.</p> <p>G3 M3 Topic B: Multiplication and Division Using Units of 6 and 7</p>
Cluster: Multiply and divide within 100		
	<p>AR.Math.Content.3.OA.C.7</p> <ul style="list-style-type: none"> ▪ Using <i>computational fluency</i>, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations ▪ By the end of Grade 3, automatically (<i>fact fluency</i>) recall all <i>products</i> of two one-digit numbers 	<p>G3 M1 Topic E: Multiplication and Division Using Units of 4</p> <p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p>

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	<p>Cluster: Solve problems involving the four operations, and identify and explain patterns in arithmetic</p>	
	<p>AR.Math.Content.3.OA.D.8 Solve two-step word problems using the four operations, and be able to:</p> <ul style="list-style-type: none"> ▪ Represent these problems using equations with a letter standing for unknown quantity ▪ Assess the reasonableness of answers using mental computation and estimation strategies including rounding 	<p>G3 M3 Lesson 11: Interpret the unknown in multiplication and division to model and solve problems.</p> <p>G3 M3 Lesson 15: Interpret the unknown in multiplication and division to model and solve problems.</p> <p>G3 M3 Lesson 18: Solve two-step word problems involving all four operations and assess the reasonableness of solutions.</p> <p>G3 M3 Lesson 21: Solve two-step word problems involving multiplying single-digit factors and multiples of 10.</p> <p>G3 M7 Topic A: Solving Word Problems</p>
	<p>AR.Math.Content.3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations</p>	<p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Number and Operations in Base Ten	Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic	
	AR.Math.Content.3.NBT.A.1 Use <i>place value</i> understanding to round <i>whole numbers</i> to the nearest 10 or 100	G3 M2 Topic C: Rounding to the Nearest Ten and Hundred G3 M2 Lesson 17: Estimate sums by rounding and apply to solve measurement word problems. G3 M2 Topic E: Two- and Three-Digit Measurement Subtraction Using the Standard Algorithm
	AR.Math.Content.3.NBT.A.2 Using <i>computational fluency</i> , add and subtract within 1,000 using strategies and <i>algorithms</i> based on <i>place value</i> , properties of operations, and the relationship between addition and subtraction	G3 M2 Lesson 4: Solve word problems involving time intervals within 1 hour by counting backward and forward using the number line and clock. G3 M2 Lesson 5: Solve word problems involving time intervals within 1 hour by adding and subtracting on the number line. G3 M2 Lesson 8: Solve one-step word problems involving metric weights within 100 and estimate to reason about solutions. G3 M2 Lesson 11: Solve mixed word problems involving all four operations with grams, kilograms, liters, and milliliters given in the same units. G3 M2 Topic D: Two- and Three-Digit Measurement Addition Using the Standard Algorithm G3 M2 Topic E: Two- and Three-Digit Measurement Subtraction Using the Standard Algorithm

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	<p>AR.Math.Content.3.NBT.A.3</p> <p>Multiply one-digit <i>whole numbers</i> by multiples of 10 in the range 10–90 (e.g., 9×80, 5×60) using strategies based on <i>place value</i> and properties of operations</p>	<p>G3 M3 Topic F: Multiplication of Single-Digit Factors and Multiples of 10</p>
	<p>AR.Math.Content.3.NBT.A.4</p> <p>Understand that the four digits of a four-digit number represent amounts of thousands, hundreds, tens, and ones (e.g., 7,706 can be portrayed in a variety of ways according to <i>place value</i> strategies)</p> <p>Understand the following as special cases:</p> <ul style="list-style-type: none"> ▪ 1,000 can be thought of as a group of ten hundreds—called a thousand ▪ The numbers 1,000, 2,000, 3,000, 4,000, 5,000, 6,000, 7,000, 8,000, 9,000 refer to one, two, three, four, five, six, seven, eight, or nine thousands 	<p>G2 M3 Topic C: Three-Digit Numbers in Unit, Standard, Expanded, and Word Forms</p> <p>G2 M3 Topic D: Modeling Base Ten Numbers Within 1,000 with Money</p> <p>G2 M3 Topic E: Modeling Numbers Within 1,000 with Place Value Disks</p>
	<p>AR.Math.Content.3.NBT.A.5</p> <p>Read and write numbers to 10,000 using base-ten numerals, number names, and <i>expanded form(s)</i></p>	<p>G4 M1 Lesson 4: Read and write multi-digit numbers using base ten numerals, number names, and expanded form.</p>

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	<p>AR.Math.Content.3.NBT.A.6</p> <p>Compare two four-digit numbers based on meanings of thousands, hundreds, tens, and ones digits using symbols ($<$, $>$, $=$) to record the results of comparisons</p>	<p>G4 M1 Lesson 5: Compare numbers based on meanings of the digits using $>$, $<$, or $=$ to record the comparison.</p>
<p>Number and Operations—Fractions</p>	<p>Cluster: Develop understanding of fractions as numbers</p>	
	<p>AR.Math.Content.3.NF.A.1</p> <ul style="list-style-type: none"> ▪ Understand a <i>fraction</i> $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts ▪ Understand a <i>fraction</i> a/b as the quantity formed by a parts of size $1/b$ 	<p>G3 M5 Topic B: Unit Fractions and their Relation to the Whole</p> <p>G3 M5 Lesson 12: Specify the corresponding whole when presented with one equal part.</p>

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	<p>AR.Math.Content.3.NF.A.2</p> <p>Understand a <i>fraction</i> as a number on the number line; represent <i>fractions</i> on a <i>number line</i> diagram</p> <ul style="list-style-type: none"> ▪ Represent a fraction $1/b$ on a <i>number line diagram</i> by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts ▪ Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line ▪ Represent a <i>fraction</i> a/b on a <i>number line</i> diagram by marking off a lengths $1/b$ from 0 ▪ Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line 	<p>G3 M5 Topic D: Fractions on the Number Line</p> <p>G3 M5 Lesson 30: Partition various wholes precisely into equal parts using a number line method.</p>

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	<p>AR.Math.Content.3.NF.A.3</p> <p>Explain equivalence of <i>fractions</i> in special cases and compare <i>fractions</i> by reasoning about their size:</p> <ul style="list-style-type: none">▪ Understand two <i>fractions</i> as equivalent (equal) if they are the same size or the same point on a number line▪ Recognize and generate simple equivalent <i>fractions</i> (e.g., $1/2 = 2/4$, $4/6 = 2/3$)▪ Explain why the <i>fractions</i> are equivalent (e.g., by using a <i>visual fraction model</i>)▪ Express <i>whole numbers</i> as <i>fractions</i> and recognize <i>fractions</i> that are equivalent to <i>whole numbers</i> (e.g., express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a <i>number line diagram</i>)▪ Compare two <i>fractions</i> with the same <i>numerator</i> or the same <i>denominator</i> by reasoning about their size. 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>)	G3 M5: Fractions as Numbers on the Number Line

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Measurement and Data	<p>Cluster: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects</p>	
	<p>AR.Math.Content.3.MD.A.1</p> <ul style="list-style-type: none"> ▪ Tell time using the terms quarter and half as related to the hour (e.g., quarter-past 3:00, half-past 4:00, and quarter till 3:00) ▪ Tell and write time to the nearest minute and measure time intervals in minutes ▪ Solve word problems involving addition and subtraction of time intervals in minutes (e.g., by representing the problem on a <i>number line diagram</i>) 	<p>G3 M2 Topic A: Time Measurement and Problem Solving</p> <p>G3 M2 Lesson 12: Round two-digit measurements to the nearest ten on the vertical number line.</p>
	<p>AR.Math.Content.3.MD.A.2</p> <ul style="list-style-type: none"> ▪ Measure and estimate liquid volumes and masses of objects using standard units such as: grams (g), kilograms (kg), liters (l), gallons (gal), quarts (qt), pints (pt), and cups (c) ▪ Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units (e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem) 	<p>G3 M2 Topic B: Measuring Weight and Liquid Volume in Metric Units</p> <p>G3 M2 Lesson 12: Round two-digit measurements to the nearest ten on the vertical number line.</p> <p>G3 M2 Lesson 21: Estimate sums and differences of measurements by rounding, and then solve mixed word problems.</p>

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	Cluster: Represent and interpret data	
	<p>AR.Math.Content.3.MD.B.3</p> <ul style="list-style-type: none"> ▪ Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories (e.g., Draw a bar graph in which each square in the bar graph might represent 5 pets) ▪ Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled picture graphs and scaled bar graphs 	G3 M6: Collecting and Displaying Data
	<p>AR.Math.Content.3.MD.B.4</p> <ul style="list-style-type: none"> ▪ Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch ▪ Show the data by making a <i>line plot</i>, where the horizontal scale is marked off in appropriate units—<i>whole numbers</i>, halves, or quarters 	<p>G3 M6: Collecting and Displaying Data</p> <p>G3 M7 Lesson 19: Use a line plot to record the number of rectangles constructed from a given number of unit squares.</p> <p>G3 M7 Lesson 22: Use a line plot to record the number of rectangles constructed in Lessons 20 and 21.</p>

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	<p>Cluster: Geometric measurement: understand concepts of area and relate area to multiplication and to addition</p>	
	<p>AR.Math.Content.3.MD.C.5 Recognize area as an <i>attribute</i> of plane figures and understand concepts of area measurement:</p> <ul style="list-style-type: none"> ▪ A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. ▪ A plane figure, which can be covered without gaps or overlaps by n unit squares, is said to have an area of n square units 	<p>G3 M4 Topic A: Foundations for Understanding Area</p> <p>G3 M4 Lesson 6: Draw rows and columns to determine the area of a rectangle given an incomplete array.</p>
	<p>AR.Math.Content.3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units)</p>	<p>G3 M4: Multiplication and Area</p>

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	<p>AR.Math.Content.3.MD.C.7</p> <p>Relate area to the operations of multiplication and addition:</p> <ul style="list-style-type: none"> ▪ Find the area of a rectangle with whole-number side lengths by tiling it and show that the area is the same as would be found by multiplying the side lengths ▪ Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number <i>products</i> as rectangular areas in mathematical reasoning ▪ Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$ ▪ Use area models to represent the distributive property in mathematical reasoning ▪ Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems 	<p>G3 M4: Multiplication and Area</p>

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	<p>Cluster: Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures</p> <p>AR.Math.Content.3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters</p>	G3 M7: Geometry and Measurement Word Problems
Geometry	<p>Cluster: Reason with shapes and their attributes</p> <p>AR.Math.Content.3.G.A.1</p> <ul style="list-style-type: none"> ▪ Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share <i>attributes</i> (e.g., having four sides) and that the shared <i>attributes</i> can define a larger category (e.g., quadrilaterals) ▪ Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories 	G3 M7 Topic B: Attributes of Two-Dimensional Figures

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	<p>AR.Math.Content.3.G.A.2</p> <ul style="list-style-type: none"> ▪ Partition shapes into parts with equal areas ▪ Express the area of each part as a <i>unit fraction</i> of the whole 	G3 M5 Topic A: Partitioning a Whole into Equal Parts