EUREKA MATH™

GREAT MINDS

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

GRADE 6 MATHEMATICS

The majority of the Grade 6 Arkansas Mathematics Standards are fully covered by the Grade 6 *Eureka Math* curriculum. The primary area where the Grade 6 Arkansas Mathematics Standards and *Eureka Math* do not align is in the domain of The Number System. One standard from this domain will require the use of supplemental materials. A detailed analysis of alignment is provided in the table below. With strategic placement of supplemental materials, *Eureka Math* can ensure students are successful in achieving the proficiencies of the Arkansas Mathematics Standards while still benefiting from the coherence and rigor of *Eureka Math*.

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 *Eureka Math*
Ratios and Proportional Relationships	**Cluster: Understand ratio concepts and use ratio reasoning to solve problems**	
	AR.Math.Content.6.RP.A.1 Understand the concept of a *ratio* and use *ratio* language to describe a *ratio* relationship between two quantities	G6 M1: Ratios and Unit Rates
	AR.Math.Content.6.RP.A.2 Understand the concept of a unit rate *a/b* associated with a *ratio a:b* with *b* ≠ 0, and use rate language in the context of a *ratio* relationship	G6 M1 Topic C: Unit Rates

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	AR.Math.Content.6.RP.A.3 Use *ratio* and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations: ▪ Use and create tables to compare equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the *coordinate plane* ▪ Solve unit rate problems including those involving unit pricing and constant speed ▪ Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity) ▪ Solve problems involving finding the whole, given a part and the percent ▪ Use *ratio* reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities	G6 M1: Ratios and Unit Rates

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
The Number System	**Cluster: Apply and extend previous understandings of multiplication and division to divide fractions by fractions**	
	AR.Math.Content.6.NS.A.1 ▪ Interpret and compute quotients of fractions ▪ Solve word problems involving division of fractions by fractions (e.g., by using various strategies, including but not limited to, visual fraction models and equations to represent the problem)	G6 M2 Topic A: Dividing Fractions by Fractions
	Cluster: Compute fluently with multi-digit numbers and find common factors and multiples	
	AR.Math.Content.6.NS.B.2 Use computational fluency to divide multi-digit numbers using a standard algorithm	G6 M2 Topic C: Dividing Whole Numbers and Decimals
	AR.Math.Content.6.NS.B.3 Use computational fluency to add, subtract, multiply, and divide multi-digit decimals and fractions using a standard algorithm for each operation	G6 M2: Arithmetic Operations Including Division of Fractions

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	AR.Math.Content.6.NS.B.4 ▪ Find the *greatest common factor* of two whole numbers less than or equal to 100 using prime factorization as well as other methods ▪ Find the *least common multiple* of two whole numbers less than or equal to 12 using prime factorization as well as other methods ▪ Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor	G6 M2 Topic D: Number Theory—Thinking Logically About Multiplicative Arithmetic Note: Supplemental material is necessary to cover prime factorization.
	Cluster: Apply and extend previous understandings of numbers to the system of rational numbers	
	AR.Math.Content.6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values, explaining the meaning of 0. (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge)	G6 M3 Topic A: Understanding Positive and Negative Numbers on the Number Line G6 M3 Lesson 13: Statements of Order in the Real World

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	AR.Math.Content.6.NS.C.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates: ▪ Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line ▪ Recognize that the opposite of the opposite of a number is the number itself, (e.g., −(−3) = 3, and that 0 is its own opposite) ▪ Understand signs of numbers in ordered pairs as indicating locations in quadrants of the *coordinate plane* ▪ Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes ▪ Find and position *integers* and other *rational numbers* on a horizontal or vertical number line diagram ▪ Find and position pairs of *integers* and other *rational numbers* on a *coordinate plane*	G6 M3: Rational Numbers

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	AR.Math.Content.6.NS.C.7 Understand ordering and *absolute value* of *rational numbers*: ▪ Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram ▪ Write, interpret, and explain statements of order for *rational numbers* in real-world contexts ▪ Understand the *absolute value* of a rational number as its distance from 0 on the number line ▪ Interpret *absolute value* as magnitude for a positive or negative quantity in a real-world situation ▪ Distinguish comparisons of *absolute value* from statements about order	G6 M3 Topic B: Order and Absolute Value
	AR.Math.Content.6.NS.C.8 ▪ Solve real-world and mathematical problems by graphing points in all four quadrants of the *coordinate plane* ▪ Use coordinates and *absolute value* to find distances between points with the same first coordinate or the same second coordinate	G6 M3 Topic C: Rational Numbers and the Coordinate Plane

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Expressions and Equations	**Cluster: Apply and extend previous understandings of arithmetic to algebraic expressions**	
	AR.Math.Content.6.EE.A.1 Write and evaluate numerical *expressions* involving whole-number *exponents*	G6 M4 Topic B: Special Notations of Operations G6 M4 Lesson 16: Write Expressions in Which Letters Stand for Numbers
	AR.Math.Content.6.EE.A.2 Write, read, and evaluate *expressions* in which letters (variables) stand for numbers: ▪ Write *expressions* that record operations with numbers and with letters standing for numbers ▪ Identify parts of an *expression* using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an *expression* as a single entity ▪ Evaluate *expressions* at specific values of their variables ▪ Include *expressions* that arise from formulas used in real-world problems ▪ Perform arithmetic operations, including those involving whole-number *exponents*, in the conventional order when there are no parentheses to specify a particular order (*Order of Operations*)	G6 M4: Expressions and Equations

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	AR.Math.Content.6.EE.A.3 Apply the properties of operations to generate equivalent *expressions*	G6 M4 Topic A: Relationships of the Operations G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions
	AR.Math.Content.6.EE.A.4 Identify when two *expressions* are equivalent (i.e., when the two *expressions* name the same number regardless of which value is substituted into them)	G6 M4 Topic C: Replacing Letters and Numbers G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions
	Cluster: Reason about and solve one-variable equations and inequalities	
	AR.Math.Content.6.EE.B.5 Understand solving an equation or inequality as a process of answering a question: ▪ Using substitution, which values from a specified set, if any, make the equation or inequality true?	G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
	AR.Math.Content.6.EE.B.6 ▪ Use variables to represent numbers and write *expressions* when solving a real-world or mathematical problem ▪ Understand that a variable can represent an unknown number or any number in a specified set	G6 M4 Topic F: Writing and Evaluating Expressions and Formulas G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	AR.Math.Content.6.EE.B.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative *rational numbers*	G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
	AR.Math.Content.6.EE.B.8 For real-world or mathematical problems: ▪ Write an inequality of the form $x > c$, $x \geq c$, $x < c$, or $x \leq c$ to represent a constraint or condition ▪ Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions ▪ Represent solutions of such inequalities on number line diagrams	G6 M4 Lesson 33: From Equations to Inequalities G6 M4 Lesson 34: Writing and Graphing Inequalities in Real-World Problems

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Cluster: Represent and analyze quantitative relationships between dependent and independent variables	
	AR.Math.Content.6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another: ▪ Write an equation to express one quantity, thought of as the *dependent variable*, in terms of the other quantity, thought of as the *independent variable* ▪ Analyze the relationship between the dependent and *independent variables* using graphs and tables, and relate these to the equation	G6 M4 Lesson 31: Problems in Mathematical Terms G6 M4 Lesson 32: Multi-Step Problems in the Real World
Geometry	**Cluster: Solve real-world and mathematical problems involving area, surface area, and volume**	
	AR.Math.Content.6.G.A.1 ▪ Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes ▪ Apply these techniques in the context of solving real-world and mathematical problems	G6 M5: Area, Surface Area, and Volume Problems

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	AR.Math.Content.6.G.A.2 ▪ Find the volume of a right rectangular prism including whole number and fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism ▪ Apply the formulas $V = l\,w\,h$ and $V = b\,h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems	G6 M5 Topic C: Volume of Right Rectangular Prisms G6 M5 Lesson 19: Surface Area and Volume in the Real World G6 M5 Lesson 19a: Addendum Lesson for Modeling—Applying Surface Area and Volume to Aquariums
	AR.Math.Content.6.G.A.3 Apply the following techniques in the context of solving real-world and mathematical problems: ▪ Draw polygons in the *coordinate plane* given coordinates for the vertices ▪ Use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate	G6 M5 Topic B: Polygons on the Coordinate Plane

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	AR.Math.Content.6.G.A.4 Apply the following techniques in the context of solving real-world and mathematical problems: ▪ Represent three-dimensional figures using nets made up of rectangles and triangles ▪ Use the nets to find the surface area of these figures	G6 M5 Topic D: Nets and Surface Area
Statistics and Probability	**Cluster: Develop understanding of statistical variability**	
	AR.Math.Content.6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers	G6 M6 Lesson 1: Posing Statistical Questions
	AR.Math.Content.6.SP.A.2 Determine center, spread, and overall shape from a set of data	G6 M6: Statistics
	AR.Math.Content.6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number (*mean, median, mode*), while a measure of variation (*interquartile range, mean absolute deviation*) describes how its values vary with a single number	G6 M6: Statistics

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Cluster: Summarize and describe distributions	
	AR.Math.Content.6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots	G6 M6: Statistics
	AR.Math.Content.6.SP.B.5 Summarize numerical data sets in relation to their context, such as by: ▪ Reporting the number of observations ▪ Describing the nature of the attribute under investigation, including how it was measured and its units of measurement ▪ Calculate quantitative measures of center (including but not limited to *median* and *mean*) and variability (including but not limited to *interquartile range* and *mean absolute deviation*) ▪ Use the calculations to describe any overall pattern and any striking deviations (outliers) from the overall pattern with reference to the context in which the data were gathered ▪ Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered	G6 M6: Statistics