7–8 | Arkansas Mathematics Standards Correlation to *Eureka Math²®*

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 Math²®*, 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 Math²* 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 Math² 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 Math² 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 Math²* 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 Math²* 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 Math²*
MP.1 Make sense of problems and persevere in solving them.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.2 Reason abstractly and quantitatively.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.3 Construct viable arguments and critique the reasoning of others.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.4 Model with mathematics.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.5 Use appropriate tools strategically.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.6 Attend to precision.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.7 Look for and make use of structure.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.8 Look for and express regularity in repeated reasoning.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.

Number Concepts & Computations

Rational Numbers

Students model and compute with rational numbers.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.NCC.1 Represent addition and subtraction of rational numbers in real-world contexts using a variety of forms.	7–8 M1 Lesson 1: Adding Integers and Rational Numbers 7–8 M1 Lesson 2: KAKOOMA® with Rational Numbers 7–8 M1 Lesson 3: Finding Distances to Find Differences 7–8 M1 Lesson 4: Subtracting Integers 7–8 M1 Lesson 5: Subtracting Rational Numbers
7.NCC.2 Model and describe additive inverse in real-world situations to show opposite quantities combine to make 0.	7–8 M1 Lesson 1: Adding Integers and Rational Numbers
7.NCC.3 Demonstrate in real-world contexts the distance between two rational numbers on the number line as the absolute value of their differences.	7–8 M1 Lesson 3: Finding Distances to Find Differences 7–8 M1 Lesson 4: Subtracting Integers 7–8 M1 Lesson 5: Subtracting Rational Numbers
7.NCC.4 Convert a rational number in fraction form to decimal form and recognize that the decimal form of a rational number terminates in 0s or eventually repeats.	7–8 M1 Lesson 9: Decimal Expansions of Rational Numbers

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.NCC.5 Interpret the products and quotients of rational numbers by describing real-world contexts.	7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers 7–8 M1 Lesson 7: Exponential Expressions and Relating Multiplication to Division

Number Concepts & Computations

Rational Number Operations
Students apply all properties and operations to all rational numbers.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.NCC.6 Apply properties of operations as strategies to fluently add, subtract, multiply, and divide rational numbers.	7–8 M1 Lesson 1: Adding Integers and Rational Numbers 7–8 M1 Lesson 2: KAKOOMA® with Rational Numbers 7–8 M1 Lesson 3: Finding Distances to Find Differences 7–8 M1 Lesson 4: Subtracting Integers 7–8 M1 Lesson 5: Subtracting Rational Numbers
7.NCC.7 Use addition and subtraction with rational numbers in any form to solve multi-step problems in real-world and mathematical contexts.	7–8 M2 Lesson 11: Using Linear Equations to Solve Real-World Problems 7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems 7–8 M2 Lesson 18: Handstand Sprint 7–8 M2 Lesson 23: What Is the Best Deal?
7.NCC.8 Use multiplication and division with rational numbers in any form to solve multi-step problems in real-world and mathematical contexts.	7–8 M2 Lesson 11: Using Linear Equations to Solve Real-World Problems 7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems 7–8 M2 Lesson 18: Handstand Sprint 7–8 M2 Lesson 23: What Is the Best Deal?

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.NCC.9 Apply operations with rational numbers involving the order of operations, involving nested grouping symbols.	6 M4 Lesson 12: Applying Properties to Multiplication and Division Expressions 6 M4 Lesson 13: The Distributive Property 6 M4 Lesson 14: Using the Distributive Property to Factor Expressions 6 M4 Lesson 15: Combining Like Terms by Using the Distributive Property 6 M4 Lesson 16: Equivalent Algebraic Expressions 6 M5 Lesson 4: Areas of Triangles in Real-World Situations 6 M5 Lesson 6: Problem Solving with Area in the Coordinate Plane 6 M5 Lesson 7: Area of Trapezoids and Other Polygons

Proportional Relationships
Ratio & Rates
Students analyze and use unit rates to solve problems.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.PR.1 Determine the unit rate (constant of proportionality) from tables, graphs, equations, diagrams, or verbal descriptions of proportional relationships.	7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 15: Relating Representations of Proportional Relationships 7–8 M2 Lesson 16: Applying Proportional Reasoning
7.PR.2 Calculate unit rates in real-world contexts that include complex fractions.	7–8 M2 Lesson 12: An Experiment with Ratios and Rates 7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.PR.3 Solve multi-step ratio and percent problems in a real-world context, including percent error and percent increase and decrease.	7–8 M2 Lesson 16: Applying Proportional Reasoning 7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems 7–8 M2 Lesson 18: Handstand Sprint 7–8 M2 Lesson 19: Proportional Reasoning and Percents 7–8 M2 Lesson 20: Commissions, Fees, and Taxes 7–8 M2 Lesson 21: Discount, Markup, Sales Tax, and Tip 7–8 M2 Lesson 22: Percent Increase and Percent Decrease 7–8 M2 Lesson 23: What Is the Best Deal? 7–8 M2 Lesson 24: Simple Interest 7–8 M2 Lesson 25: Applying Percent Error

Proportional Relationships

Constant of Proportionality
Students analyze proportional relationships and solve multi-step ratio and percent problems.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.PR.4 Determine whether two quantities represent proportional relationships by using equivalent ratios in a table and by graphing on a coordinate plane.	7–8 M2 Lesson 12: An Experiment with Ratios and Rates 7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships 7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 19: Proportional Reasoning and Percents
7.PR.5 Compare two different proportional relationships represented in different forms.	7–8 M2 Lesson 12: An Experiment with Ratios and Rates 7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships 7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 19: Proportional Reasoning and Percents

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.PR.6 Create equations in the form of $y = mx$ from tables, verbal descriptions, or graphs.	7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships 7–8 M2 Lesson 15: Relating Representations of Proportional Relationships 7–8 M2 Lesson 16: Applying Proportional Reasoning 7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems 7–8 M2 Lesson 18: Handstand Sprint 7–8 M2 Lesson 19: Proportional Reasoning and Percents
7.PR.7 Given a graph with a proportional relationship, explain the meaning of a point (x, y) on the graph, including the origin $(0, 0)$ and the unit rate $(1, r)$.	7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 15: Relating Representations of Proportional Relationships

Algebra

Expressions
Students apply properties of operations to create equivalent expressions.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.ALG.1 Generate and justify equivalent expressions, using properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients within mathematical and real-world problems.	7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations

Algebra
Equations & Inequalities
Students apply previous knowledge of equations and inequalities to two-step problems.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.ALG.2 Model and solve fluently two-step equations in real-world or mathematical problems.	7–8 M2 Lesson 1: Finding Unknown Angle Measures 7–8 M2 Lesson 3: Solving Equations 7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities
7.ALG.3 Create, solve, and graph two-step inequalities in real-world and mathematical problems in the forms $px \pm q > r$, $px \pm q < r$, $px \pm q \geq r$, and $px \pm q \leq r$.	7–8 M2 Lesson 4: Using Equations to Solve Inequalities 7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities

Algebra
Relationships between Quantities
Students use understanding of algebraic expressions and equations to represent relationships between two quantities.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.ALG.4 Write an equation to express two quantities in terms of the dependent and independent variables.	6 M4 Lesson 22: Relationship Between Two Variables 6 M4 Lesson 23: Graphs of Ratio Relationships 6 M4 Lesson 24: Graphs of Non–Ratio Relationships 6 M4 Lesson 25: The Statue of Liberty
7.ALG.5 Describe the relationship between the dependent and independent variables in an equation using tables and graphs, relating these to the equation.	6 M4 Lesson 22: Relationship Between Two Variables 6 M4 Lesson 23: Graphs of Ratio Relationships 6 M4 Lesson 24: Graphs of Non–Ratio Relationships 6 M4 Lesson 25: The Statue of Liberty

Geometry & Measurement

Area, Volume, & Surface Area

Students solve problems involving area, volume, and surface area.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.GM.1 Describe the proportional relationship between the circumference and diameter of a circle.	7–8 M3 Lesson 3: Exploring and Constructing Circles 7–8 M3 Lesson 4: Area and Circumference of a Circle 7–8 M3 Lesson 5: Area and Circumference of Circular Regions 7–8 M3 Lesson 6: Watering a Lawn
7.GM.2 Use area and circumference formulas of a circle to solve real-world and mathematical problems.	7–8 M3 Lesson 3: Exploring and Constructing Circles 7–8 M3 Lesson 4: Area and Circumference of a Circle 7–8 M3 Lesson 5: Area and Circumference of Circular Regions 7–8 M3 Lesson 6: Watering a Lawn
7.GM.3 Apply the formulas for the volume and surface area of right rectangular prisms, rectangular pyramids, triangular prisms, and triangular pyramids to solve real-world and mathematical problems.	7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids 7–8 M5 Lesson 16: Volume of Prisms 7–8 M5 Lesson 18: Designing a Fish Tank 7–8 M5 Lesson 21: Volume of Composite Solids

Geometry & Measurement
Cross Sections
Students describe cross sections of three-dimensional figures.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.GM.4 Describe the two-dimensional figure that results from slicing a three-dimensional figure parallel and perpendicular to the base.	7–8 M5 Lesson 13: Understanding Planes and Cross Sections 7–8 M5 Lesson 14: Cross Section Scavenger Hunt 7–8 M5 Lesson 15: Proportionality and Scale Factor of Cross Sections

Geometry & Measurement
Triangles & Angles
Students solve problems using various angle properties of lines.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.GM.5 Solve multi-step problems involving supplementary, complementary, vertical, and adjacent angles to include solving for an unknown angle in a figure.	7–8 M2 Lesson 1: Finding Unknown Angle Measures 7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations 7–8 M2 Lesson 7: Solving Multi-Step Equations

Geometry & Measurement

Scale

Students understand and use scale factor.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.GM.6 Calculate the scale factor, compute the actual lengths from the scale in a drawing, and reproduce a scale drawing using another scale.	7–8 M3 Lesson 18: Scale Drawings 7–8 M3 Lesson 19: Finding Actual Distances from a Scale Drawing 7–8 M3 Lesson 20: Scale and Scale Factor 7–8 M3 Lesson 21: Modeling with Scale Drawings 7–8 M3 Lesson 22: Dilations

Statistics & Probability

Numerical Data

Students interpret and organize data.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.SP.1 Interpret data displayed in a histogram and box plot to answer questions about the data.	6 M6 Lesson 3: Creating a Dot Plot 6 M6 Lesson 4: Creating a Histogram 6 M6 Lesson 5: Comparing Data Displays 6 M6 Lesson 6: Selecting a Data Display 6 M6 Lesson 14: Using a Box Plot to Summarize a Distribution 6 M6 Lesson 15: More Practice with Box Plots 6 M6 Lesson 16: Interpreting Box Plots 6 M6 Lesson 19: Comparing Data Distributions 6 M6 Lesson 22: Presenting Statistical Projects

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.SP.2 Recognize, create, and interpret categorical data in a circle graph.	*Supplemental material is necessary to address this standard.*
7.SP.3 Graph two numerical data sets and compare their variability.	7–8 M6 Lesson 15: Comparing Sample Means 7–8 M6 Lesson 16: Comparing Population Means 7–8 M6 Lesson 17: Memory Games
7.SP.4 Select an appropriate measure(s) of center or variability and draw valid comparative inferences for two data sets.	7–8 M6 Lesson 15: Comparing Sample Means 7–8 M6 Lesson 16: Comparing Population Means 7–8 M6 Lesson 17: Memory Games

Statistics & Probability

Sampling & Population
Students understand sampling and use samples to make inferences.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.SP.5 Distinguish between a random and non-random sample.	7–8 M6 Lesson 10: Populations and Samples 7–8 M6 Lesson 11: Selecting a Sample 7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean
7.SP.6 Use a random sampling of a population to draw valid inferences and generalizations of populations.	7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean 7–8 M6 Lesson 13: Sampling Variability and the Effect of Sample Size 7–8 M6 Lesson 14: Sampling Variability When Estimating a Population Proportion

Statistics & Probability

Probability

Students understand theoretical and experimental probability for simple experiments.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
7.SP.7 Determine the sample space of a simple experiment and use the sample space to determine the theoretical probability of a given set of outcomes.	7–8 M6 Lesson 1: What Is Probability? 7–8 M6 Lesson 2: Outcomes of Chance Experiments 7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely 7–8 M6 Lesson 7: Picking Blue
7.SP.8 Recognize that probabilities in a simple experiment can be qualitative descriptors of likelihood: impossible (0), unlikely, neither likely nor unlikely, likely, or certain (1).	7–8 M6 Lesson 1: What Is Probability?
7.SP.9 Determine experimental probabilities in simple experiments and represent as fractions, decimals, and percents.	7–8 M6 Lesson 1: What Is Probability? 7–8 M6 Lesson 2: Outcomes of Chance Experiments 7–8 M6 Lesson 3: Theoretical Probability 7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely 7–8 M6 Lesson 6: The Law of Large Numbers 7–8 M6 Lesson 7: Picking Blue
7.SP.10 Use theoretical probability of an event in a simple experiment to predict the number of times that an event will occur for a large number of experiments.	7–8 M6 Lesson 1: What Is Probability? 7–8 M6 Lesson 2: Outcomes of Chance Experiments 7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely 7–8 M6 Lesson 7: Picking Blue

Number Concepts & Computations
Rational & Irrational Numbers
Students understand relationships among numbers and the real number system.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.NCC.1 Describe relationships in the real number system (rational and irrational).	7–8 M1 Lesson 20: Using the Pythagorean Theorem 7–8 M1 Lesson 22: Rational and Irrational Numbers 7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes 7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions
8.NCC.2 Compare the size of irrational numbers and locate them on a number line by finding the rational approximations.	7–8 M1 Lesson 21: Approximating Values of Roots 7–8 M1 Lesson 22: Rational and Irrational Numbers
8.NCC.3 Know and apply the properties of integer exponents to generate equivalent numerical expressions.	7–8 M1 Lesson 11: Products of Exponential Expressions with Positive Whole-Number Exponents 7–8 M1 Lesson 12: More Properties of Exponents 7–8 M1 Lesson 13: Making Sense of Integer Exponents
8.NCC.4 Write very large and very small numbers in scientific notation using positive and negative exponents.	7–8 M1 Lesson 10: Large and Small Positive Numbers 7–8 M1 Lesson 14: Writing Very Large and Very Small Numbers in Scientific Notation 7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation 7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation 7–8 M1 Lesson 17: Get to the Point

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.NCC.5 Compare numbers written in scientific notation to determine how many times larger or smaller one number is than the other, using real-world and mathematical problems.	7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation 7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation 7–8 M1 Lesson 17: Get to the Point
8.NCC.6 Solve real-world and mathematical problems by performing operations with numbers written in standard and scientific notation.	7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation 7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation 7–8 M1 Lesson 17: Get to the Point

Number Concepts & Computations

Rational Number Operations
Students work with square and cube roots.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.NCC.7 Solve equations in the form of $x^2 = p$ or $x^3 = p$ where p is a positive rational number.	7–8 M1 Lesson 18: Solving Equations with Squares and Cubes 7–8 M1 Lesson 19: The Pythagorean Theorem 7–8 M1 Lesson 20: Using the Pythagorean Theorem 7–8 M1 Lesson 21: Approximating Values of Roots 7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes
8.NCC.8 Evaluate square roots of perfect squares and cube roots of perfect cubes.	7–8 M1 Lesson 18: Solving Equations with Squares and Cubes 7–8 M1 Lesson 19: The Pythagorean Theorem 7–8 M1 Lesson 20: Using the Pythagorean Theorem 7–8 M1 Lesson 21: Approximating Values of Roots 7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes

Functions

Proportional & Linear Relationships

Students understand slope using previous learning of proportional relationships.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.FN.1 Graph proportional relationships, interpreting the unit rate as the slope of the graph.	7–8 M4 Lesson 4: Comparing Proportional Relationships 7–8 M4 Lesson 5: Proportional Relationships and Slope
8.FN.2 Explain, using similar right triangles, how the slope of a line is the same between two points on a non-vertical line or non-horizontal line.	7–8 M4 Lesson 5: Proportional Relationships and Slope 7–8 M4 Lesson 6: Slopes of Rising Lines and Falling Lines 7–8 M4 Lesson 7: Using Coordinates to Find Slope 7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line

Functions

Functions

Students understand that a function is a rule that assigns each input exactly one output.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.FN.3 Determine whether a relation is a function or not when given a function map, table, graph, equation, or set of ordered pairs.	7–8 M5 Lesson 1: Motion and Speed 7–8 M5 Lesson 2: Definition of a Function 7–8 M5 Lesson 4: More Examples of Functions 7–8 M5 Lesson 5: Graphs of Functions and Equations
8.FN.4 Compare the rate of change (slope) and y-intercept (initial value) of two linear functions each represented in different forms.	7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 8: Comparing Functions

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.FN.5 Distinguish between linear and nonlinear functions by comparing graphs and equations.	7–8 M5 Lesson 3: Linear Functions and Proportionality 7–8 M5 Lesson 6: Linear Functions and Rate of Change 7–8 M5 Lesson 10: Graphs of Nonlinear Functions
8.FN.6 Determine the rate of change (slope) and y-intercept (initial value) from tables, graphs, equations, and verbal descriptions of linear relationships.	7–8 M5 Lesson 6: Linear Functions and Rate of Change 7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 23: Applications of Volume
8.FN.7 Interpret and explain the meaning of the rate of change (slope) and y-intercept (initial value) of a linear relationship in a real-world context.	7–8 M5 Lesson 6: Linear Functions and Rate of Change 7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 23: Applications of Volume
8.FN.8 Analyze a graph by describing the functional relationships between two quantities.	7–8 M5 Lesson 9: Increasing and Decreasing Functions 7–8 M5 Lesson 10: Graphs of Nonlinear Functions
8.FN.9 Sketch a graph that exhibits qualitative features of a function described verbally.	7–8 M5 Lesson 9: Increasing and Decreasing Functions 7–8 M5 Lesson 10: Graphs of Nonlinear Functions

Algebra
Equations & Inequalities
Students solve linear equations and inequalities.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.ALG.1 Analyze and solve one-variable linear equations with rational coefficients containing solutions with one, zero, or infinitely many solutions.	7–8 M2 Lesson 8: Solving Equations with Rational Coefficients 7–8 M2 Lesson 9: Linear Equations with More Than One Solution 7–8 M2 Lesson 10: Another Possible Number of Solutions
8.ALG.2 Analyze and solve one-variable linear inequalities with rational coefficients.	7–8 M2 Lesson 4: Using Equations to Solve Inequalities 7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities

Algebra
Systems of Equations
Students will solve systems of equations.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.ALG.3 Analyze and solve systems of linear equations in the form $y = mx + b$ in real-world or mathematical contexts, graphically and algebraically.	7–8 M4 Lesson 11: Introduction to Systems of Linear Equations 7–8 M4 Lesson 12: Identifying Solutions 7–8 M4 Lesson 13: More Than One Solution 7–8 M4 Lesson 14: Solving Systems of Linear Equations Without Graphing 7–8 M4 Lesson 15: The Substitution Method 7–8 M4 Lesson 16: Choosing a Solution Method 7–8 M4 Lesson 17: Writing and Solving Systems of Equations for Mathematical Problems 7–8 M4 Lesson 18: Writing and Solving Systems of Equations for Real-World Problems 7–8 M4 Lesson 19: Back to the Coordinate Plane 7–8 M4 Lesson 20: Modeling a Real-World Problem

Geometry & Measurement

Area, Volume, & Surface Area

Students solve problems involving area, volume, and surface area.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.GM.1 Apply the formulas for the volume and surface area of cylinders, cones, and spheres to solve real-world and mathematical problems.	7–8 M5 Lesson 16: Volume of Prisms 7–8 M5 Lesson 17: Volume of Cylinders 7–8 M5 Lesson 18: Designing a Fish Tank 7–8 M5 Lesson 19: Volumes of Pyramids and Cones 7–8 M5 Lesson 20: Volume of Spheres 7–8 M5 Lesson 21: Volume of Composite Solids 7–8 M5 Lesson 22: Volumes of Truncated Cones and Pyramids 7–8 M5 Lesson 23: Applications of Volume

Geometry & Measurement

Cross Sections

Students describe cross sections of three-dimensional figures.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.GM.2 Describe the two-dimensional figure that results from slicing a three-dimensional figure parallel and perpendicular to the base.	7–8 M5 Lesson 13: Understanding Planes and Cross Sections 7–8 M5 Lesson 14: Cross Section Scavenger Hunt 7–8 M5 Lesson 15: Proportionality and Scale Factor of Cross Sections

Geometry & Measurement

Pythagorean Theorem
Students explore right triangles and apply the Pythagorean Theorem.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.GM.3 Model or explain an informal proof of the Pythagorean Theorem and its converse.	7–8 M3 Lesson 15: Proving the Pythagorean Theorem 7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem
8.GM.4 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles.	7–8 M1 Lesson 19: The Pythagorean Theorem 7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem 7–8 M3 Lesson 17: Applications of the Pythagorean Theorem 7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths 7–8 M5 Lesson 19: Volumes of Pyramids and Cones
8.GM.5 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	7–8 M3 Lesson 17: Applications of the Pythagorean Theorem

Geometry & Measurement

Transformations & Congruence on a Coordinate Plane
Students use concrete models, diagrams, or geometry to understand congruence and similarity.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.GM.6 Given a figure, draw a congruent figure on a coordinate plane resulting from a rotation, reflection, or translation.	7–8 M3 Lesson 27: Similar Figures 7–8 M3 Lesson 28: Exploring Angles in Similar Triangles

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.GM.7 Identify a single transformation used to transform one figure onto another on a coordinate plane.	7–8 M3 Lesson 27: Similar Figures 7–8 M3 Lesson 28: Exploring Angles in Similar Triangles
8.GM.8 Given two congruent figures, describe a sequence of transformations that maps one figure to another.	7–8 M3 Lesson 27: Similar Figures 7–8 M3 Lesson 28: Exploring Angles in Similar Triangles
8.GM.9 Perform a given sequence of transformations of a figure on the coordinate plane, including rotations, reflections, translations, and dilations.	7–8 M3 Lesson 9: Rigid Motions on the Coordinate Plane 7–8 M3 Lesson 22: Dilations 7–8 M3 Lesson 23: Using Lined Paper to Explore Dilations 7–8 M3 Lesson 24: Figures and Dilations 7–8 M3 Lesson 25: The Shadowy Hand 7–8 M3 Lesson 26: Dilations on the Coordinate Plane
8.GM.10 Describe the effects of rotations, reflections, translations, and dilations on two-dimensional figures using coordinates.	7–8 M3 Lesson 9: Rigid Motions on the Coordinate Plane 7–8 M3 Lesson 22: Dilations 7–8 M3 Lesson 23: Using Lined Paper to Explore Dilations 7–8 M3 Lesson 24: Figures and Dilations 7–8 M3 Lesson 25: The Shadowy Hand 7–8 M3 Lesson 26: Dilations on the Coordinate Plane

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.GM.11 Given two similar two-dimensional figures, describe a sequence of transformations that exhibits similarity, including rotations, reflections, translations, and dilations.	7–8 M3 Lesson 27: Similar Figures 7–8 M3 Lesson 28: Exploring Angles in Similar Triangles

Statistics & Probability

Bivariate Data
Students investigate patterns of association to bivariate data.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.SP.1 Construct scatter plots using bivariate data; determine if the data displays a linear or nonlinear pattern and positive, negative, or no association.	7–8 M6 Lesson 18: Scatter Plots 7–8 M6 Lesson 19: Patterns in Scatter Plots
8.SP.2 Construct straight lines to approximately fit data displaying a linear association when presented in scatter plots.	7–8 M6 Lesson 20: Informally Fitting a Line to Data 7–8 M6 Lesson 21: Linear Models
8.SP.3 Construct and interpret a relative frequency table, using data from two categorical variables collected from the same subject.	7–8 M6 Lesson 22: Bivariate Categorical Data 7–8 M6 Lesson 23: Association in Bivariate Categorical Data 7–8 M6 Lesson 24: Analyzing Bivariate Categorical Data

Statistics & Probability

Probability

Students understand theoretical and experimental probability for compound experiments using organized lists, tables, or tree diagrams.

Arkansas Mathematics Standards	Aligned Components of *Eureka Math²*
8.SP.4 Determine the sample space and use the sample space to determine the theoretical probability of a given set of outcomes for compound experiments, using organized lists, tables, or tree diagrams.	7–8 M6 Lesson 4: Multistage Experiments
8.SP.5 Determine theoretical and experimental probabilities of compound experiments.	7–8 M6 Lesson 4: Multistage Experiments
8.SP.6 Use theoretical probability of an event in a compound experiment to predict the number of times that event will occur for a large number of experiments.	7–8 M6 Lesson 8: Probability Simulations 7–8 M6 Lesson 9: Simulations with Random Number Tables