Mathematics I | West Virginia College- and Career-Readiness Standards for Mathematics 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.

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

Expressions and Equations

Interpret the structure of expressions and equations in terms of the context they model.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.1 Interpret linear, exponential, and quadratic expressions that represent a quantity in terms of its context.	Math 1 M5 Lesson 7: Exponential Functions Math 1 M5 Lesson 14: Exponential Growth Math 1 M5 Lesson 15: Exponential Decay Math 1 M5 Lesson 16: Modeling Populations Math 1 M5 Lesson 22: Modeling the Temperature of Objects Cooling Over Time
M.A1HS.1.a Interpret parts of an expression, such as terms, factors, and coefficients.	Math 1 M1 Lesson 4: Interpreting Linear Expressions
M.A1HS.1.b Interpret complicated expressions by viewing one or more of their parts as a single entity.	Math 1 M5 Lesson 7: Exponential Functions Math 1 M5 Lesson 14: Exponential Growth Math 1 M5 Lesson 15: Exponential Decay Math 1 M5 Lesson 16: Modeling Populations Math 1 M5 Lesson 22: Modeling the Temperature of Objects Cooling Over Time
M.A1HS.1.c Interpret the parameters in a linear function or exponential function of the form $f(x) = a*b^x$ in terms of a context.	Math 1 M5 Lesson 16: Modeling Populations Math 1 M5 Lesson 18: Analyzing Exponential Growth Math 1 M5 Lesson 22: Modeling the Temperature of Objects Cooling Over Time Math 1 M5 Lesson 23: Modeling an Invasive Species Population

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.2 Use the structure of exponential expressions to identify ways to rewrite them.	Math1 M5 Lesson 8: Graphing Exponential Functions Math1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) Math1 M5 Lesson 12: Writing Equations for Exponential Functions from Tables or Graphs Math1 M5 Lesson 16: Modeling Populations

Expressions and Equations

Extend the properties of exponents to rational exponents.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.3 Explain the connections between expressions with rational exponents and expressions with radicals using properties of exponents. Extend from application of properties of exponents for expressions with integer exponents.	A1 M5 Lesson 9: Unit Fraction Exponents A1 M5 Lesson 10: Rational Exponents
M.A1HS.4 Rewrite expressions involving radicals, including simplifying, and rational exponents using the properties of exponents.	A1 M5 Lesson 9: Unit Fraction Exponents A1 M5 Lesson 10: Rational Exponents

Expressions and Equations

Write expressions in equivalent forms to solve problems.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.5 Choose and produce an equivalent form of linear and exponential expressions to reveal and explain properties of the quantity represented by the expression through connections to a graphical representation of the function.	*This standard is addressed by the lessons aligned to its subsection.*
M.A1HS.5.a Use the properties of exponents to transform expressions in exponential functions. For example, the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%. Instructional Note: It is important to balance conceptual understanding and procedural fluency in work with equivalent expressions. For example, development of skill in factoring and completing the square goes hand-in-hand with understanding what different forms of a quadratic expression reveal.	Math1 M5 Lesson 8: Graphing Exponential Functions Math1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math1 M5 Lesson 16: Modeling Populations

Expressions and Equations

Create equations that describe numbers or relationships.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.7 Create equations and inequalities in one variable, representing linear and exponential relationships, and use them to solve problems. In the case of exponential equations, limit to situations with integer inputs.	Math1 M1 Lesson 5: Printing Presses Math1 M1 Lesson 9: Writing and Solving Equations in One Variable Math1 M1 Lesson 11: Solving Linear Inequalities in One Variable Math1 M1 Lesson 16: Applying Absolute Value
M.A1HS.8 Create equations in two or more variables, representing linear and exponential relationships between quantities. In the case of exponential equations, limit to situations with integer inputs.	Math1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables Math1 M2 Lesson 2: Graphing Linear Equations in Two Variables Math1 M2 Lesson 3: Creating Linear Equations in Two Variables Math1 M2 Lesson 4: Proving Conditional Statements Math1 M2 Lesson 5: Proving Biconditional Statements Math1 M2 Lesson 8: Low-Flow Showerhead Math1 M2 Lesson 12: Applications of Systems of Equations Math1 M2 Lesson 15: Applications of Linear Inequalities
M.A1HS.9 Represent constraints by linear equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context.	Math1 M1 Lesson 9: Writing and Solving Equations in One Variable Math1 M1 Lesson 12: Solution Sets of Compound Statements Math1 M1 Lesson 13: Solving and Graphing Compound Inequalities Math1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables Math1 M2 Lesson 15: Applications of Linear Inequalities Math1 M2 Lesson 18: Applications of Systems of Linear Inequalities Math1 M6 Lesson 9: Solar System Models Math1 M6 Lesson 10: Designing a Fundraiser

Expressions and Equations

Solve equations and inequalities in one variable.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.10 Solve linear equations including equations with coefficients represented by letters, simple exponential equations that rely on application of the laws of exponents, and compound linear inequalities in one variable.	Math1 M1 Lesson 5: Printing Presses Math1 M1 Lesson 6: Solution Sets of Equations and Inequalities in One Variable Math1 M1 Lesson 7: Solving Linear Equations in One Variable Math1 M1 Lesson 8: Some Potential Dangers When Solving Equations Math1 M1 Lesson 9: Writing and Solving Equations in One Variable Math1 M1 Lesson 11: Solving Linear Inequalities in One Variable Math1 M1 Lesson 13: Solving and Graphing Compound Inequalities Math1 M1 Lesson 14: Solving Absolute Value Equations Math1 M1 Lesson 15: Solving Absolute Value Inequalities Math1 M5 Lesson 8: Graphing Exponential Functions Math1 M5 Lesson 16: Modeling Populations

Expressions and Equations

Solve systems of equations.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.12 Analyze and solve pairs of simultaneous linear equations.	*This standard is fully addressed by the lessons aligned to its subsections.*

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.12.a Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	8 M5 Lesson 1: Solving Problems with Equations and Their Graphs 8 M5 Lesson 2: Introduction to Systems of Linear Equations 8 M5 Lesson 3: Identifying Solutions 8 M5 Lesson 4: More Than One Solution 8 M5 Lesson 5: Estimating Solutions 8 M5 Lesson 7: The Substitution Method 8 M5 Lesson 10: Choosing a Solution Method 8 M5 Lesson 14: Back to the Coordinate Plane Math1 M2 Lesson 9: Systems of Linear Equations in Two Variables
M.A1HS.12.b Solve simple cases by inspection (e.g., $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6).	8 M5 Lesson 1: Solving Problems with Equations and Their Graphs 8 M5 Lesson 3: Identifying Solutions 8 M5 Lesson 4: More Than One Solution 8 M5 Lesson 5: Estimating Solutions 8 M5 Lesson 6: Solving Systems of Linear Equations Without Graphing 8 M5 Lesson 7: The Substitution Method 8 M5 Lesson 8: Using Tape Diagrams to Solve Systems of Equations 8 M5 Lesson 9: Rewriting Equations to Solve a System of Equations 8 M5 Lesson 10: Choosing a Solution Method 8 M5 Lesson 11: Writing and Solving Systems of Equations for Mathematical Problems 8 M5 Lesson 12: Solving Historical Problems with Systems of Equations 8 M5 Lesson 13: Writing and Solving Systems of Equations for Real-World Problems 8 M5 Lesson 14: Back to the Coordinate Plane Math1 M2 Lesson 9: Systems of Linear Equations in Two Variables Math1 M2 Lesson 10: A New Way to Solve Systems

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.12.c Solve real-word and mathematical problems leading to two linear equations in two variables (e.g., given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair).	8 M5 Lesson 1: Solving Problems with Equations and Their Graphs 8 M5 Lesson 11: Writing and Solving Systems of Equations for Mathematical Problems 8 M5 Lesson 12: Solving Historical Problems with Systems of Equations 8 M5 Lesson 13: Writing and Solving Systems of Equations for Real-World Problems 8 M5 Lesson 14: Back to the Coordinate Plane Math1 M2 Lesson 8: Low-Flow Showerhead Math1 M2 Lesson 12: Applications of Systems of Equations
M.A1HS.13 Understand and demonstrate ways to manipulate a system of two equations in two variables while preserving its solution set.	Math1 M2 Lesson 10: A New Way to Solve Systems Math1 M2 Lesson 11: The Elimination Method Math1 M2 Lesson 12: Applications of Systems of Equations
M.A1HS.14 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. Include examples of solution sets with no solutions, an infinite number of solutions, and one solution.	Math1 M2 Lesson 8: Low-Flow Showerhead Math1 M2 Lesson 9: Systems of Linear Equations in Two Variables Math1 M2 Lesson 10: A New Way to Solve Systems Math1 M2 Lesson 11: The Elimination Method Math1 M2 Lesson 12: Applications of Systems of Equations

Expressions and Equations

Represent and solve equations and inequalities graphically.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.16 Recognize that the graph of a linear or exponential equation in two variables is the set of all its solutions plotted in the coordinate plane.	Math1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables Math1 M2 Lesson 2: Graphing Linear Equations in Two Variables
M.A1HS.17 Explain why the x-coordinates of the points where the graphs of the linear and/or exponential equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately (e.g., using technology to graph the functions, make tables of values or find successive approximations).	Math1 M3 Lesson 10: Using Graphs to Solve Equations Math1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math1 M5 Lesson 11: Solving Equations Containing Exponential Expressions Math1 M5 Lesson 19: Comparing Growth of Functions
M.A1HS.18 Graph the solutions of a linear inequality in two variables as a half-plane and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	Math1 M2 Lesson 13: Solution Sets of Linear Inequalities in Two Variables Math1 M2 Lesson 14: Graphing Linear Inequalities in Two Variables Math1 M2 Lesson 16: Solution Sets of Systems of Linear Inequalities Math1 M2 Lesson 17: Graphing Solution Sets of Systems of Linear Inequalities Math1 M2 Lesson 18: Applications of Systems of Linear Inequalities Math1 M6 Lesson 10: Designing a Fundraiser

Functions

Understand the concept of a function and use function notation.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.19 Use multiple representations of linear and exponential functions to recognize that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. Develop function notation utilizing the definition of a function to represent situations both algebraically and graphically.	Math1 M3 Lesson 1: The Definition of a Function Math1 M3 Lesson 2: Interpreting and Using Function Notation Math1 M3 Lesson 3: Representing, Naming, and Evaluating Functions Math1 M3 Lesson 4: The Graph of a Function Math1 M3 Lesson 5: The Graph of the Equation $y = f(x)$ Math1 M3 Lesson 6: Using Pseudocode to Compare Graphs of Functions and Graphs of Equations Math1 M3 Lesson 7: Representations of Functions
M.A1HS.20 Use function notation, evaluate functions for inputs in their domains and interpret statements that use function notation in terms of a context.	Math1 M3 Lesson 1: The Definition of a Function Math1 M3 Lesson 2: Interpreting and Using Function Notation Math1 M3 Lesson 3: Representing, Naming, and Evaluating Functions Math1 M3 Lesson 7: Representations of Functions Math1 M4 Lesson 26: Sierpinski Triangle Math1 M5 Lesson 1: Exploring Patterns Math1 M5 Lesson 2: The Recursive Challenge Math1 M5 Lesson 3: Recursive Formulas for Sequences Math1 M5 Lesson 4: Explicit Formulas for Sequences

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.21 Recognize arithmetic and geometric sequences are functions, sometimes defined recursively, whose domain is a subset of the integers (e.g., the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1)$ for $n \geq 1$).	Math1 M5 Lesson 1: Exploring Patterns Math1 M5 Lesson 2: The Recursive Challenge Math1 M5 Lesson 3: Recursive Formulas for Sequences Math1 M5 Lesson 4: Explicit Formulas for Sequences Math1 M5 Lesson 5: Arithmetic and Geometric Sequences Math1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences

Functions

Interpret functions that arise in applications in terms of a context.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.22 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of quantities, and sketch graphs showing key features given a verbal description of the relationship. Relate the domain of a function to its linear, exponential, and quadratic graphs and, where applicable, to the quantitative relationship it describes.	*This standard is addressed by the lessons aligned to its subsection.*

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.22.a Key features of linear and exponential graphs include: intercepts; and intervals where the function is increasing, decreasing, positive, or negative.	Math1 M3 Lesson 8: Exploring Key Features of a Function and Its Graph Math1 M3 Lesson 9: Identifying Key Features of a Function and Its Graph Math1 M3 Lesson 11: Comparing Functions Math1 M3 Lesson 12: Sketching Graphs of Functions from Verbal Descriptions Math1 M3 Lesson 13: Modeling Elevation as a Function of Time Math1 M3 Lesson 15: Mars Curiosity Rover

Functions

Analyze functions using different representations.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.23 Graph linear, exponential, and quadratic functions expressed symbolically and show key features of the graph.	*This standard is fully addressed by the lessons aligned to its subsections.*
M.A1HS.23.a For linear functions, focus on intercepts.	Math1 M3 Lesson 5: The Graph of the Equation $y = f(x)$ Math1 M3 Lesson 6: Using Pseudocode to Compare Graphs of Functions and Graphs of Equations Math1 M3 Lesson 7: Representations of Functions

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.23.b For exponential functions, focus on intercepts and end behavior. Instructional Note: Provide opportunities for students to graph and show key features by hand and using technology.	Math1 M5 Lesson 8: Graphing Exponential Functions Math1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)
M.A1HS.24 Compare properties of two linear, exponential, or quadratic functions each represented in a different way, such as algebraically, graphically, numerically in tables, or from verbal descriptions.	Math1 M3 Lesson 11: Comparing Functions
M.A1HS.25 Write a function defined by a linear, exponential, or quadratic expression in different but equivalent forms to reveal and explain different properties of the function.	*Supplemental material is necessary to fully address this standard.*
M.A1HS.25.b Use the properties of exponents to interpret expressions in exponential functions.	Math1 M5 Lesson 8: Graphing Exponential Functions Math1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math1 M5 Lesson 16: Modeling Populations

Functions

Build a function that models a relationship between two quantities.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.26 Write linear and exponential functions that describe a relationship between two quantities.	*This standard is fully addressed by the lessons aligned to its subsections.*
M.A1HS.26.a Determine an explicit expression, a recursive process, or steps for calculation from a context.	Math1 M1 Lesson 2: Looking for Patterns Math1 M4 Lesson 26: Sierpinski Triangle Math1 M5 Lesson 1: Exploring Patterns Math1 M5 Lesson 2: The Recursive Challenge Math1 M5 Lesson 3: Recursive Formulas for Sequences Math1 M5 Lesson 4: Explicit Formulas for Sequences Math1 M5 Lesson 5: Arithmetic and Geometric Sequences Math1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences Math1 M5 Lesson 7: Exponential Functions Math1 M5 Lesson 13: Calculating Interest Math1 M6 Lesson 3: Analyzing Paint Splatters Math1 M6 Lesson 8: The Deal
M.A1HS.26.b Combine standard function types using arithmetic operations.	Math1 M5 Lesson 22: Modeling the Temperature of Objects Cooling Over Time Math1 M6 Lesson 8: The Deal

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.27 Construct linear and exponential functions, including arithmetic and geometric sequences to model situations, given a graph, a description of a relationship or given input-output pairs (include reading these from a table).	Math1 M5 Lesson 5: Arithmetic and Geometric Sequences Math1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences Math1 M6 Lesson 8: The Deal

Functions

Build new functions from existing functions.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.28 Identify the effect on the graphs of linear and exponential functions, $f(x)$, with $f(x) + k$, and the graphs of quadratic functions, $g(x)$, with $g(x) + k$, $kg(x)$, $g(kx)$, and $g(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.	Math1 M3 Lesson 16: Exploring Transformations of the Graphs of Functions Math1 M3 Lesson 17: Building New Functions—Translations Math1 M3 Lesson 18: Building New Functions—Reflections Math1 M3 Lesson 19: Building New Functions—Vertical Scaling Math1 M3 Lesson 20: Building New Functions—Horizontal Scaling Math1 M3 Lesson 21: A Summary of Transforming the Graph of a Function Math1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) Math1 M5 Lesson 12: Writing Equations for Exponential Functions from Tables or Graphs Math1 M5 Lesson 22: Modeling the Temperature of Objects Cooling Over Time

Functions

Construct and compare linear, quadratic, and exponential models and solve problems.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.29 Distinguish between situations that can be modeled with linear functions, with exponential functions, and with quadratic functions.	Math1 M5 Lesson 13: Calculating Interest Math1 M5 Lesson 16: Modeling Populations Math1 M5 Lesson 20: World Population Prediction Math1 M5 Lesson 21: A Closer Look at Populations Math1 M5 Lesson 23: Modeling an Invasive Species Population Math1 M6 Lesson 2: Using Residual Plots to Select Models for Data Math1 M6 Lesson 3: Analyzing Paint Splatters
M.A1HS.29.a Prove that linear functions grow by equal differences over equal intervals; exponential functions grow by equal factors over equal intervals.	Math1 M5 Lesson 18: Analyzing Exponential Growth
M.A1HS.29.b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	Math1 M5 Lesson 13: Calculating Interest Math1 M5 Lesson 16: Modeling Populations Math1 M5 Lesson 20: World Population Prediction Math1 M5 Lesson 21: A Closer Look at Populations Math1 M5 Lesson 23: Modeling an Invasive Species Population
M.A1HS.29.c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	Math1 M5 Lesson 13: Calculating Interest Math1 M5 Lesson 16: Modeling Populations Math1 M5 Lesson 20: World Population Prediction Math1 M5 Lesson 21: A Closer Look at Populations Math1 M5 Lesson 23: Modeling an Invasive Species Population

Basics of Geometry

Experiment with transformations in the plane.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	Math1 M4 Lesson 2: Translations of the Coordinate Plane Math1 M4 Lesson 3: Rotations of the Coordinate Plane Math1 M4 Lesson 5: Proving the Perpendicular Criterion

Basics of Geometry

Identify and utilize inductive and deductive reasoning.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.2 Construct and justify the validity of a logical argument.	*Supplemental material is necessary to fully address this standard.*
M.GHS.2.a Identify the converse, inverse, and contrapositive of a conditional statement.	Math1 M2 Lesson 4: Proving Conditional Statements Math1 M2 Lesson 5: Proving Biconditional Statements *Supplemental material is necessary to fully address this standard.*
M.GHS.2.b Translate a short, verbal argument into symbolic form.	*Supplemental material is necessary to address this standard.*

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.2.c Use Venn diagrams to represent set relationships.	*Supplemental material is necessary to address this standard.*
M.GHS.2.d Use inductive and deductive reasoning.	*Supplemental material is necessary to address this standard.*

Basics of Geometry

Prove geometric theorems.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.3 Use appropriate methods of proof to prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent.	8 M2 Lesson 12: Lines Cut by a Transversal 8 M2 Lesson 13: Angle Sum of a Triangle 8 M2 Lesson 14: Showing Lines Are Parallel 8 M2 Lesson 15: Exterior Angles of Triangles 8 M2 Lesson 16: Find Unknown Angle Measures *Supplemental material is necessary to fully address this standard.*

Basics of Geometry

Use coordinates to prove simple geometric theorems algebraically.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.4 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	*Supplemental material is necessary to address this standard.*

Basics of Geometry

Make geometric constructions.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.5 Make formal geometric constructions with a variety of tools and methods, such as a compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.:	*This standard is fully addressed by the lessons aligned to its subsections.*
M.GHS.5.a copying a segment;	Math1 M4 Lesson 6: Compass and Straightedge Constructions Math1 M4 Lesson 9: Rotations of the Plane
M.GHS.5.b copying an angle;	Math1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles Math1 M4 Lesson 11: Translations of the Plane
M.GHS.5.c bisecting a segment;	Math1 M4 Lesson 7: Constructing Perpendicular Lines

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.5.d bisecting an angle;	Math1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles
M.GHS.5.e constructing perpendicular lines, including the perpendicular bisector of a line segment; and	Math1 M4 Lesson 7: Constructing Perpendicular Lines Math1 M4 Lesson 8: Reflections of the Plane Math1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles Math1 M4 Lesson 11: Translations of the Plane Math1 M4 Lesson 23: Validating Perpendicular Line Constructions
M.GHS.5.f constructing a line parallel to a given line through a point not on the line.	Math1 M4 Lesson 11: Translations of the Plane

Transformations and Congruence

Experiment with transformations in the plane.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.6 Build on prior knowledge from rigid motions to:	*This standard is fully addressed by the lessons aligned to its subsections.*
M.GHS.6.a represent transformations using geometric concepts in the plane.	Math1 M4 Lesson 1: Geometric Transformations Math1 M4 Lesson 14: Transformations of the Coordinate Plane

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.6.b describe transformations as functions that take points in the plane as inputs and give other points as outputs.	Math1 M4 Lesson 1: Geometric Transformations Math1 M4 Lesson 14: Transformations of the Coordinate Plane
M.GHS.6.c compare transformations that preserve distance and angle to those that do not.	Math1 M4 Lesson 1: Geometric Transformations Math1 M4 Lesson 14: Transformations of the Coordinate Plane
M.GHS.7 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	8 M2 Lesson 7: Working Backward 8 M2 Lesson 8: Sequencing the Rigid Motions 8 M2 Lesson 9: Ordering Sequences of Rigid Motions 8 M2 Lesson 10: Congruent Figures 8 M2 Lesson 11: Showing Figures Are Congruent Math1 M4 Lesson 12: Reflective Symmetry and Rotational Symmetry
M.GHS.8 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	Math1 M4 Lesson 2: Translations of the Coordinate Plane Math1 M4 Lesson 3: Rotations of the Coordinate Plane Math1 M4 Lesson 4: Reflections of the Coordinate Plane Math1 M4 Lesson 5: Proving the Perpendicular Criterion Math1 M4 Lesson 8: Reflections of the Plane Math1 M4 Lesson 9: Rotations of the Plane Math1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles Math1 M4 Lesson 11: Translations of the Plane

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.9 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, for example, graph paper, tracing paper, or geometry software. Describe a sequence of transformations that will carry a given figure onto another.	Math1 M4 Lesson 2: Translations of the Coordinate Plane Math1 M4 Lesson 3: Rotations of the Coordinate Plane Math1 M4 Lesson 4: Reflections of the Coordinate Plane Math1 M4 Lesson 5: Proving the Perpendicular Criterion Math1 M4 Lesson 13: Sequences of Basic Rigid Motions Math1 M4 Lesson 14: Transformations of the Coordinate Plane Math1 M4 Lesson 15: Designs with Rigid Motions Math1 M4 Lesson 16: Congruent Figures

Transformations and Congruence

Understand congruence in terms of rigid motions.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.10 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	Math1 M4 Lesson 14: Transformations of the Coordinate Plane Math1 M4 Lesson 16: Congruent Figures

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.11 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	Math1 M4 Lesson 17: Congruent Triangles
M.GHS.12 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	Math1 M4 Lesson 18: Side–Angle–Side Math1 M4 Lesson 19: Angle–Angle–Angle and Side–Side–Side Math1 M4 Lesson 20: Angle–Side–Angle Math1 M4 Lesson 21: Side–Side–Angle and Hypotenuse–Leg
M.GHS.13 Use congruence criteria for triangles to solve problems and to prove relationships in geometric figures.	Math1 M4 Lesson 24: Squares Inscribed in Circles Math1 M4 Lesson 25: Regular Hexagons and Equilateral Triangles Inscribed in Circles

Geometry

Use coordinates to prove simple geometric theorems algebraically.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.30 Prove the slope criteria for parallel and perpendicular lines and use the slope criteria to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	Math1 M2 Lesson 6: Proving the Parallel Criterion Math1 M2 Lesson 7: Equations of Parallel and Perpendicular Lines Math1 M2 Lesson 20: Proving Geometric Theorems Algebraically Math1 M4 Lesson 5: Proving the Perpendicular Criterion
M.A1HS.31 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles.	Math1 M2 Lesson 21: Using Coordinates to Determine Perimeters and Areas of Figures

Statistics and Probability

Summarize, represent, and interpret data on a single count or measurement variable.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.32 Select applicable representations to display data on the real number line (e.g., dot plots, histograms, and box plots).	Math1 M1 Lesson 17: Distributions and Their Shapes Math1 M1 Lesson 18: Describing the Center of a Distribution Math1 M1 Lesson 19: Using Center to Compare Data Distributions Math1 M6 Lesson 1: Using Data to Edit Digital Photography

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.33 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation only as a tool to describe spread and not to explicitly find standard deviation) of two or more different data sets.	Math1 M1 Lesson 17: Distributions and Their Shapes Math1 M1 Lesson 18: Describing the Center of a Distribution Math1 M1 Lesson 19: Using Center to Compare Data Distributions Math1 M1 Lesson 20: Describing Variability in a Univariate Distribution with Standard Deviation Math1 M1 Lesson 21: Estimating Variability in Data Distributions Math1 M1 Lesson 22: Comparing Distributions of Univariate Data Math1 M6 Lesson 1: Using Data to Edit Digital Photography
M.A1HS.34 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Math1 M1 Lesson 17: Distributions and Their Shapes Math1 M1 Lesson 18: Describing the Center of a Distribution Math1 M1 Lesson 19: Using Center to Compare Data Distributions Math1 M1 Lesson 20: Describing Variability in a Univariate Distribution with Standard Deviation Math1 M1 Lesson 21: Estimating Variability in Data Distributions Math1 M1 Lesson 22: Comparing Distributions of Univariate Data

Statistics and Probability

Summarize, represent, and interpret data on two categorical and quantitative variables.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.35 Represent data on two quantitative variables on a scatter plot and describe how the variables are related.	Math1 M2 Lesson 22: Relationships Between Quantitative Variables Math1 M2 Lesson 28: Analyzing Bivariate Quantitative Data Math1 M6 Lesson 2: Using Residual Plots to Select Models for Data Math1 M6 Lesson 3: Analyzing Paint Splatters

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.35.a Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear and exponential models.	Math1 M2 Lesson 23: Using Lines to Model Bivariate Quantitative Data Math1 M6 Lesson 2: Using Residual Plots to Select Models for Data Math1 M6 Lesson 3: Analyzing Paint Splatters Math1 M6 Lesson 11: A Vanishing Sea
M.A1HS.35.b Informally assess the fit of a function by plotting and analyzing residuals. Focus should be on situations for which linear models are appropriate.	Math1 M2 Lesson 25: Calculating and Analyzing Residuals Math1 M2 Lesson 26: Analyzing Residuals Math1 M6 Lesson 2: Using Residual Plots to Select Models for Data Math1 M6 Lesson 3: Analyzing Paint Splatters
M.A1HS.35.c Fit a linear function for scatter plots that suggest a linear association.	Math1 M2 Lesson 23: Using Lines to Model Bivariate Quantitative Data Math1 M2 Lesson 24: Modeling Relationships with a Line Math1 M2 Lesson 25: Calculating and Analyzing Residuals Math1 M2 Lesson 27: Interpreting Correlation Math1 M6 Lesson 2: Using Residual Plots to Select Models for Data Math1 M6 Lesson 3: Analyzing Paint Splatters Math1 M6 Lesson 11: A Vanishing Sea

Statistics and Probability

Interpret linear models.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.A1HS.36 Interpret the rate of change and the constant term of a linear model in the context of the data. Use technology to compute and interpret the correlation coefficient of a linear fit.	Math1 M2 Lesson 23: Using Lines to Model Bivariate Quantitative Data Math1 M2 Lesson 24: Modeling Relationships with a Line Math1 M2 Lesson 27: Interpreting Correlation Math1 M2 Lesson 28: Analyzing Bivariate Quantitative Data
M.A1HS.37 Distinguish between correlation and causation.	Math1 M2 Lesson 27: Interpreting Correlation Math1 M2 Lesson 28: Analyzing Bivariate Quantitative Data

Transformations and Congruence

Use coordinates to prove simple geometric theorems algebraically.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.GHS.16 Use coordinates to prove simple geometric theorems about right triangles.	Math1 M2 Lesson 19: The Distance Formula Math1 M2 Lesson 20: Proving Geometric Theorems Algebraically