

Algebra I | Missouri Mathematics Learning Standards Correlation to *Eureka Math*²®

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

Number and Quantity

A1.NQ.A Extend and use properties of rational exponents.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.NQ.A.1</p> <p>Explain how the meaning of rational exponents extends from the properties of integer exponents.</p>	<p>A1 M5 Lesson 9: Unit Fraction Exponents</p> <p>A1 M5 Lesson 10: Rational Exponents</p>
<p>A1.NQ.A.2</p> <p>Rewrite expressions involving radicals and rational exponents using the properties of exponents. Limit to rational exponents with a numerator of 1.</p>	<p>A1 M5 Lesson 9: Unit Fraction Exponents</p> <p>A1 M5 Lesson 10: Rational Exponents</p>

Number and Quantity

A1.NQ.B Use units to solve problems.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.NQ.B.3</p> <p>Use units of measure as a way to understand and solve problems involving quantities.</p>	<p>A1 M6 Lesson 5: Solar System Models</p>
<p>A1.NQ.B.3.a</p> <p>Identify, label and use appropriate units of measure within a problem.</p>	<p>A1 M6 Lesson 5: Solar System Models</p>

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<p>A1.NQ.B.3.b Convert units and rates.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>
<p>A1.NQ.B.3.c Use units within problems.</p>	<p>A1 M6 Lesson 5: Solar System Models</p>
<p>A1.NQ.B.3.d Choose and interpret the scale and the origin in graphs and data displays.</p>	<p>A1 M6 Lesson 5: Solar System Models</p>
<p>A1.NQ.B.4 Define and use appropriate quantities for representing a given context or problem.</p>	<p>A1 M4 Lesson 25: Maximizing Area A1 M6 Lesson 5: Solar System Models</p>
<p>A1.NQ.B.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p>	<p>A1 M6 Lesson 5: Solar System Models</p>

Seeing Structure in Expressions

A1.SSE.A Interpret and use structure.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.SSE.A.1</p> <p>Interpret the contextual meaning of individual terms or factors from a given problem that utilizes formulas or expressions.</p>	<p>A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion</p> <p>A1 M5 Lesson 8: Exponential Functions</p> <p>A1 M5 Lesson 16: Exponential Growth</p> <p>A1 M5 Lesson 17: Exponential Decay</p> <p>A1 M5 Lesson 18: Modeling Populations</p> <p>A1 M5 Lesson 23: Modeling the Temperature of Objects Cooling Over Time</p>
<p>A1.SSE.A.2</p> <p>Analyze the structure of polynomials to create equivalent expressions or equations.</p>	<p>A1 M1 Lesson 1: The Growing Pattern of Ducks</p> <p>A1 M1 Lesson 2: The Commutative, Associative, and Distributive Properties</p> <p>A1 M1 Lesson 3: Polynomial Expressions</p> <p>A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion</p> <p>A1 M4 Topic B: Factoring</p> <p>A1 M4 Lesson 14: Solving Quadratic Equations by Completing the Square</p> <p>A1 M4 Lesson 15: Deriving the Quadratic Formula</p> <p>A1 M5 Lesson 11: Graphing Exponential Functions</p> <p>A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)</p> <p>A1 M5 Lesson 18: Modeling Populations</p>
<p>A1.SSE.A.3</p> <p>Choose and produce equivalent forms of a quadratic expression or equations to reveal and explain properties.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>A1.SSE.A.3.a</p> <p>Find the zeros of a quadratic function by rewriting it in factored form.</p>	<p>A1 M4 Lesson 10: Zeros of Functions</p> <p>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form</p> <p>A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions</p>
<p>A1.SSE.A.3.b</p> <p>Find the maximum or minimum value of a quadratic function by completing the square.</p>	<p>A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions</p> <p>A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions</p>

Creating Equations

A1.CED.A Create equations that describe linear, quadratic and exponential relationships.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>A1.CED.A.1</p> <p>Create equations and inequalities in one variable and use them to model and/or solve problems.</p>	<p>A1 M1 Lesson 7: Printing Presses</p> <p>A1 M1 Lesson 11: Writing and Solving Equations in One Variable</p> <p>A1 M1 Lesson 13: Solving Linear Inequalities in One Variable</p> <p>A1 M1 Lesson 15: Solving and Graphing Compound Inequalities</p> <p>A1 M4 Lesson 9: Creating and Solving Quadratic Equations in One Variable</p>
<p>A1.CED.A.2</p> <p>Create and graph linear, quadratic and exponential equations in two variables.</p>	<p>A1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables</p> <p>A1 M2 Lesson 2: Graphing Linear Equations in Two Variables</p> <p>A1 M2 Lesson 3: Creating Linear Equations in Two Variables</p> <p>A1 M2 Lesson 6: Applications of Linear Equations and Inequalities</p> <p>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form</p> <p>A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form</p>

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<p>A1.CED.A.2 <i>continued</i></p>	<p>A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts</p> <p>A1 M4 Lesson 25: Maximizing Area</p> <p>A1 M4 Lesson 26: Modeling Data with Quadratic Functions</p> <p>A1 M4 Lesson 27: Search and Rescue Helicopter</p> <p>A1 M5 Lesson 8: Exponential Functions</p> <p>A1 M5 Lesson 11: Graphing Exponential Functions</p> <p>A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)</p> <p>A1 M5 Lesson 13: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)</p> <p>A1 M5 Lesson 14: Writing Equations for Exponential Functions from Tables or Graphs</p> <p>A1 M5 Lesson 16: Exponential Growth</p> <p>A1 M5 Lesson 17: Exponential Decay</p> <p>A1 M5 Topic D: Comparing Linear and Exponential Models</p>
<p>A1.CED.A.3</p> <p>Represent constraints by equations or inequalities and by systems of equations or inequalities, and interpret the data points as a solution or non-solution in a modeling context.</p>	<p>A1 M1 Lesson 11: Writing and Solving Equations in One Variable</p> <p>A1 M1 Lesson 14: Solution Sets of Compound Statements</p> <p>A1 M1 Lesson 15: Solving and Graphing Compound Inequalities</p> <p>A1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables</p> <p>A1 M2 Lesson 6: Applications of Linear Equations and Inequalities</p> <p>A1 M6 Lesson 5: Solar System Models</p> <p>A1 M6 Lesson 6: Designing a Fundraiser</p>
<p>A1.CED.A.4</p> <p>Solve literal equations and formulas for a specified variable that highlights a quantity of interest.</p>	<p>A1 M1 Lesson 12: Rearranging Formulas</p> <p>A1 M4 Lesson 13: Using Square Roots to Solve Quadratic Equations</p>

Reasoning with Equations and Inequalities

A1.REI.A Understand solving equations as a process, and solve equations and inequalities in one variable.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.REI.A.1</p> <p>Explain how each step taken when solving an equation or inequality in one variable creates an equivalent equation or inequality that has the same solution(s) as the original.</p>	<p>A1 M1 Lesson 9: Solving Linear Equations in One Variable</p> <p>A1 M1 Lesson 10: Some Potential Dangers When Solving Equations</p> <p>A1 M1 Lesson 11: Writing and Solving Equations in One Variable</p> <p>A1 M1 Lesson 13: Solving Linear Inequalities in One Variable</p>
<p>A1.REI.A.2</p> <p>Solve problems involving quadratic equations.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>A1.REI.A.2.a</p> <p>Use the method of completing the square to create an equivalent quadratic equation.</p>	<p>A1 M4 Lesson 14: Solving Quadratic Equations by Completing the Square</p>
<p>A1.REI.A.2.b</p> <p>Derive the quadratic formula.</p>	<p>A1 M4 Lesson 15: Deriving the Quadratic Formula</p>

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<p>A1.REI.A.2.c Analyze different methods of solving quadratic equations.</p>	<p>A1 M4 Lesson 5: Solving Equations That Contain Factored Expressions A1 M4 Lesson 6: Solving Quadratic Equations by Factoring: Identities and Guess and Check A1 M4 Lesson 7: Solving Quadratic Equations by Factoring: Splitting the Linear Term A1 M4 Lesson 8: A Summary of Solving Quadratic Equations by Factoring A1 M4 Lesson 9: Creating and Solving Quadratic Equations in One Variable A1 M4 Lesson 13: Using Square Roots to Solve Quadratic Equations A1 M4 Lesson 14: Solving Quadratic Equations by Completing the Square A1 M4 Lesson 16: Solving Quadratic Equations A1 M4 Lesson 18: The Quadratic Formula and Zeros of a Function</p>
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Reasoning with Equations and Inequalities

A1.REI.B Solve systems of equations.

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<p>A1.REI.B.3 Solve a system of linear equations algebraically and/or graphically.</p>	<p>A1 M2 Lesson 7: Low-Flow Showerhead A1 M2 Lesson 8: Systems of Linear Equations in Two Variables A1 M2 Lesson 9: A New Way to Solve Systems A1 M2 Lesson 10: The Elimination Method A1 M2 Lesson 11: Applications of Systems of Equations</p>
<p>A1.REI.B.4 Solve a system consisting of a linear equation and a quadratic equation algebraically and/or graphically.</p>	<p>A1 M4 Lesson 24: Another Look at Systems of Equations</p>

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<p>A1.REI.B.5</p> <p>Justify that the technique of linear combination produces an equivalent system of equations.</p>	<p>A1 M2 Lesson 9: A New Way to Solve Systems</p>
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Reasoning with Equations and Inequalities

A1.REI.C Represent and solve linear and exponential equations and inequalities graphically.

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<p>A1.REI.C.6</p> <p>Explain that the graph of an equation in two variables is the set of all its solutions plotted in the Cartesian coordinate plane.</p>	<p>A1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables</p> <p>A1 M2 Lesson 2: Graphing Linear Equations in Two Variables</p>
<p>A1.REI.C.7</p> <p>Graph the solution to a linear inequality in two variables.</p>	<p>A1 M2 Lesson 4: Solution Sets of Linear Inequalities in Two Variables</p> <p>A1 M2 Lesson 5: Graphing Linear Inequalities in Two Variables</p>
<p>A1.REI.C.8</p> <p>Solve problems involving a system of linear inequalities.</p>	<p>A1 M2 Lesson 12: Solution Sets of Systems of Linear Inequalities</p> <p>A1 M2 Lesson 13: Graphing Solution Sets of Systems of Linear Inequalities</p> <p>A1 M2 Lesson 14: Applications of Systems of Linear Inequalities</p>

Arithmetic with Polynomials and Rational Expressions

A1.APR.A Perform operations on polynomials.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.APR.A.1</p> <p>Add, subtract and multiply polynomials, and understand that polynomials follow the same general rules of arithmetic and are closed under these operations.</p>	<p>A1 M1 Lesson 3: Polynomial Expressions</p> <p>A1 M1 Lesson 4: Adding and Subtracting Polynomial Expressions</p> <p>A1 M1 Lesson 5: Multiplying Polynomial Expressions</p> <p>A1 M1 Lesson 6: Polynomial Identities</p>
<p>A1.APR.A.2</p> <p>Divide polynomials by monomials.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>

Interpreting Functions

A1.IF.A Understand the concept of a function and use function notation.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.IF.A.1</p> <p>Understand that a function from one set (domain) to another set (range) assigns to each element of the domain exactly one element of the range.</p>	<p>A1 M3 Topic A: Functions and Their Graphs</p>
<p>A1.IF.A.1.a</p> <p>Represent a function using function notation.</p>	<p>A1 M3 Lesson 1: The Definition of a Function</p> <p>A1 M3 Lesson 2: Representing, Naming, and Evaluating Functions</p> <p>A1 M3 Lesson 6: Representations of Functions</p> <p>A1 M3 Lesson 16: Step Functions</p> <p>A1 M5 Lesson 1: Exploring Patterns</p>

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<p>A1.IF.A.1.a <i>continued</i></p>	<p>A1 M5 Lesson 2: The Recursive Challenge A1 M5 Lesson 3: Recursive Formulas for Sequences A1 M5 Lesson 4: Explicit Formulas for Sequences A1 M5 Lesson 7: Sierpinski Triangle</p>
<p>A1.IF.A.1.b Understand that the graph of a function labeled f is the set of all ordered pairs (x, y) that satisfy the equation $y = f(x)$.</p>	<p>A1 M3 Topic A: Functions and Their Graphs</p>
<p>A1.IF.A.2 Use function notation to evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.</p>	<p>A1 M3 Lesson 1: The Definition of a Function A1 M3 Lesson 2: Representing, Naming, and Evaluating Functions A1 M3 Lesson 6: Representations of Functions A1 M3 Lesson 16: Step Functions A1 M5 Lesson 1: Exploring Patterns A1 M5 Lesson 2: The Recursive Challenge A1 M5 Lesson 3: Recursive Formulas for Sequences A1 M5 Lesson 4: Explicit Formulas for Sequences A1 M5 Lesson 7: Sierpinski Triangle</p>

Interpreting Functions

A1.IF.B Interpret linear, quadratic and exponential functions in terms of the context.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.IF.B.3</p> <p>Using tables, graphs and verbal descriptions, interpret key characteristics of a function that models the relationship between two quantities.</p>	<p>A1 M3 Lesson 7: Exploring Key Features of a Function and Its Graph</p> <p>A1 M3 Lesson 8: Identifying Key Features of a Function and Its Graph</p> <p>A1 M3 Lesson 9: Representing Functions from Verbal Descriptions</p> <p>A1 M3 Lesson 11: Comparing Functions</p> <p>A1 M3 Lesson 12: Mars Curiosity Rover</p> <p>A1 M3 Lesson 13: Modeling Elevation as a Function of Time</p> <p>A1 M4 Lesson 1: Falling Objects</p> <p>A1 M4 Lesson 2: Projectile Motion</p> <p>A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion</p> <p>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form</p> <p>A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form</p> <p>A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions</p> <p>A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts</p> <p>A1 M4 Lesson 25: Maximizing Area</p>
<p>A1.IF.B.4</p> <p>Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes.</p>	<p>A1 M3 Lesson 3: The Graph of a Function</p> <p>A1 M3 Lesson 13: Modeling Elevation as a Function of Time</p> <p>A1 M3 Lesson 16: Step Functions</p> <p>A1 M4 Lesson 2: Projectile Motion</p> <p>A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion</p> <p>A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts</p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.IF.B.5</p> <p>Determine the average rate of change of a function over a specified interval and interpret the meaning.</p>	<p>A1 M4 Lesson 1: Falling Objects</p> <p>A1 M4 Lesson 3: Analyzing Functions That Model Projectile Motion</p> <p>A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form</p> <p>A1 M5 Lesson 19: Analyzing Exponential Growth</p> <p>A1 M5 Lesson 20: Comparing Growth of Functions</p> <p>A1 M5 Lesson 24: Modeling an Invasive Species Population</p>
<p>A1.IF.B.6</p> <p>Interpret the parameters of a linear or exponential function in terms of the context.</p>	<p>A1 M5 Lesson 18: Modeling Populations</p> <p>A1 M5 Lesson 19: Analyzing Exponential Growth</p> <p>A1 M5 Lesson 23: Modeling the Temperature of Objects Cooling Over Time</p> <p>A1 M5 Lesson 24: Modeling an Invasive Species Population</p>

Interpreting Functions

A1.IF.C Analyze linear, quadratic and exponential functions using different representations.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.IF.C.7</p> <p>Graph functions expressed symbolically and identify and interpret key features of the graph.</p>	<p>A1 M3 Lesson 4: The Graph of the Equation $y = f(x)$</p> <p>A1 M3 Lesson 5: Using Pseudocode to Compare Graphs of Functions and Graphs of Equations</p> <p>A1 M3 Lesson 6: Representations of Functions</p> <p>A1 M3 Topic C: Piecewise-Defined Linear Functions</p> <p>A1 M3 Lesson 19: Building New Functions—Translations</p> <p>A1 M3 Lesson 23: A Summary of Transforming the Graph of a Function</p> <p>A1 M4 Lesson 4: Graphs of Quadratic Functions</p> <p>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form</p>

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<p>A1.IF.C.7 <i>continued</i></p>	<p>A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form</p> <p>A1 M4 Lesson 19: Transforming the Graphs of Quadratic Functions</p> <p>A1 M4 Lesson 23: Creating Equations of Quadratic Functions to Model Contexts</p> <p>A1 M5 Lesson 11: Graphing Exponential Functions</p> <p>A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)</p> <p>A1 M5 Lesson 13: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)</p>
<p>A1.IF.C.8</p> <p>Translate between different but equivalent forms of a function to reveal and explain properties of the function and interpret these in terms of a context.</p>	<p>A1 M4 Lesson 10: Zeros of Functions</p> <p>A1 M4 Lesson 11: Graphing Quadratic Functions from Factored Form</p> <p>A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions</p> <p>A1 M4 Lesson 22: A Summary of Graphing Quadratic Functions</p> <p>A1 M5 Lesson 11: Graphing Exponential Functions</p> <p>A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)</p> <p>A1 M5 Lesson 18: Modeling Populations</p>
<p>A1.IF.C.9</p> <p>Compare the properties of two functions given different representations.</p>	<p>A1 M3 Lesson 11: Comparing Functions</p> <p>A1 M4 Lesson 12: Using Symmetry to Graph Quadratic Functions from Standard Form</p> <p>A1 M4 Lesson 21: Completing the Square to Graph Quadratic Functions</p>

Building Functions

A1.BF.A Build new functions from existing functions (limited to linear, quadratic and exponential).

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.BF.A.1</p> <p>Analyze the effect of translations and scale changes on functions.</p>	<p>A1 M3 Topic D: Transformations of Functions</p> <p>A1 M4 Lesson 20: Art with Transformations</p> <p>A1 M5 Lesson 12: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)</p> <p>A1 M5 Lesson 13: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)</p> <p>A1 M5 Lesson 14: Writing Equations for Exponential Functions from Tables or Graphs</p> <p>A1 M5 Lesson 23: Modeling the Temperature of Objects Cooling Over Time</p>

Linear, Quadratic and Exponential Models

A1.LQE.A Construct and compare linear, quadratic and exponential models and solve problems.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.LQE.A.1</p> <p>Distinguish between situations that can be modeled with linear or exponential functions.</p>	<p>A1 M5 Lesson 15: Calculating Interest</p> <p>A1 M5 Lesson 18: Modeling Populations</p> <p>A1 M5 Lesson 21: World Population Prediction</p> <p>A1 M5 Lesson 22: A Closer Look at Populations</p> <p>A1 M5 Lesson 24: Modeling an Invasive Species Population</p> <p>A1 M6 Lesson 2: Using Residual Plots to Select Models for Data</p> <p>A1 M6 Lesson 3: Populations of US Cities</p>
<p>A1.LQE.A.1.a</p> <p>Determine that linear functions change by equal differences over equal intervals.</p>	<p>A1 M5 Lesson 19: Analyzing Exponential Growth</p>

<p>Missouri Mathematics Learning Standards</p>	<p>Aligned Components of <i>Eureka Math</i>²</p>
<p>A1.LQE.A.1.b Recognize exponential situations in which a quantity grows or decays by a constant percent rate per unit interval.</p>	<p>A1 M5 Lesson 15: Calculating Interest A1 M5 Lesson 21: World Population Prediction A1 M5 Lesson 22: A Closer Look at Populations A1 M5 Lesson 24: Modeling an Invasive Species Population</p>
<p>A1.LQE.A.2 Describe, using graphs and tables, that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically.</p>	<p>A1 M5 Lesson 20: Comparing Growth of Functions</p>
<p>A1.LQE.A.3 Construct linear, quadratic and exponential equations given graphs, verbal descriptions or tables.</p>	<p>A1 M4 Lesson 20: Art with Transformations A1 M4 Topic D: Modeling with Quadratic Functions A1 M5 Lesson 8: Exponential Functions A1 M5 Lesson 14: Writing Equations for Exponential Functions from Tables or Graphs A1 M5 Lesson 16: Exponential Growth A1 M5 Lesson 17: Exponential Decay A1 M5 Topic D: Comparing Linear and Exponential Models A1 M6 Topic B: Developing Models for Contexts</p>

Linear, Quadratic and Exponential Models

A1.LQE.B Use arithmetic and geometric sequences.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.LQE.B.4</p> <p>Write arithmetic and geometric sequences in recursive and explicit forms, and use them to model situations and translate between the two forms.</p>	<p>A1 M5 Lesson 5: Arithmetic and Geometric Sequences</p> <p>A1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences</p> <p>A1 M5 Lesson 7: Sierpinski Triangle</p>
<p>A1.LQE.B.5</p> <p>Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the set of integers.</p>	<p>A1 M5 Lesson 1: Exploring Patterns</p> <p>A1 M5 Lesson 2: The Recursive Challenge</p> <p>A1 M5 Lesson 3: Recursive Formulas for Sequences</p> <p>A1 M5 Lesson 4: Explicit Formulas for Sequences</p> <p>A1 M5 Lesson 5: Arithmetic and Geometric Sequences</p> <p>A1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences</p>
<p>A1.LQE.B.6</p> <p>Find the terms of sequences given an explicit or recursive formula.</p>	<p>A1 M5 Lesson 2: The Recursive Challenge</p> <p>A1 M5 Lesson 4: Explicit Formulas for Sequences</p> <p>A1 M5 Lesson 5: Arithmetic and Geometric Sequences</p>

Data and Statistical Analysis

A1.DS.A Summarize, represent and interpret data.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>A1.DS.A.1</p> <p>Analyze and interpret graphical displays of data.</p>	<p>A1 M1 Lesson 18: Distributions and Their Shapes</p> <p>A1 M1 Lesson 19: Describing the Center of a Distribution</p> <p>A1 M1 Lesson 20: Using Center to Compare Data Distributions</p>

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<p>A1.DS.A.2</p> <p>Use statistics appropriate to the shape of the data distribution to compare center and spread of two or more different data sets.</p>	<p>A1 M1 Topic D: Univariate Data</p>
<p>A1.DS.A.3</p> <p>Interpret differences in shape, center and spreads in the context of the data sets, accounting for possible effects of outliers.</p>	<p>A1 M1 Topic D: Univariate Data</p>
<p>A1.DS.A.4</p> <p>Summarize data in two-way frequency tables.</p>	<p><i>This standard is fully address by the lessons aligned to its subsections.</i></p>
<p>A1.DS.A.4.a</p> <p>Interpret relative frequencies in the context of the data.</p>	<p>A1 M2 Topic D: Categorical Data on Two Variables</p>
<p>A1.DS.A.4.b</p> <p>Recognize possible associations and trends in the data.</p>	<p>A1 M2 Lesson 23: Bivariate Categorical Data and Conditional Relative Frequency Tables A1 M2 Lesson 24: Conditional Relative Frequencies and Association</p>
<p>A1.DS.A.5</p> <p>Construct a scatter plot of bivariate quantitative data describing how the variables are related; determine and use a function that models the relationship.</p>	<p>A1 M2 Lesson 15: Relationships Between Quantitative Variables A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data</p>

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<p>A1.DS.A.5.a</p> <p>Construct a linear function to model bivariate data represented on a scatter plot that minimizes residuals.</p>	<p>A1 M2 Lesson 16: Using Lines to Model Bivariate Quantitative Data</p> <p>A1 M2 Lesson 17: Modeling Relationships with a Line</p> <p>A1 M2 Lesson 18: Calculating and Analyzing Residuals</p> <p>A1 M2 Lesson 19: Analyzing Residuals</p> <p>A1 M2 Lesson 20: Interpreting Correlation</p> <p>A1 M6 Lesson 2: Using Residual Plots to Select Models for Data</p> <p>A1 M6 Lesson 3: Populations of US Cities</p>
<p>A1.DS.A.5.b</p> <p>Construct an exponential function to model bivariate data represented on a scatter plot that minimizes residuals.</p>	<p>A1 M6 Lesson 2: Using Residual Plots to Select Models for Data</p> <p>A1 M6 Lesson 3: Populations of US Cities</p>
<p>A1.DS.A.6</p> <p>Interpret the slope (rate of change) and the y-intercept (constant term) of a linear model in the context of the data.</p>	<p>A1 M2 Lesson 16: Using Lines to Model Bivariate Quantitative Data</p> <p>A1 M2 Lesson 17: Modeling Relationships with a Line</p> <p>A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data</p>
<p>A1.DS.A.7</p> <p>Determine and interpret the correlation coefficient for a linear association.</p>	<p>A1 M2 Lesson 20: Interpreting Correlation</p> <p>A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data</p>
<p>A1.DS.A.8</p> <p>Distinguish between correlation and causation.</p>	<p>A1 M2 Lesson 20: Interpreting Correlation</p> <p>A1 M2 Lesson 21: Analyzing Bivariate Quantitative Data</p>