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## Mathematics I | Arizona Mathematics Standards Correlation to *Eureka Math*<sup>2</sup>®

When the original *Eureka Math*<sup>®</sup> curriculum was released, it quickly became the most widely used K–5 mathematics curriculum in the country. Now, the Great Minds<sup>®</sup> teacher–writers have created *Eureka Math*<sup>2</sup>®, 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*<sup>2</sup> 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*<sup>2</sup> 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*<sup>2</sup> 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*<sup>2</sup> 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*<sup>2</sup> 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> <sup>2</sup>
<p><b>MP.1</b> 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><b>MP.2</b> 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><b>MP.3</b> 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><b>MP.4</b> 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><b>MP.5</b> 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><b>MP.6</b> 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><b>MP.7</b> 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><b>MP.8</b> 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>

## Quantities

Reason quantitatively and use units to solve problems.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.N-Q.A.1</b></p> <p>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays, include utilizing real-world context.</p>	<p>Math 1 M1 Lesson 1: A Powerful Trio</p> <p>Math 1 M3 Lesson 14: Comparing Models for Situations</p> <p>Math 1 M6 Lesson 9: Solar System Models</p> <p>Math 1 M6 Lesson 10: Designing a Fundraiser</p> <p>Math 1 M6 Lesson 11: A Vanishing Sea</p>
<p><b>A1.N-Q.A.2</b></p> <p>Define appropriate quantities for the purpose of descriptive modeling. Include problem-solving opportunities utilizing real-world context.</p>	<p>Math 1 M1 Lesson 1: A Powerful Trio</p> <p>Math 1 M3 Lesson 14: Comparing Models for Situations</p> <p>Math 1 M6 Lesson 3: Analyzing Paint Splatters</p> <p>Math 1 M6 Lesson 9: Solar System Models</p> <p>Math 1 M6 Lesson 10: Designing a Fundraiser</p>
<p><b>A1.N-Q.A.3</b></p> <p>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities utilizing real-world context.</p>	<p>Math 1 M6 Lesson 9: Solar System Models</p> <p>Math 1 M6 Lesson 11: A Vanishing Sea</p>

## Seeing Structure in Expressions

Interpret the structure of expressions.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.A-SSE.A.1</b> Interpret expressions that represent a quantity in terms of its context.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p><b>A1.A-SSE.A.1a</b> Interpret parts of an expression, such as terms, factors, and coefficients.</p>	<p>Math 1 M1 Lesson 4: Interpreting Linear Expressions</p>
<p><b>A1.A-SSE.A.1b</b> Interpret expressions by viewing one or more of their parts as a single entity.</p>	<p>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</p>

## Creating Equations

Create equations that describe numbers or relationships.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.A-CED.A.1</b> Create equations and inequalities in one variable and use them to solve problems. Include problem-solving opportunities utilizing real-world context. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).</p>	<p>Math 1 M1 Lesson 5: Printing Presses Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable Math 1 M1 Lesson 11: Solving Linear Inequalities in One Variable Math 1 M1 Lesson 16: Applying Absolute Value Math 1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables</p>

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.A-CED.A.2</b></p> <p>Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p>	<p>Math 1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables</p> <p>Math 1 M2 Lesson 2: Graphing Linear Equations in Two Variables</p> <p>Math 1 M2 Lesson 3: Creating Linear Equations in Two Variables</p> <p>Math 1 M2 Lesson 4: Proving Conditional Statements</p> <p>Math 1 M2 Lesson 5: Proving Biconditional Statements</p> <p>Math 1 M2 Lesson 8: Low-Flow Showerhead</p> <p>Math 1 M4 Lesson 5: Proving the Perpendicular Criterion</p>
<p><b>A1.A-CED.A.3</b></p> <p>Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context.</p>	<p>Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable</p> <p>Math 1 M1 Lesson 12: Solution Sets of Compound Statements</p> <p>Math 1 M1 Lesson 13: Solving and Graphing Compound Inequalities</p> <p>Math 1 M1 Lesson 16: Applying Absolute Value</p> <p>Math 1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables</p> <p>Math 1 M2 Lesson 15: Applications of Linear Inequalities</p> <p>Math 1 M6 Lesson 10: Designing a Fundraiser</p>
<p><b>A1.A-CED.A.4</b></p> <p>Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.</p>	<p>Math 1 M1 Lesson 10: Rearranging Formulas</p>

## Reasoning with Equations and Inequalities

Understand solving equations as a process of reasoning and explain the reasoning.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<b>A1.A-REI.A.1</b> Explain each step in solving linear and quadratic equations as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	Math 1 M1 Lesson 3: The Commutative, Associative, and Distributive Properties Math 1 M1 Lesson 7: Solving Linear Equations in One Variable Math 1 M1 Lesson 8: Some Potential Dangers When Solving Equations Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable

## Reasoning with Equations and Inequalities

Solve equations and inequalities in one variable.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<b>A1.A-REI.B.3</b> Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	Math 1 M1 Lesson 6: Solution Sets of Equations and Inequalities in One Variable Math 1 M1 Lesson 7: Solving Linear Equations in One Variable Math 1 M1 Lesson 8: Some Potential Dangers When Solving Equations Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable Math 1 M1 Lesson 11: Solving Linear Inequalities in One Variable Math 1 M1 Lesson 14: Solving Absolute Value Equations Math 1 M1 Lesson 15: Solving Absolute Value Inequalities

## Reasoning with Equations and Inequalities

Solve systems of equations.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<b>A1.A-REI.C.5</b> Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	Math 1 M2 Lesson 10: A New Way to Solve Systems
<b>A1.A-REI.C.6</b> Solve systems of linear equations exactly and approximately, focusing on pairs of linear equations in two variables. Include problem solving opportunities utilizing real-world context.	Math 1 M2 Lesson 9: Systems of Linear Equations in Two Variables Math 1 M2 Lesson 10: A New Way to Solve Systems Math 1 M2 Lesson 11: The Elimination Method Math 1 M2 Lesson 12: Applications of Systems of Equations

## Reasoning with Equations and Inequalities

Represent and solve equations and inequalities graphically.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<b>A1.A-REI.D.10</b> Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve, which could be a line.	Math 1 M2 Lesson 2: Graphing Linear Equations in Two Variables

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.A-REI.D.11</b></p> <p>Explain why the <math>x</math>-coordinates of the points where the graphs of the equations <math>y = f(x)</math> and <math>y = g(x)</math> intersect are the solutions of the equation <math>f(x) = g(x)</math>; find the solutions approximately (e.g., using technology to graph the functions, make tables of values, or find successive approximations). Focus on cases where <math>f(x)</math> and/or <math>g(x)</math> are linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).</p>	<p>Math 1 M3 Lesson 10: Using Graphs to Solve Equations</p> <p>Math 1 M5 Lesson 11: Solving Equations Containing Exponential Expressions</p> <p>Math 1 M5 Lesson 19: Comparing Growth of Functions</p>
<p><b>A1.A-REI.D.12</b></p> <p>Graph the solutions to a linear inequality in two variables as a half-plane, excluding the boundary in the case of a strict inequality, and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.</p>	<p>Math 1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables</p> <p>Math 1 M2 Lesson 13: Solution Sets of Linear Inequalities in Two Variables</p> <p>Math 1 M2 Lesson 14: Graphing Linear Inequalities in Two Variables</p> <p>Math 1 M2 Lesson 16: Solution Sets of Systems of Linear Inequalities</p> <p>Math 1 M2 Lesson 17: Graphing Solution Sets of Systems of Linear Inequalities</p> <p>Math 1 M2 Lesson 18: Applications of Systems of Linear Inequalities</p> <p>Math 1 M6 Lesson 10: Designing a Fundraiser</p>



## Interpreting Functions

Understand the concept of a function and use function notation.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.F-IF.A.1</b></p> <p>Understand 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. If <math>f</math> is a function and <math>x</math> is an element of its domain, then <math>f(x)</math> denotes the output of <math>f</math> corresponding to the input <math>x</math>. The graph of <math>f</math> is the graph of the equation <math>y = f(x)</math>.</p>	<p>Math 1 M3 Topic A: Functions and Their Graphs</p>
<p><b>A1.F-IF.A.2</b></p> <p>Evaluate a function for inputs in the domain, and interpret statements that use function notation in terms of a context.</p>	<p>Math 1 M3 Lesson 2: Interpreting and Using Function Notation</p> <p>Math 1 M3 Lesson 3: Representing, Naming, and Evaluating Functions</p> <p>Math 1 M3 Lesson 7: Representations of Functions</p> <p>Math 1 M5 Lesson 1: Exploring Patterns</p> <p>Math 1 M5 Lesson 2: The Recursive Challenge</p> <p>Math 1 M5 Lesson 3: Recursive Formulas for Sequences</p> <p>Math 1 M5 Lesson 4: Explicit Formulas for Sequences</p>
<p><b>A1.F-IF.A.3</b></p> <p>Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.</p>	<p>Math 1 M5 Topic A: Arithmetic and Geometric Sequences</p>

## Interpreting Functions

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

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.F-IF.B.4</b></p> <p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Include problem-solving opportunities utilizing real-world context. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).</p>	<p>Math 1 M3 Lesson 8: Exploring Key Features of a Function and Its Graph</p> <p>Math 1 M3 Lesson 9: Identifying Key Features of a Function and Its Graph</p> <p>Math 1 M3 Lesson 11: Comparing Functions</p> <p>Math 1 M3 Lesson 12: Sketching Graphs of Functions from Verbal Descriptions</p> <p>Math 1 M3 Lesson 13: Modeling Elevation as a Function of Time</p> <p>Math 1 M3 Lesson 15: Mars Curiosity Rover</p>
<p><b>A1.F-IF.B.5</b></p> <p>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.</p>	<p>Math 1 M3 Lesson 4: The Graph of a Function</p> <p>Math 1 M3 Lesson 13: Modeling Elevation as a Function of Time</p>

<b>Arizona Mathematics Standards</b>	<b>Aligned Components of <i>Eureka Math</i><sup>2</sup></b>
<p><b>A1.F-IF.B.6</b></p> <p>Calculate and interpret the average rate of change of a continuous function (presented symbolically or as a table) on a closed interval. Estimate the rate of change from a graph. Include problem-solving opportunities utilizing real-world context. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).</p>	<p>Math 1 M5 Lesson 17: Average Rate of Change</p> <p>Math 1 M5 Lesson 18: Analyzing Exponential Growth</p> <p>Math 1 M5 Lesson 19: Comparing Growth of Functions</p> <p>Math 1 M5 Lesson 23: Modeling an Invasive Species Population</p>

## Interpreting Functions

Analyze functions using different representations.

<b>Arizona Mathematics Standards</b>	<b>Aligned Components of <i>Eureka Math</i><sup>2</sup></b>
<p><b>A1.F-IF.C.7</b></p> <p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).</p>	<p>Math 1 M3 Lesson 5: The Graph of the Equation <math>y = f(x)</math></p> <p>Math 1 M3 Lesson 6: Using Pseudocode to Compare Graphs of Functions and Graphs of Equations</p> <p>Math 1 M3 Lesson 7: Representations of Functions</p> <p>Math 1 M5 Lesson 8: Graphing Exponential Functions</p> <p>Math 1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)</p> <p>Math 1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)</p>

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.F-IF.C.9</b></p> <p>Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).</p>	<p>Math 1 M3 Lesson 11: Comparing Functions</p>

## Building Functions

Build a function that models a relationship between two quantities.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.F-BF.A.1</b></p> <p>Write a function that describes a relationship between two quantities. Determine an explicit expression, a recursive process, or steps for calculation from real-world context. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).</p>	<p>Math 1 M1 Lesson 2: Looking for Patterns</p> <p>Math 1 M5 Topic A: Arithmetic and Geometric Sequences</p> <p>Math 1 M5 Lesson 7: Exponential Functions</p> <p>Math 1 M5 Lesson 13: Calculating Interest</p> <p>Math 1 M6 Lesson 3: Analyzing Paint Splatters</p> <p>Math 1 M6 Lesson 8: The Deal</p> <p>Math 1 M6 Lesson 9: Solar System Models</p>
<p><b>A2.F-BF.A.1b</b></p> <p>Combine function types using arithmetic operations and function composition.</p>	<p>Math 1 M6 Lesson 8: The Deal</p>

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A2.F-BF.A.2</b></p> <p>Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.</p>	<p>Math 1 M5 Lesson 5: Arithmetic and Geometric Sequences</p> <p>Math 1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences</p>

## Building Functions

Build new functions from existing functions.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.F-BF.B.3</b></p> <p>Identify the effect on the graph of replacing <math>f(x)</math> by <math>f(x) + k</math>, <math>kf(x)</math>, and <math>f(x + k)</math> for specific values of <math>k</math> (both positive and negative); find the value of <math>k</math> given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph. Focus on linear, quadratic, exponential and piecewise-defined functions (limited to absolute value and step).</p>	<p>Math 1 M3 Topic D: Transformations of Functions</p> <p>Math 1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1)</p> <p>Math 1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)</p> <p>Math 1 M5 Lesson 12: Writing Equations for Exponential Functions from Tables or Graphs</p>

## Linear, Quadratic, and Exponential Models

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

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.F-LE.A.1</b></p> <p>Distinguish between situations that can be modeled with linear functions and with exponential functions.</p>	<p>Math 1 M5 Lesson 13: Calculating Interest</p> <p>Math 1 M5 Lesson 16: Modeling Populations</p> <p>Math 1 M5 Lesson 20: World Population Prediction</p> <p>Math 1 M5 Lesson 21: A Closer Look at Populations</p> <p>Math 1 M5 Lesson 23: Modeling an Invasive Species Population</p> <p>Math 1 M6 Lesson 2: Using Residual Plots to Select Models for Data</p> <p>Math 1 M6 Lesson 3: Analyzing Paint Splatters</p> <p>Math 1 M6 Lesson 11: A Vanishing Sea</p>
<p><b>A1.F-LE.A.1a</b></p> <p>Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.</p>	<p>Math 1 M5 Lesson 18: Analyzing Exponential Growth</p>
<p><b>A1.F-LE.A.1b</b></p> <p>Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.</p>	<p>Math 1 M5 Lesson 20: World Population Prediction</p> <p>Math 1 M5 Lesson 21: A Closer Look at Populations</p>
<p><b>A1.F-LE.A.1c</b></p> <p>Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.</p>	<p>Math 1 M5 Lesson 20: World Population Prediction</p> <p>Math 1 M5 Lesson 21: A Closer Look at Populations</p>

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.F-LE.A.2</b></p> <p>Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or input/output pairs.</p>	<p>Math 1 M5 Lesson 7: Exponential Functions</p> <p>Math 1 M5 Lesson 12: Writing Equations for Exponential Functions from Tables or Graphs</p> <p>Math 1 M5 Lesson 14: Exponential Growth</p> <p>Math 1 M5 Lesson 15: Exponential Decay</p> <p>Math 1 M5 Topic D: Comparing Linear and Exponential Models</p> <p>Math 1 M6 Lesson 3: Analyzing Paint Splatters</p> <p>Math 1 M6 Lesson 8: The Deal</p> <p>Math 1 M6 Lesson 9: Solar System Models</p>
<p><b>A1.F-LE.A.3</b></p> <p>Observe, using graphs and tables, that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically.</p>	<p>Math 1 M5 Lesson 19: Comparing Growth of Functions</p>

### Linear, Quadratic, and Exponential Models

Interpret expressions for functions in terms of the situation they model.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.F-LE.B.5</b></p> <p>Interpret the parameters in a linear or exponential function with integer exponents utilizing real-world context.</p>	<p>Math 1 M5 Lesson 16: Modeling Populations</p> <p>Math 1 M5 Lesson 22: Modeling the Temperature of Objects Cooling Over Time</p> <p>Math 1 M5 Lesson 23: Modeling an Invasive Species Population</p>

## Congruence

Experiment with transformations in the plane.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>G.G-CO.A.1</b></p> <p>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.</p>	<p>Math 1 M4 Lesson 2: Translations of the Coordinate Plane</p> <p>Math 1 M4 Lesson 3: Rotations of the Coordinate Plane</p>
<p><b>G.G-CO.A.2</b></p> <p>Represent and describe transformations in the plane as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not.</p>	<p>Math 1 M4 Lesson 1: Geometric Transformations</p>
<p><b>G.G-CO.A.3</b></p> <p>Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.</p>	<p>Math 1 M4 Lesson 12: Reflective Symmetry and Rotational Symmetry</p>



Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>G.G-CO.A.4</b></p> <p>Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.</p>	<p>Math 1 M4 Lesson 2: Translations of the Coordinate Plane</p> <p>Math 1 M4 Lesson 3: Rotations of the Coordinate Plane</p> <p>Math 1 M4 Lesson 4: Reflections of the Coordinate Plane</p> <p>Math 1 M4 Lesson 5: Proving the Perpendicular Criterion</p> <p>Math 1 M4 Lesson 8: Reflections of the Plane</p> <p>Math 1 M4 Lesson 9: Rotations of the Plane</p> <p>Math 1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles</p> <p>Math 1 M4 Lesson 11: Translations of the Plane</p>
<p><b>G.G-CO.A.5</b></p> <p>Given a geometric figure and a rotation, reflection, or translation draw the transformed figure. Specify a sequence of transformations that will carry a given figure onto another.</p>	<p>Math 1 M4 Lesson 2: Translations of the Coordinate Plane</p> <p>Math 1 M4 Lesson 3: Rotations of the Coordinate Plane</p> <p>Math 1 M4 Lesson 4: Reflections of the Coordinate Plane</p> <p>Math 1 M4 Lesson 5: Proving the Perpendicular Criterion</p> <p>Math 1 M4 Lesson 13: Sequences of Basic Rigid Motions</p> <p>Math 1 M4 Lesson 14: Transformations of the Coordinate Plane</p> <p>Math 1 M4 Lesson 15: Designs with Rigid Motions</p> <p>Math 1 M4 Lesson 16: Congruent Figures</p>

## Congruence

Understand congruence in terms of rigid motions.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>G.G-CO.B.6</b></p> <p>Use geometric definitions 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.</p>	<p>Math 1 M4 Lesson 14: Transformations of the Coordinate Plane</p> <p>Math 1 M4 Lesson 16: Congruent Figures</p>
<p><b>G.G-CO.B.7</b></p> <p>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.</p>	<p>Math 1 M4 Lesson 17: Congruent Triangles</p>
<p><b>G.G-CO.B.8</b></p> <p>Explain how the criteria for triangle congruence (ASA, AAS, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.</p>	<p>Math 1 M4 Lesson 18: Side–Angle–Side</p> <p>Math 1 M4 Lesson 19: Angle–Angle–Angle and Side–Side–Side</p> <p>Math 1 M4 Lesson 20: Angle–Side–Angle</p> <p>Math 1 M4 Lesson 21: Side–Side–Angle and Hypotenuse–Leg</p>

## Congruence

Make geometric constructions.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>G.G-CO.D.12</b></p> <p>Make formal geometric constructions with a variety of tools and methods. Constructions include: copying segments; copying angles; bisecting segments; bisecting angles; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.</p>	<p>Math 1 M4 Lesson 6: Compass and Straightedge Constructions</p> <p>Math 1 M4 Lesson 7: Constructing Perpendicular Lines</p> <p>Math 1 M4 Lesson 8: Reflections of the Plane</p> <p>Math 1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles</p> <p>Math 1 M4 Lesson 11: Translations of the Plane</p> <p>Math 1 M4 Lesson 22: Validating Triangle and Angle Constructions</p> <p>Math 1 M4 Lesson 23: Validating Perpendicular Line Constructions</p> <p>Math 1 M4 Lesson 26: Sierpinski Triangle</p>
<p><b>G.G-CO.D.13</b></p> <p>Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle; with a variety of tools and methods.</p>	<p>Math 1 M4 Lesson 9: Rotations of the Plane</p> <p>Math 1 M4 Lesson 24: Squares Inscribed in Circles</p> <p>Math 1 M4 Lesson 25: Regular Hexagons and Equilateral Triangles Inscribed in Circles</p>

## Expressing Geometric Properties with Equations

Use coordinates to prove geometric theorems algebraically.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>G.G-GPE.B.4</b></p> <p>Use coordinates to algebraically prove or disprove geometric relationships. Relationships include: proving or disproving geometric figures given specific points in the coordinate plane; and proving or disproving if a specific point lies on a given circle.</p>	<p>Math 1 M2 Lesson 4: Proving Conditional Statements</p> <p>Math 1 M2 Lesson 5: Proving Biconditional Statements</p> <p>Math 1 M2 Lesson 6: Proving the Parallel Criterion</p> <p>Math 1 M2 Lesson 19: The Distance Formula</p> <p>Math 1 M2 Lesson 20: Proving Geometric Theorems Algebraically</p>
<p><b>G.G-GPE.B.5</b></p> <p>Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems, including finding the equation of a line parallel or perpendicular to a given line that passes through a given point.</p>	<p>Math 1 M2 Lesson 6: Proving the Parallel Criterion</p> <p>Math 1 M2 Lesson 7: Equations of Parallel and Perpendicular Lines</p> <p>Math 1 M2 Lesson 20: Proving Geometric Theorems Algebraically</p> <p>Math 1 M4 Lesson 5: Proving the Perpendicular Criterion</p>
<p><b>G.G-GPE.B.7</b></p> <p>Use coordinates to compute perimeters of polygons and areas of triangles and rectangles.</p>	<p>Math 1 M2 Lesson 21: Using Coordinates to Determine Perimeters and Areas of Figures</p> <p>Math 1 M6 Lesson 11: A Vanishing Sea</p>

## Interpreting Categorical and Quantitative Data

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

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.S-ID.A.1</b></p> <p>Represent real-value data with plots for the purpose of comparing two or more data sets.</p>	<p>Math 1 M1 Lesson 17: Distributions and Their Shapes</p> <p>Math 1 M1 Lesson 18: Describing the Center of a Distribution</p> <p>Math 1 M1 Lesson 19: Using Center to Compare Data Distributions</p> <p>Math 1 M6 Lesson 1: Using Data to Edit Digital Photography</p>
<p><b>A1.S-ID.A.2</b></p> <p>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p>	<p>Math 1 M1 Topic D: Univariate Data</p> <p>Math 1 M6 Lesson 1: Using Data to Edit Digital Photography</p>
<p><b>A1.S-ID.A.3</b></p> <p>Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of outliers if present.</p>	<p>Math 1 M1 Topic D: Univariate Data</p>

## Interpreting Categorical and Quantitative Data

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

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.S-ID.B.5</b></p> <p>Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data, including joint, marginal, and conditional relative frequencies. Recognize possible associations and trends in the data.</p>	<p>Math 1 M6 Topic B: Modeling with Categorical Data</p>
<p><b>A1.S-ID.B.6</b></p> <p>Represent data on two quantitative variables on a scatter plot, and describe how the quantities are related.</p>	<p>Math 1 M2 Lesson 22: Relationships Between Quantitative Variables</p> <p>Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data</p>
<p><b>A1.S-ID.B.6a</b></p> <p>Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Focus on linear models.</p>	<p>Math 1 M2 Lesson 23: Using Lines to Model Bivariate Quantitative Data</p> <p>Math 1 M2 Lesson 24: Modeling Relationships with a Line</p> <p>Math 1 M2 Lesson 25: Calculating and Analyzing Residuals</p> <p>Math 1 M2 Lesson 27: Interpreting Correlation</p> <p>Math 1 M6 Lesson 2: Using Residual Plots to Select Models for Data</p> <p>Math 1 M6 Lesson 3: Analyzing Paint Splatters</p> <p>Math 1 M6 Lesson 11: A Vanishing Sea</p>
<p><b>A1.S-ID.B.6b</b></p> <p>Informally assess the fit of a function by plotting and analyzing residuals.</p>	<p>Math 1 M2 Lesson 25: Calculating and Analyzing Residuals</p> <p>Math 1 M2 Lesson 26: Analyzing Residuals</p> <p>Math 1 M6 Lesson 2: Using Residual Plots to Select Models for Data</p> <p>Math 1 M6 Lesson 3: Analyzing Paint Splatters</p>

## Interpreting Categorical and Quantitative Data

Interpret linear models.

Arizona Mathematics Standards	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>A1.S-ID.C.7</b></p> <p>Interpret the slope as a rate of change and the constant term of a linear model in the context of the data.</p>	<p>Math 1 M2 Lesson 24: Modeling Relationships with a Line</p> <p>Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data</p>
<p><b>A1.S-ID.C.8</b></p> <p>Compute and interpret the correlation coefficient of a linear relationship.</p>	<p>Math 1 M2 Lesson 27: Interpreting Correlation</p> <p>Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data</p>
<p><b>A1.S-ID.C.9</b></p> <p>Distinguish between correlation and causation.</p>	<p>Math 1 M2 Lesson 27: Interpreting Correlation</p> <p>Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data</p>