Mathematics I | Georgia State 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.

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

Mathematical Modeling

A.MM.1 Apply mathematics to real-life situations; model real-life phenomena using mathematics.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.MM.1.3 Use units of measure (linear, area, capacity, rates, and time) as a way to make sense of conceptual problems; identify, use, and record appropriate units of measure within the given framework, within data displays, and on graphs; convert units and rates using proportional reasoning given a conversion factor; use units within multi-step problems and formulas; interpret units of input and resulting units of output.	Math 1 M1 Lesson 1: A Powerful Trio Math 1 M3 Lesson 14: Comparing Models for Situations Math 1 M6 Lesson 9: Solar System Models Math 1 M6 Lesson 10: Designing a Fundraiser Math 1 M6 Lesson 11: A Vanishing Sea *Supplemental material is necessary to address converting units and rates for this standard.*
A.MM.1.5 Define appropriate quantities for the purpose of descriptive modeling.	Math 1 M1 Lesson 1: A Powerful Trio Math 1 M3 Lesson 14: Comparing Models for Situations Math 1 M6 Lesson 3: Analyzing Paint Splatters Math 1 M6 Lesson 9: Solar System Models Math 1 M6 Lesson 10: Designing a Fundraiser

Functional & Graphical Reasoning

A.FGR.2 Construct and interpret arithmetic sequences as functions, algebraically and graphically, to model and explain real-life phenomena. Use formal notation to represent linear functions and the key characteristics of graphs of linear functions, and informally compare linear and non-linear functions using parent graphs.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.FGR.2.1 Use mathematically applicable situations algebraically and graphically to build and interpret arithmetic sequences as functions whose domain is a subset of the integers.	Math 1 M5 Topic A: Arithmetic and Geometric Sequences
A.FGR.2.2 Construct and interpret the graph of a linear function that models real-life phenomena and represent key characteristics of the graph using formal notation.	Math 1 M3 Lesson 5: The Graph of the Equation $y = f(x)$ Math 1 M3 Lesson 6: Using Pseudocode to Compare Graphs of Functions and Graphs of Equations Math 1 M3 Lesson 7: Representations of Functions
A.FGR.2.3 Relate the domain and range of a linear function to its graph and, where applicable, to the quantitative relationship it describes. Use formal interval and set notation to describe the domain and range of linear functions.	Math 1 M3 Lesson 2: Interpreting and Using Function Notation Math 1 M3 Lesson 3: Representing, Naming, and Evaluating Functions Math 1 M3 Lesson 4: The Graph of a Function Math 1 M3 Lesson 13: Modeling Elevation as a Function of Time

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.FGR.2.4 Use function notation to build and evaluate linear functions for inputs in their domains and interpret statements that use function notation in terms of a mathematical framework.	Math 1 M3 Lesson 2: Interpreting and Using Function Notation Math 1 M3 Lesson 3: Representing, Naming, and Evaluating Functions Math 1 M3 Lesson 7: Representations of Functions Math 1 M5 Lesson 1: Exploring Patterns Math 1 M5 Lesson 2: The Recursive Challenge Math 1 M5 Lesson 3: Recursive Formulas for Sequences Math 1 M5 Lesson 4: Explicit Formulas for Sequences

Functional & Graphical Reasoning

AA.FGR.3 Explore and analyze structures and patterns for exponential and logarithmic functions and use exponential and logarithmic expressions, equations, and functions to model real-life phenomena.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
AA.FGR.3.2 Analyze, graph, and compare exponential and logarithmic functions.	Math 1 M5 Lesson 8: Graphing Exponential Functions Math 1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math 1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) *Supplemental material is necessary to address logarithmic functions for this standard.*

Functional & Graphical Reasoning

CRM.FGR.4 Define, build and interpret functions that arise in various contexts by applying knowledge of the characteristics of the different families of functions, and analyze the effects of parameters.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
CRM.FGR.4.1 Define a function through maps, sets, equations and graphs using function notation.	Math 1 M3 Topic A: Functions and Their Graphs
CRM.FGR.4.4 Calculate and interpret the average rate of change of a function over a specified interval. Estimate the rate of change from a graph.	Math 1 M5 Lesson 17: Average Rate of Change Math 1 M5 Lesson 18: Analyzing Exponential Growth Math 1 M5 Lesson 19: Comparing Growth of Functions Math 1 M5 Lesson 23: Modeling an Invasive Species Population
CRM.FGR.4.6 Construct linear and exponential functions, given a graph, a description of a relationship, or two input-output pairs.	Math 1 M5 Lesson 7: Exponential Functions Math 1 M5 Lesson 12: Writing Equations for Exponential Functions from Tables or Graphs Math 1 M5 Lesson 14: Exponential Growth Math 1 M5 Lesson 15: Exponential Decay Math 1 M5 Topic D: Comparing Linear and Exponential Models Math 1 M6 Lesson 3: Analyzing Paint Splatters Math 1 M6 Lesson 8: The Deal Math 1 M6 Lesson 9: Solar System Models

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
CRM.FGR.4.7 Construct arithmetic and geometric sequences recursively and explicitly, use them to model situations, and translate between the two forms. Connect linear functions to arithmetic sequences and exponential functions to geometric sequences.	Math 1 M5 Lesson 5: Arithmetic and Geometric Sequences Math 1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences Math 1 M6 Lesson 8: The Deal
CRM.FGR.4.8 Identify the effect on the parent graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, and $f(x + k)$ 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.	Math 1 M3 Topic D: Transformations of Functions Math 1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math 1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) Math 1 M5 Lesson 12: Writing Equations for Exponential Functions from Tables or Graphs

Functional & Graphical Reasoning

A.FGR.9 Construct and analyze the graph of an exponential function to explain a mathematically applicable situation for which the graph serves as a model; compare exponential with linear and quadratic functions.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.FGR.9.1 Use function notation to build and evaluate exponential functions for inputs in their domains and interpret statements that use function notation in terms of a context.	Math 1 M5 Lesson 1: Exploring Patterns Math 1 M5 Lesson 2: The Recursive Challenge Math 1 M5 Lesson 3: Recursive Formulas for Sequences Math 1 M5 Lesson 4: Explicit Formulas for Sequences Math 1 M5 Lesson 7: Exponential Functions

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.FGR.9.2 Graph and analyze the key characteristics of simple exponential functions based on mathematically applicable situations.	Math 1 M5 Lesson 8: Graphing Exponential Functions Math 1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math 1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1)
A.FGR.9.3 Identify the effect on the graph generated by an exponential function when replacing $f(x)$ with $f(x) + k$, and $kf(x)$, for specific values of k (both positive and negative); find the value of k given the graphs.	Math 1 M3 Topic D: Transformations of Functions Math 1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math 1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) Math 1 M5 Lesson 12: Writing Equations for Exponential Functions from Tables or Graphs
A.FGR.9.5 Compare characteristics of two functions each represented in a different way.	Math 1 M3 Lesson 11: Comparing Functions

Patterning & Algebraic Reasoning

CRM.PAR.3 Construct expressions, equations, and inequalities, and use them to represent and solve problems by choosing appropriate procedures and interpreting solutions in context.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
CRM.PAR.3.1 Create equations in one variable and use them to solve problems.	Math 1 M1 Lesson 5: Printing Presses Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable Math 1 M1 Lesson 16: Applying Absolute Value

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
CRM.PAR.3.2 Create inequalities in one variable and use them to solve problems.	Math 1 M1 Lesson 11: Solving Linear Inequalities in One Variable
CRM.PAR.3.5 Rearrange literal equations to highlight a specified variable using the same reasoning as in solving equations.	Math 1 M1 Lesson 10: Rearranging Formulas
CRM.PAR.3.6 Solve inequalities in one variable graphically and algebraically.	Math 1 M1 Lesson 6: Solution Sets of Equations and Inequalities in One Variable Math 1 M1 Lesson 11: Solving Linear Inequalities in One Variable Math 1 M1 Lesson 13: Solving and Graphing Compound Inequalities Math 1 M1 Lesson 15: Solving Absolute Value Inequalities
CRM.PAR.3.7 Using multiple methods, create and solve systems of linear equations and inequalities.	Math 1 M2 Topic B: Systems of Linear Equations in Two Variables

Patterning & Algebraic Reasoning

A.PAR.4 Create, analyze, and solve linear inequalities in two variables and systems of linear inequalities to model real-life phenomena.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.PAR.4.2 Represent constraints of linear inequalities and interpret data points as possible or not possible.	Math 1 M1 Lesson 12: Solution Sets of Compound Statements Math 1 M1 Lesson 13: Solving and Graphing Compound Inequalities Math 1 M2 Lesson 15: Applications of Linear Inequalities Math 1 M2 Lesson 18: Applications of Systems of Linear Inequalities Math 1 M6 Lesson 10: Designing a Fundraiser
A.PAR.4.3 Solve systems of linear inequalities by graphing, including systems representing a mathematically applicable situation.	Math 1 M2 Lesson 17: Graphing Solution Sets of Systems of Linear Inequalities Math 1 M2 Lesson 18: Applications of Systems of Linear Inequalities Math 1 M6 Lesson 10: Designing a Fundraiser

Patterning & Algebraic Reasoning

A.PAR.8 Create and analyze exponential expressions and equations to represent and model real-life phenomena; solve exponential equations in mathematically applicable situations.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.PAR.8.1 Interpret exponential expressions and parts of an exponential expression that represent a quantity in terms of its framework.	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

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.PAR.8.2 Create exponential equations in one variable and use them to solve problems, including mathematically applicable situations.	Math 1 M5 Lesson 11: Solving Equations Containing Exponential Expressions
A.PAR.8.3 Create exponential equations in two variables to represent relationships between quantities, including in mathematically applicable situations; graph equations on coordinate axes with labels and scales.	Math 1 M5 Lesson 7: Exponential Functions Math 1 M5 Lesson 11: Solving Equations Containing Exponential Expressions
A.PAR.8.4 Represent constraints by exponential equations and interpret data points as possible or not possible in a modeling environment.	Math 1 M5 Lesson 13: Calculating Interest Math 1 M5 Lesson 14: Exponential Growth Math 1 M5 Lesson 15: Exponential Decay Math 1 M5 Lesson 16: Modeling Populations Math 1 M6 Lesson 10: Designing a Fundraiser

Geometric & Spatial Reasoning

G.GSR.3 Experiment with transformations in the plane to develop precise definitions for translations, rotations, and reflections and use these to describe symmetries and congruence to model and explain real-life phenomena.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.GSR.3.1 Use geometric reasoning and symmetries of regular polygons to develop definitions of rotations, reflections, and translations.	Math 1 M4 Lesson 2: Translations of the Coordinate Plane Math 1 M4 Lesson 3: Rotations of the Coordinate Plane Math 1 M4 Lesson 4: Reflections of the Coordinate Plane Math 1 M4 Lesson 5: Proving the Perpendicular Criterion Math 1 M4 Lesson 8: Reflections of the Plane Math 1 M4 Lesson 9: Rotations of the Plane Math 1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles Math 1 M4 Lesson 11: Translations of the Plane
G.GSR.3.2 Verify experimentally the congruence properties of rotations, reflections, and translations: lines are taken to lines and line segments to line segments of the same length; angles are taken to angles of the same measure; parallel lines are taken to parallel lines.	Math 1 M4 Lesson 2: Translations of the Coordinate Plane Math 1 M4 Lesson 3: Rotations of the Coordinate Plane Math 1 M4 Lesson 4: Reflections of the Coordinate Plane Math 1 M4 Lesson 5: Proving the Perpendicular Criterion Math 1 M4 Lesson 8: Reflections of the Plane Math 1 M4 Lesson 9: Rotations of the Plane Math 1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles Math 1 M4 Lesson 11: Translations of the Plane

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.GSR.3.3 Use geometric descriptions of rigid motions to draw the transformed figures and to predict the effect on a given figure. Describe a sequence of transformations from one figure to another and use transformation properties to determine congruence.	Math 1 M4 Lesson 14: Transformations of the Coordinate Plane Math 1 M4 Lesson 16: Congruent Figures
G.GSR.3.4 Explain how the criteria for triangle congruence follow from the definition of congruence in terms of rigid motions. Use congruency criteria for triangles to solve problems and to prove relationships in geometric figures.	Math 1 M4 Lesson 18: Side–Angle–Side Math 1 M4 Lesson 19: Angle–Angle–Angle and Side–Side–Side Math 1 M4 Lesson 20: Angle–Side–Angle Math 1 M4 Lesson 21: Side–Side–Angle and Hypotenuse–Leg

Geometric & Spatial Reasoning

G.GSR.4 Establish facts between angle relations and generate valid arguments to defend facts established. Prove theorems and solve geometric problems involving lines and angles to model and explain real-life phenomena.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.GSR.4.1 Use the undefined notions of point, line, line segment, plane, distance along a line segment, and distance around a circular arc to develop and use precise definitions and symbolic notations to prove theorems and solve geometric problems.	Math 1 M4 Lesson 2: Translations of the Coordinate Plane Math 1 M4 Lesson 3: Rotations of the Coordinate Plane Math 1 M4 Lesson 5: Proving the Perpendicular Criterion

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.GSR.4.3 Make formal geometric constructions with a variety of tools and methods.	Math 1 M4 Lesson 6: Compass and Straightedge Constructions Math 1 M4 Lesson 7: Constructing Perpendicular Lines Math 1 M4 Lesson 8: Reflections of the Plane Math 1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles Math 1 M4 Lesson 11: Translations of the Plane Math 1 M4 Lesson 22: Validating Triangle and Angle Constructions Math 1 M4 Lesson 23: Validating Perpendicular Line Constructions Math 1 M4 Lesson 26: Sierpinski Triangle
G.GSR.4.4 Prove and apply theorems about lines and angles to solve problems.	Math 1 M2 Lesson 6: Proving the Parallel Criterion Math 1 M2 Lesson 7: Equations of Parallel and Perpendicular Lines Math 1 M2 Lesson 20: Proving Geometric Theorems Algebraically Math 1 M4 Lesson 5: Proving the Perpendicular Criterion *Supplemental material is necessary to address theorems about angles for this standard.*

Geometric & Spatial Reasoning

CRM.GSR.5: Reason deductively and inductively about figures and their properties and make sense of geometric situations using measurements in real-world contexts.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
CRM.GSR.5.2 Use coordinates to compute perimeters of polygons, circumference of circles and areas of triangles, rectangles and circles.	Math 1 M2 Lesson 21: Using Coordinates to Determine Perimeters and Areas of Figures Math 1 M6 Lesson 11: A Vanishing Sea *Supplemental material is necessary to address circles for this standard.*

Data & Statistical Reasoning

CRM.DSR.6 Make sense of and reason about variation in data using graphs, tables and probability models to solve problems and draw appropriate conclusions from solutions.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
CRM.DSR.6.1 Represent univariate data on the real number line.	Math 1 M1 Lesson 17: Distributions and Their Shapes Math 1 M1 Lesson 18: Describing the Center of a Distribution Math 1 M1 Lesson 19: Using Center to Compare Data Distributions Math 1 M6 Lesson 1: Using Data to Edit Digital Photography
CRM.DSR.6.3 Summarize categorical data for two categories in two-way frequency tables using relative frequencies in the context of the data.	Math 1 M6 Topic B: Modeling with Categorical Data
CRM.DSR.6.6 Compute using technology and interpret the correlation coefficient "r" of a linear fit.	Math 1 M2 Lesson 27: Interpreting Correlation Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data

Data & Statistical Reasoning

A.DSR.10 Collect, analyze, and interpret univariate quantitative data to answer statistical investigative questions that compare groups to solve real-life problems; Represent bivariate data on a scatter plot and fit a function to the data to answer statistical questions and solve real-life problems.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.DSR.10.1 Use statistics appropriate to the shape of the data distribution to compare and represent center (median and mean) and variability (interquartile range, standard deviation) of two or more distributions by hand and using technology.	Math 1 M1 Topic D: Univariate Data Math 1 M6 Lesson 1: Using Data to Edit Digital Photography
A.DSR.10.2 Interpret differences in shape, center, and variability of the distributions based on the investigation, accounting for possible effects of extreme data points (outliers).	Math 1 M1 Topic D: Univariate Data
A.DSR.10.3 Represent data on two quantitative variables on a scatter plot and describe how the variables are related.	Math 1 M2 Lesson 22: Relationships Between Quantitative Variables Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data
A.DSR.10.4 Interpret the slope (predicted rate of change) and the intercept (constant term) of a linear model based on the investigation of the data.	Math 1 M2 Lesson 23: Using Lines to Model Bivariate Quantitative Data Math 1 M2 Lesson 24: Modeling Relationships with a Line Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.DSR.10.5 Calculate the line of best fit and interpret the correlation coefficient, r, of a linear fit using technology. Use r to describe the strength of the goodness of fit of the regression. Use the linear function to make predictions and assess how reasonable the prediction is in context.	Math 1 M2 Lesson 27: Interpreting Correlation Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data
A.DSR.10.7 Distinguish between correlation and causation.	Math 1 M2 Lesson 27: Interpreting Correlation Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data