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## Mathematics I | Pennsylvania Core Standards Mathematics 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><sup>®</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>

## Numbers and Operations

### CC.2.1.HS.F Number and Quantity

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.1.HS.F.3</b></p> <p>Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays.</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>CC.2.1.HS.F.4</b></p> <p>Use units as a way to understand problems and to guide the solution of multi-step problems.</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>CC.2.1.HS.F.5</b></p> <p>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p>	<p>Math 1 M6 Lesson 9: Solar System Models</p> <p>Math 1 M6 Lesson 11: A Vanishing Sea</p>

## Algebraic Concepts

### CC.2.2.HS.D Algebra

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.2.HS.D.1</b></p> <p>Interpret the structure of expressions to represent a quantity in terms of its context.</p>	<p>Math 1 M1 Lesson 4: Interpreting Linear Expressions</p> <p>Math 1 M5 Lesson 7: Exponential Functions</p> <p>Math 1 M5 Lesson 14: Exponential Growth</p> <p>Math 1 M5 Lesson 15: Exponential Decay</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><b>CC.2.2.HS.D.7</b></p> <p>Create and graph equations or inequalities to describe numbers or relationships.</p>	<p>Math 1 M1 Lesson 5: Printing Presses</p> <p>Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable</p> <p>Math 1 M1 Lesson 11: Solving Linear Inequalities 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 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 M2 Lesson 12: Applications of Systems of Equations</p> <p>Math 1 M2 Lesson 15: Applications of Linear Inequalities</p> <p>Math 1 M2 Lesson 18: Applications of Systems of Linear Inequalities</p> <p>Math 1 M4 Lesson 5: Proving the Perpendicular Criterion</p> <p>Math 1 M6 Lesson 10: Designing a Fundraiser</p>

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<p><b>CC.2.2.HS.D.8</b></p> <p>Apply inverse operations to solve equations or formulas for a given variable.</p>	<p>Math 1 M1 Lesson 10: Rearranging Formulas</p>
<p><b>CC.2.2.HS.D.9</b></p> <p>Use reasoning to solve equations and justify the solution method.</p>	<p>Math 1 M1 Lesson 3: The Commutative, Associative, and Distributive Properties</p> <p>Math 1 M1 Lesson 7: Solving Linear Equations in One Variable</p> <p>Math 1 M1 Lesson 8: Some Potential Dangers When Solving Equations</p> <p>Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable</p>
<p><b>CC.2.2.HS.D.10</b></p> <p>Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.</p>	<p>Math 1 M1 Lesson 5: Printing Presses</p> <p>Math 1 M1 Lesson 6: Solution Sets of Equations and Inequalities in One Variable</p> <p>Math 1 M1 Lesson 7: Solving Linear Equations in One Variable</p> <p>Math 1 M1 Lesson 8: Some Potential Dangers When Solving Equations</p> <p>Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable</p> <p>Math 1 M1 Lesson 11: Solving Linear Inequalities in One Variable</p> <p>Math 1 M1 Lesson 13: Solving and Graphing Compound Inequalities</p> <p>Math 1 M1 Lesson 14: Solving Absolute Value Equations</p> <p>Math 1 M1 Lesson 15: Solving Absolute Value Inequalities</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 Topic B: Systems 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>

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<p><b>CC.2.2.HS.D.10 <i>continued</i></b></p>	<p>Math 1 M2 Lesson 18: Applications of Systems of Linear Inequalities</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>Math 1 M6 Lesson 10: Designing a Fundraiser</p>
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**Algebraic Concepts**

**CC.2.2.HS.C Functions**

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<p><b>CC.2.2.HS.C.1</b></p> <p>Use the concept and notation of functions to interpret and apply them in terms of their context.</p>	<p>Math 1 M3 Topic A: Functions and Their Graphs</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>CC.2.2.HS.C.2</b></p> <p>Graph and analyze functions and use their properties to make connections between the different representations.</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>

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<p><b>CC.2.2.HS.C.3</b></p> <p>Write functions or sequences that model relationships between two quantities.</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>CC.2.2.HS.C.4</b></p> <p>Interpret the effects transformations have on functions and find the inverses of functions.</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> <p><i>Supplemental material is necessary to address inverses of functions for this standard.</i></p>
<p><b>CC.2.2.HS.C.5</b></p> <p>Construct and compare linear, quadratic, and exponential models to solve problems.</p>	<p>Math 1 M3 Lesson 11: Comparing Functions</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 13: Calculating Interest</p> <p>Math 1 M5 Lesson 14: Exponential Growth</p> <p>Math 1 M5 Lesson 15: Exponential Decay</p> <p>Math 1 M5 Lesson 16: Modeling Populations</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 Topic D: Comparing Linear and Exponential Models</p>

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<p><b>CC.2.2.HS.C.5 <i>continued</i></b></p>	<p>Math 1 M6 Lesson 2: Using Residual Plots to Select Models for Data                      Math 1 M6 Lesson 3: Analyzing Paint Splatters                      Math 1 M6 Lesson 8: The Deal                      Math 1 M6 Lesson 9: Solar System Models                      Math 1 M6 Lesson 11: A Vanishing Sea    <i>Supplemental material is necessary to address quadratic functions for this standard.</i></p>
<p><b>CC.2.2.HS.C.6</b>                       Interpret functions in terms of the situations they model.</p>	<p>Math 1 M3 Lesson 8: Exploring Key Features of a Function and Its Graph                      Math 1 M3 Lesson 9: Identifying Key Features of a Function and Its Graph                      Math 1 M3 Lesson 11: Comparing Functions                      Math 1 M3 Lesson 12: Sketching Graphs of Functions from Verbal Descriptions                      Math 1 M3 Lesson 13: Modeling Elevation as a Function of Time                      Math 1 M3 Lesson 15: Mars Curiosity Rover                      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</p>



## Geometry

### CC.2.3.HS.A Geometry

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.3.HS.A.1</b></p> <p>Use geometric figures and their properties to represent transformations in the plane.</p>	<p>Math 1 M4 Topic A: Transformations of the Coordinate Plane</p> <p>Math 1 M4 Topic B: Transformations of the Plane Without Coordinates</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>
<p><b>CC.2.3.HS.A.2</b></p> <p>Apply rigid transformations to determine and explain congruence.</p>	<p>Math 1 M4 Lesson 12: Reflective Symmetry and Rotational Symmetry</p> <p>Math 1 M4 Lesson 14: Transformations of the Coordinate Plane</p> <p>Math 1 M4 Topic D: Rigid Motions and Congruence</p>
<p><b>CC.2.3.HS.A.4</b></p> <p>Apply the concept of congruence to create geometric constructions.</p>	<p>Math 1 M4 Topic B: Transformations of the Plane Without Coordinates</p> <p>Math 1 M4 Topic E: Validating Constructions</p>
<p><b>CC.2.3.HS.A.11</b></p> <p>Apply coordinate geometry to prove simple geometric theorems algebraically.</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 7: Equations of Parallel and Perpendicular Lines</p> <p>Math 1 M2 Topic D: Algebraic Proofs of Geometric Theorems</p> <p>Math 1 M4 Lesson 5: Proving the Perpendicular Criterion</p>

## Measurement, Data, and Probability

### CC.2.4.HS.B Statistics and Probability

Pennsylvania Core Standards Mathematics	Aligned Components of <i>Eureka Math</i> <sup>2</sup>
<p><b>CC.2.4.HS.B.1</b></p> <p>Summarize, represent, and interpret data on a single count or measurement variable.</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>CC.2.4.HS.B.2</b></p> <p>Summarize, represent, and interpret data on two categorical and quantitative variables.</p>	<p>Math 1 M2 Topic E: Numerical Data on Two Variables</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 Topic B: Modeling with Categorical Data</p> <p>Math 1 M6 Lesson 11: A Vanishing Sea</p>
<p><b>CC.2.4.HS.B.3</b></p> <p>Analyze linear models to make interpretations based on the data.</p>	<p>Math 1 M2 Topic E: Numerical Data on Two Variables</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>