Grade 8 | Pennsylvania Core Standards Mathematics (2014) Correlation to *Eureka Math²® (2027)*

Eureka Math² is a research-proven math curriculum that empowers teachers to center instructional techniques on student success. Teachers can foster more "aha!" learning moments by providing the support needed for all learners to build a more confident math mindset.

This *Eureka Math²* edition builds on a strong foundation of effective instruction. It provides teachers with guidance on delivering rigorous instruction that honors student choice and encourages confident problem-solving.

Eureka Math² carefully sequences mathematical content to maximize vertical alignment from kindergarten through high school. This kind of sequencing has proven to be essential in students' mastery of math.

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 into the teacher materials.

Accessibility

Eureka Math² incorporates Universal Design for Learning (UDL) principles so all learners can access the mathematics and take on challenging math concepts. UDL, Differentiation, and Multilingual Learner supports are built into the instructional design and are clearly identified in the *Teach* book.

The curriculum also carries a focus on readability. By eliminating unnecessary words and using 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.

Math Confidence

Eureka Math² fosters a classroom culture of learning by encouraging student-led discourse and cognitive engagement that results in confident learners. By leveraging consistent models, routines, and progressions, teachers can remove barriers and allow all students an avenue to success. Within the digital platform, each grade includes wordless videos and digital interactives that spark students' curiosity and help them make conceptual connections. Using the *Learn* books, students wonder, explore, and make sense of mathematics, which helps them develop 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.

Numbers and Operations

CC.2.1.8.E The Number System

Pennsylvania Core Standards Mathematics	Aligned Components of *Eureka Math²*
CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties.	8 M1 Lesson 22: Familiar and Not So Familiar Numbers 8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2
CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.	8 M1 Lesson 21: Approximating Values of Roots and π^2 8 M1 Lesson 23: Ordering Irrational Numbers

Algebraic Concepts

CC.2.2.8.B Expressions and Equations

Pennsylvania Core Standards Mathematics	Aligned Components of *Eureka Math²*
CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions.	8 M1 Lesson 1: Large and Small Positive Numbers 8 M1 Lesson 2: Comparing Large Numbers 8 M1 Lesson 3: Time to Be More Precise—Scientific Notation 8 M1 Lesson 4: Adding and Subtracting Numbers Written in Scientific Notation 8 M1 Lesson 5: Products of Exponential Expressions with Whole Number Exponents 8 M1 Lesson 6: More Properties of Exponents 8 M1 Lesson 7: Making Sense of the Exponent of 0 8 M1 Lesson 8: Making Sense of Integer Exponents 8 M1 Lesson 9: Writing Equivalent Expressions 8 M1 Lesson 10: Evaluating Numerical Expressions by Using Properties of Exponents

Pennsylvania Core Standards Mathematics	Aligned Components of *Eureka Math²*
CC.2.2.8.B.1 ***continued***	8 M1 Lesson 11: Small Positive Numbers in Scientific Notation 8 M1 Lesson 12: Operations with Numbers in Scientific Notation 8 M1 Lesson 13: Applications with Numbers in Scientific Notation 8 M1 Lesson 14: Choosing Units of Measurement 8 M1 Lesson 15: Get to the Point 8 M1 Lesson 16: Perfect Squares and Perfect Cubes 8 M1 Lesson 17: Solving Equations with Squares and Cubes 8 M1 Lesson 20: Square Roots 8 M1 Lesson 22: Familiar and Not So Familiar Numbers 8 M1 Lesson 24: Revisiting Equations with Squares and Cubes
CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations.	8 M3 Lesson 17: Similar Triangles on a Line 8 M4 Lesson 15: Comparing Proportional Relationships 8 M4 Lesson 16: Proportional Relationships and Slope 8 M4 Lesson 17: Slopes of Rising Lines 8 M4 Lesson 18: Slopes of Falling Lines 8 M4 Lesson 19: Using Coordinates to Find Slope 8 M4 Lesson 20: Slope-Intercept Form of the Equation of a Line

Pennsylvania Core Standards Mathematics	Aligned Components of *Eureka Math²*
CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations.	8 M4 Lesson 1: Equations 8 M4 Lesson 2: Solving Linear Equations 8 M4 Lesson 3: Solving Linear Equations with Rational Coefficients 8 M4 Lesson 4: Using Linear Equations to Solve Problems 8 M4 Lesson 5: An Intersting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Intersting Application of Linear Equations, Part 2 8 M4 Lesson 7: Linear Equations with More Than One Solution 8 M4 Lesson 8: Another Possible Number of Solutions 8 M4 Lesson 9: Writing Linear Equations 8 M4 Lesson 10: Using Linear Equations to Solve Real-World Problems 8 M4 Lesson 11: Planning a Trip 8 M5 Lesson 1: Solving Problems with Equations and Their Graphs 8 M5 Lesson 2: Introduction to Systems of Linear Equations 8 M5 Lesson 3: Identifying Solutions 8 M5 Lesson 4: More Than One Solution 8 M5 Lesson 5: Estimating Solutions 8 M5 Lesson 6: Solving Systems of Linear Equations without Graphing 8 M5 Lesson 7: The Substitution Method 8 M5 Lesson 8: Using Tape Diagrams to Solve Systems of Equations 8 M5 Lesson 9: Rewriting Equations to Solve a System of Equations 8 M5 Lesson 10: Choosing a Solution Method 8 M5 Lesson 11: Writing and Solving Systems of Equations for Mathematical Problems 8 M5 Lesson 12: Solving Historical Problems with Systems of Equations 8 M5 Lesson 13: Writing and Solving Systems of Equations for Real-World Problems 8 M5 Lesson 14: Back to the Coordinate Plane

Algebraic Concepts

CC.2.2.8.C Functions

Pennsylvania Core Standards Mathematics	Aligned Components of *Eureka Math²*
CC.2.2.8.C.1 Define, evaluate, and compare functions.	8 M6 Lesson 1: Motion and Speed 8 M6 Lesson 2: Definition of a Function 8 M6 Lesson 3: Linear Functions and Proportionality 8 M6 Lesson 4: More Examples of Functions 8 M6 Lesson 5: Graphs of Functions and Equations 8 M6 Lesson 6: Linear Functions and Rate of Change 8 M6 Lesson 7: Interpreting Rate of Change and Initial Value 8 M6 Lesson 8: Comparing Functions 8 M6 Lesson 10: Graphs of Nonlinear Functions
CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities.	8 M6 Lesson 6: Linear Functions and Rate of Change 8 M6 Lesson 7: Interpreting Rate of Change and Initial Value 8 M6 Lesson 9: Increasing and Decreasing Functions 8 M6 Lesson 10: Graphs of Nonlinear Functions 8 M6 Lesson 25: Applications of Volume

Geometry

CC.2.3.8.A Geometry

Pennsylvania Core Standards Mathematics	Aligned Components of *Eureka Math²*
CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.	8 M6 Lesson 21: Volumes of Prisms and Pyramids 8 M6 Lesson 22: Volume of Cylinders 8 M6 Lesson 23: Volume of Cones 8 M6 Lesson 24: Volume of Spheres 8 M6 Lesson 25: Applications of Volume
CC.2.3.8.A.2 Understand and apply congruence, similarity, and geometric transformations using various tools.	8 M2 Lesson 1: Motions of the Plane 8 M2 Lesson 2: Translations 8 M2 Lesson 3: Reflections 8 M2 Lesson 4: Translations and Reflections on the Coordinate Plane 8 M2 Lesson 5: Rotations 8 M2 Lesson 6: Rotations on the Coordinate Plane 8 M2 Lesson 7: Working Backward 8 M2 Lesson 8: Sequencing the Rigid Motions 8 M2 Lesson 9: Ordering Sequences of Rigid Motions 8 M2 Lesson 10: Congruent Figures 8 M2 Lesson 11: Showing Figures Are Congruent 8 M2 Lesson 12: Lines Cut by a Transversal 8 M2 Lesson 13: Angle Sum of a Triangle 8 M2 Lesson 14: Showing Lines Are Parallel 8 M2 Lesson 15: Exterior Angles of Triangles 8 M2 Lesson 16: Find Unknown Angle Measures 8 M3 Lesson 1: Exploring Dilations 8 M3 Lesson 2: Enlargements

Pennsylvania Core Standards Mathematics	Aligned Components of *Eureka Math²*
CC.2.3.8.A.2 ***continued***	8 M3 Lesson 3: Reductions and More Enlargements 8 M3 Lesson 4: Using Lined Paper to Explore Dilations 8 M3 Lesson 5: Figures and Dilations 8 M3 Lesson 6: The Shadowy Hand 8 M3 Lesson 7: Dilations on a Grid 8 M3 Lesson 8: Dilations on the Coordinate Plane 8 M3 Lesson 9: Describing Dilations 8 M3 Lesson 10: Sequencing Transformations 8 M3 Lesson 11: Similar Figures 8 M3 Lesson 12: Exploring Angles in Similar Triangles 8 M3 Lesson 13: Similar Triangless 8 M3 Lesson 14: Using Similar Figures to Find Unknown Side Lengths 8 M3 Lesson 15: Applications of Similar Figures 8 M3 Lesson 16: Similar Right Triangles 8 M3 Lesson 17: Similar Triangles on a Line
CC.2.3.8.A.3 Understand and apply the Pythagorean Theorem to solve problems.	8 M1 Lesson 18: The Pythagorean Theorem 8 M1 Lesson 19: Using the Pythagorean Theorem 8 M1 Lesson 20: Square Roots 8 M2 Lesson 17: Proving the Pythagorean Theorem 8 M2 Lesson 18: Proving the Converse of the Pythagorean Theorem 8 M2 Lesson 19: Using the Pythagorean Theorem and Its Converse 8 M2 Lesson 20: Distance in the Coordinate Plane 8 M2 Lesson 21: Applying the Pythagorean Theorem 8 M2 Lesson 22: On the Right Path 8 M3 Lesson 16: Similar Right Triangles

Measurement, Data, and Probability

CC.2.4.8.B Statistics and Probability

Pennsylvania Core Standards Mathematics	Aligned Components of *Eureka Math²*
CC.2.4.8.B.1 Analyze and/or interpret bivariate data displayed in multiple representations.	8 M6 Lesson 6: Linear Functions and Rate of Change 8 M6 Lesson 7: Interpreting Rate of Change and Initial Value 8 M6 Lesson 11: Scatter Plots 8 M6 Lesson 12: Patterns in Scatter Plots 8 M6 Lesson 13: Informally Fitting a Line to Data 8 M6 Lesson 14: Determining an Equation of a Line Fit to Data 8 M6 Lesson 15: Linear Models 8 M6 Lesson 16: Using the Investigative Process 8 M6 Lesson 17: Analyzing the Model 8 M6 Lesson 18: Bivariate Categorical Data 8 M6 Lesson 19: Association in Bivariate Categorical Data 8 M6 Lesson 20: Analyzing Bivariate Categorical Data
CC.2.4.8.B.2 Understand that patterns of association can be seen in bivariate data utilizing frequencies.	8 M6 Lesson 18: Bivariate Categorical Data 8 M6 Lesson 19: Association in Bivariate Categorical Data 8 M6 Lesson 20: Analyzing Bivariate Categorical Data