

ABOUT EUREKA MATH

Created by the nonprofit Great Minds, *Eureka Math* helps teachers deliver unparalleled math instruction that provides students with a deep understanding and fluency in math. Crafted by teachers and math scholars, the curriculum carefully sequences the mathematical progressions to maximize coherence from Prekindergarten through Precalculus—a principle tested and proven to be essential in students’ mastery of math.

Teachers and students using *Eureka Math* find the trademark “Aha!” moments in *Eureka Math* to be a source of joy and inspiration, lesson after lesson, year after year.

ALIGNED

Eureka Math is the only curriculum found by EdReports.org to align fully with the Common Core State Standards for Mathematics for all grades, Kindergarten through Grade 8. Great Minds offers detailed analyses which demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

DATA

Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

FULL SUITE OF RESOURCES

As a nonprofit, Great Minds offers the *Eureka Math* curriculum as PDF downloads for free, noncommercial use. Access the free PDFs at greatminds.org/math/curriculum.

The teacher–writers who created the curriculum have also developed essential resources, available only from Great Minds, including the following:





- Printed material in English and Spanish
- Digital resources
- Professional development
- Classroom tools and manipulatives
- Teacher support materials
- Parent resources

Oklahoma Academic Standards for Mathematics Correlation to *Eureka Math*[™]

PRE-ALGEBRA

The majority of the Pre-Algebra Oklahoma Academic Standards for Mathematics are fully covered by the Grade 8 *Eureka Math* curriculum. The areas where the Pre-Algebra Oklahoma Academic Standards for Mathematics and Grade 8 *Eureka Math* do not align will require the use of *Eureka Math* content from other grade levels or courses, or supplemental materials. A detailed analysis of alignment is provided in the table below. With strategic placement of supplemental materials, *Eureka Math* can ensure students are successful in achieving the proficiencies of the Oklahoma Academic Standards for Mathematics while still benefiting from the coherence and rigor of *Eureka Math*.

INDICATORS

-  Green indicates that the Oklahoma standard is fully addressed in *Eureka Math*.
-  Yellow indicates that the Oklahoma standard may not be completely addressed in *Eureka Math*.
-  Red indicates that the Oklahoma standard is not addressed in *Eureka Math*.
-  Blue indicates there is a discrepancy between the grade level at which this standard is addressed in the Oklahoma standards and in *Eureka Math*.

Mathematical Actions and Processes

Aligned Components of *Eureka Math*

Develop a Deep and Flexible Conceptual Understanding

Demonstrate a deep and flexible conceptual understanding of mathematical concepts, operations, and relations while making mathematical and real-world connections. Students will develop an understanding of how and when to apply and use the mathematics they know to solve problems.

Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 1 and 2, which are specifically addressed in the following modules:

G8 M1: Integer Exponents and Scientific Notation

G8 M2: The Concept of Congruence

G8 M4: Linear Equations

G8 M5: Examples of Functions from Geometry

G8 M6: Linear Functions

Mathematical Actions and Processes

Aligned Components of *Eureka Math*

Develop Accurate and Appropriate Procedural Fluency

Learn efficient procedures and algorithms for computations and repeated processes based on a strong sense of numbers. Develop fluency in addition, subtraction, multiplication, and division of numbers and expressions. Students will generate a sophisticated understanding of the development and application of algorithms and procedures.

Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 7 and 8, which are specifically addressed in the following modules:

G8 M1: Integer Exponents and Scientific Notation

G8 M3: Similarity

G8 M4: Linear Equations

G8 M5: Examples of Functions from Geometry

G8 M6: Linear Functions

G8 M7: Introduction to Irrational Numbers Using Geometry

Mathematical Actions and Processes

Aligned Components of *Eureka Math*

Develop Strategies for Problem Solving

Analyze the parts of complex mathematical tasks and identify entry points to begin the search for a solution. Students will select from a variety of problem solving strategies and use corresponding multiple representations (verbal, physical, symbolic, pictorial, graphical, tabular) when appropriate. They will pursue solutions to various tasks from real-world situations and applications that are often interdisciplinary in nature. They will find methods to verify their answers in context and will always question the reasonableness of solutions.

Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 1, 2, and 8, which are specifically addressed in the following modules:

G8 M1: Integer Exponents and Scientific Notation

G8 M2: The Concept of Congruence

G8 M3: Similarity

G8 M4: Linear Equations

G8 M5: Examples of Functions from Geometry

G8 M6: Linear Functions

G8 M7: Introduction to Irrational Numbers Using Geometry

Mathematical Actions and Processes

Aligned Components of *Eureka Math*

<p>Develop Mathematical Reasoning</p> <p>Explore and communicate a variety of reasoning strategies to think through problems. Students will apply their logic to critique the thinking and strategies of others to develop and evaluate mathematical arguments, including making arguments and counterarguments and making connections to other contexts.</p>	<p>Lessons in every module engage students in modeling with mathematics as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 3, which is specifically addressed in the following modules:</p> <p>G8 M1: Integer Exponents and Scientific Notation</p> <p>G8 M2: The Concept of Congruence</p> <p>G8 M3: Similarity</p> <p>G8 M4: Linear Equations</p>
<p>Develop a Productive Mathematical Disposition</p> <p>Hold the belief that mathematics is sensible, useful and worthwhile. Students will develop the habit of looking for and making use of patterns and mathematical structures. They will persevere and become resilient, effective problem solvers.</p>	<p>Lessons in every module engage students in using appropriate tools strategically as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 1, 7, and 8, which are specifically addressed in the following modules:</p> <p>G8 M1: Integer Exponents and Scientific Notation</p> <p>G8 M4: Linear Equations</p> <p>G8 M5: Examples of Functions from Geometry</p> <p>G8 M6: Linear Functions</p> <p>G8 M7: Introduction to Irrational Numbers Using Geometry</p>

Mathematical Actions and Processes

Aligned Components of *Eureka Math*

Develop the Ability to Make Conjectures, Model, and Generalize

Make predictions and conjectures and draw conclusions throughout the problem solving process based on patterns and the repeated structures in mathematics. Students will create, identify, and extend patterns as a strategy for solving and making sense of problems.

Lessons in every module engage students in attending to precision as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 4, 7, and 8, which are specifically addressed in the following modules:

G8 M1: Integer Exponents and Scientific Notation

G8 M3: Similarity

G8 M4: Linear Equations

G8 M5: Examples of Functions from Geometry

G8 M6: Linear Functions

G8 M7: Introduction to Irrational Numbers Using Geometry

Mathematical Actions and Processes

Aligned Components of *Eureka Math*

Develop the Ability to Communicate Mathematically

Students will discuss, write, read, interpret and translate ideas and concepts mathematically. As they progress, students' ability to communicate mathematically will include their increased use of mathematical language and terms and analysis of mathematical definitions.

Lessons in every module engage students in looking for and making use of structure as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 3 and 6, which are specifically addressed in the following modules:

G8 M1: Integer Exponents and Scientific Notation

G8 M2: The Concept of Congruence

G8 M3: Similarity

G8 M4: Linear Equations

G8 M5: Examples of Functions from Geometry

G8 M6: Linear Functions

G8 M7: Introduction to Irrational Numbers Using Geometry

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Number & Operations	Standard: Read, write, compare, classify, and represent real numbers and use them to solve problems in various contexts.	
	<p>PA.N.1.1 Develop and apply the properties of integer exponents, including $a^0 = 1$ (with $a \neq 0$), to generate equivalent numerical and algebraic expressions.</p>	G8 M1: Integer Exponents and Scientific Notation
	<p>PA.N.1.2 Express and compare approximations of very large and very small numbers using scientific notation.</p>	G8 M1: Integer Exponents and Scientific Notation
	<p>PA.N.1.3 Multiply and divide numbers expressed in scientific notation, express the answer in scientific notation.</p>	G8 M1: Integer Exponents and Scientific Notation
	<p>PA.N.1.4 Classify real numbers as rational or irrational. Explain why the rational number system is closed under addition and multiplication and why the irrational system is not. Explain why the sum of a rational number and an irrational number is irrational; and the product of a non-zero rational number and an irrational number is irrational.</p>	<p>G8 M7 Topic B: Decimal Expansions of Numbers</p> <p>Algebra I M1 Topic B: The Structure of Expressions</p> <p>Algebra I M4 Lesson 13: Solving Quadratic Equations by Completing the Square</p> <p>Note: Supplemental material is needed to address closure.</p>

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>PA.N.1.5</p> <p>Compare real numbers; locate real numbers on a number line. Identify the square root of a perfect square to 400 or, if it is not a perfect square root, locate it as an irrational number between two consecutive positive integers.</p>	<p>G8 M1 Lesson 7: Magnitude</p> <p>G8 M1 Lesson 13: Comparison of Numbers Written in Scientific Notation and Interpreting Scientific Notation Using Technology</p> <p>G8 M7 Topic A: Square and Cube Roots</p> <p>G8 M7 Lesson 11: The Decimal Expansion of Some Irrational Numbers</p> <p>G8 M7 Lesson 13: Comparing Irrational Numbers</p> <p>G8 M7 Lesson 14: Decimal Expansion of π</p>
<p>Algebraic Reasoning & Algebra</p>	<p>Standard: Understand the concept of function in real-world and mathematical situations, and distinguish between linear and nonlinear functions.</p>	
	<p>PA.A.1.1</p> <p>Recognize that a function is a relationship between an independent variable and a dependent variable in which the value of the independent variable determines the value of the dependent variable.</p>	<p>G8 M5: Examples of Functions from Geometry</p>

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>PA.A.1.2</p> <p>Use linear functions to represent and explain real-world and mathematical situations.</p>	<p>G8 M5 Lesson 3: Linear Functions and Proportionality</p> <p>G8 M5 Lesson 6: Graphs of Linear Functions and Rate of Change</p> <p>G8 M5 Lesson 7: Comparing Linear Functions and Graphs</p> <p>G8 M6 Topic A: Linear Functions</p> <p>G8 M6 Lesson 10: Linear Models</p>
	<p>PA.A.1.3</p> <p>Identify a function as linear if it can be expressed in the form $y = mx + b$ or if its graph is a straight line.</p>	<p>G8 M5: Examples of Functions from Geometry</p>
	<p>Standard: Recognize linear functions in real-world and mathematical situations; represent linear functions and other functions with tables, verbal descriptions, symbols, and graphs; solve problems involving linear functions and interpret results in the original context.</p>	
	<p>PA.A.2.1</p> <p>Represent linear functions with tables, verbal descriptions, symbols, and graphs; translate from one representation to another.</p>	<p>G8 M6 Topic A: Linear Functions</p>

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>PA.A.2.2 Identify, describe, and analyze linear relationships between two variables.</p>	<p>G8 M4 Topic B: Linear Equations in Two Variables and Their Graphs</p> <p>G8 M5 Lesson 3: Linear Functions and Proportionality</p> <p>G8 M5 Lesson 6: Graphs of Linear Functions and Rate of Change</p> <p>G8 M5 Lesson 7: Comparing Linear Functions and Graphs</p> <p>G8 M6 Topic A: Linear Functions</p>
	<p>PA.A.2.3 Identify graphical properties of linear functions including slope and intercepts. Know that the slope equals the rate of change, and that the y-intercept is zero when the function represents a proportional relationship.</p>	<p>G8 M6 Topic A: Linear Functions</p>
	<p>PA.A.2.4 Predict the effect on the graph of a linear function when the slope or y-intercept changes. Use appropriate tools to examine these effects.</p>	<p>G8 M4 Topic C: Slope and Equations of Lines</p> <p>G8 M5 Lesson 3: Linear Functions and Proportionality</p> <p>G8 M5 Lesson 6: Graphs of Linear Functions and Rate of Change</p> <p>G8 M5 Lesson 7: Comparing Linear Functions and Graphs</p> <p>G8 M6 Topic A: Linear Functions</p> <p>G8 M6 Lesson 10: Linear Models</p>

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>PA.A.2.5 Solve problems involving linear functions and interpret results in the original context.</p>	<p>G8 M5 Lesson 3: Linear Functions and Proportionality</p> <p>G8 M5 Lesson 6: Graphs of Linear Functions and Rate of Change</p> <p>G8 M5 Lesson 7: Comparing Linear Functions and Graphs</p> <p>G8 M6 Topic A: Linear Functions</p> <p>G8 M6 Lesson 10: Linear Models</p>
	<p>Standard: Generate equivalent numerical and algebraic expressions and use algebraic properties to evaluate expressions.</p>	
	<p>PA.A.3.1 Use substitution to simplify and evaluate algebraic expressions.</p>	<p>G6 M4 Topic B: Special Notations of Operations</p> <p>G6 M4 Topic C: Replacing Letters and Numbers</p> <p>G8 M4 Topic A: Writing and Solving Linear Equations</p>
	<p>PA.A.3.2 Justify steps in generating equivalent expressions by identifying the properties used, including the properties of operations (associative, commutative, and distributive laws) and the order of operations, including grouping symbols.</p>	<p>G7 M3 Topic A: Use Properties of Operations to Generate Equivalent Expressions</p> <p>G8 M4 Topic A: Writing and Solving Linear Equations</p>

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>Standard: Represent real-world and mathematical problems using equations and inequalities involving linear expressions. Solve and graph equations and inequalities symbolically and graphically. Interpret solutions in the original context.</p>	
	<p>PA.A.4.1 Illustrate, write, and solve mathematical and real-world problems using linear equations with one variable with one solution, infinitely many solutions, or no solutions. Interpret solutions in the original context.</p>	<p>G8 M4 Topic A: Writing and Solving Linear Equations</p>
	<p>PA.A.4.2 Represent, write, solve, and graph problems leading to linear inequalities with one variable in the form $px + q > r$ and $px + q < r$, where p, q, and r are rational numbers.</p>	<p>G7 M3 Lesson 12: Properties of Inequalities G7 M3 Lesson 13: Inequalities G7 M3 Lesson 14: Solving Inequalities G7 M3 Lesson 15: Graphing Solutions to Inequalities</p>

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>PA.A.4.3 Represent real-world situations using equations and inequalities involving one variable.</p>	<p>G7 M2 Lesson 17: Comparing Tape Diagram Solutions to Algebraic Solutions</p> <p>G7 M2 Lessons 22–23: Solving Equations Using Algebra</p> <p>G7 M3 Topic B: Solve Problems Using Expressions, Equations, and Inequalities</p> <p>G7 M4 Lesson 10: Simple Interest</p> <p>G7 M4 Lesson 11: Tax, Commissions, Fees, and Other Real-World Percent Applications</p> <p>G7 M4 Lesson 17: Mixture Problems</p> <p>G8 M4 Topic A: Writing and Solving Linear Equations</p>
<p>Geometry & Measurement</p>	<p>Standard: Solve problems involving right triangles using the Pythagorean Theorem.</p>	
	<p>PA.GM.1.1 Informally justify the Pythagorean Theorem using measurements, diagrams, or dynamic software and use the Pythagorean Theorem to solve problems in two and three dimensions involving right triangles.</p>	<p>G8 M2 Topic D: The Pythagorean Theorem</p> <p>G8 M3 Topic C: The Pythagorean Theorem</p> <p>G8 M7 Topic C: The Pythagorean Theorem</p>
	<p>PA.GM.1.2 Use the Pythagorean Theorem to find the distance between any two points in a coordinate plane.</p>	<p>G8 M2 Topic D: The Pythagorean Theorem</p> <p>G8 M7 Lesson 17: Distance on the Coordinate Plane</p>

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	Standard: Calculate surface area and volume of three-dimensional figures.	
	<p>PA.GM.2.1 Calculate the surface area of a rectangular prism using decomposition or nets. Use appropriate measurements such as cm^2.</p>	<p>G6 M5 Topic D: Nets and Surface Area G7 M3 Lessons 21–22: Surface Area G7 M3 Lessons 25–26: Volume and Surface Area G7 M6 Lessons 23–24: Surface Area</p>
	<p>PA.GM.2.2 Calculate the surface area of a cylinder, in terms of π and using approximations for π, using decomposition or nets. Use appropriate measurements such as cm^2.</p>	<p><i>Eureka Math</i> does not address the surface area of a cylinder.</p>
	<p>PA.GM.2.3 Develop and use the formulas $V = lwh$ and $V = Bh$ to determine the volume of rectangular prisms. Justify why base area (B) and height (h) are multiplied to find the volume of a rectangular prism. Use appropriate measurements such as cm^3.</p>	<p>G6 M5 Topic C: Volume of Right Rectangular Prisms G7 M3 Lessons 23–24: The Volume of a Right Prism G7 M3 Lessons 25–26: Volume and Surface Area G7 M6 Topic E: Problems Involving Volume</p>
	<p>PA.GM.2.4 Develop and use the formulas $V = \pi r^2 h$ and $V = Bh$ to determine the volume of right cylinders, in terms of π and using approximations for π. Justify why base area (B) and height (h) are multiplied to find the volume of a right cylinder. Use appropriate measurements such as cm^3.</p>	<p>G8 M5: Examples of Functions from Geometry G8 M7 Lesson 21: Volume of Composite Solids G8 M7 Lesson 22: Average Rate of Change</p>

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Data & Probability	Standard: Display and interpret data in a variety of ways, including using scatterplots and approximate lines of best fit. Use line of best fit and average rate of change to make predictions and draw conclusions about data.	
	<p>PA.D.1.1</p> <p>Describe the impact that inserting or deleting a data point has on the mean and the median of a data set. Know how to create data displays using a spreadsheet and use a calculator to examine this impact.</p>	<p>Algebra I M2 Lesson 3: Estimating Centers and Interpreting the Mean as a Balance Point</p> <p>Algebra I M2 Topic B: Describing Variability and Comparing Distributions</p> <p>Note: Supplemental material is necessary to address the technology component of this standard.</p>
	<p>PA.D.1.2</p> <p>Explain how outliers affect measures of central tendency.</p>	<p>Algebra I M2 Lesson 2: Describing the Center of a Distribution</p> <p>Algebra I M2 Lesson 7: Measuring Variability for Skewed Distributions (Interquartile Range)</p>
	<p>PA.D.1.3</p> <p>Collect, display and interpret data using scatterplots. Use the shape of the scatterplot to informally estimate a line of best fit, make statements about average rate of change, and make predictions about values not in the original data set. Use appropriate titles, labels, and units.</p>	<p>G8 M4 Lesson 22: Constant Rates Revisited</p> <p>G8 M6: Linear Functions</p>

Strand	Objectives for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>Standard: Calculate experimental probabilities and reason about probabilities to solve real-world and mathematical problems.</p>	
	<p>PA.D.2.1 Calculate experimental probabilities and represent them as percents, fractions, and decimals between 0 and 1 inclusive. Use experimental probabilities to make predictions when actual probabilities are unknown.</p>	<p>G7 M5 Topic A: Calculating and Interpreting Probabilities</p>
	<p>PA.D.2.2 Determine how samples are chosen (random, limited, biased) to draw and support conclusions about generalizing a sample to a population.</p>	<p>G7 M5 Topic C: Random Sampling and Estimating Population Characteristics</p>
	<p>PA.D.2.3 Compare and contrast dependent and independent events.</p>	<p>G7 M5 Lesson 6: Using Tree Diagrams to Represent a Sample Space and to Calculate Probabilities</p> <p>G7 M5 Lesson 7: Calculating Probabilities of Compound Events</p> <p>G7 M5 Lessons 10–11: Conducting a Simulation to Estimate the Probability of an Event</p> <p>Note: Supplemental material is necessary to formally introduce dependent and independent events.</p>