Grade 6 | Indiana Academic Standards for Mathematics Correlation to *Eureka Math*®

About *Eureka Math*

Created by Great Minds®, a mission-driven Public Benefit Corporation, *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

Great Minds offers detailed analyses that demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

Data

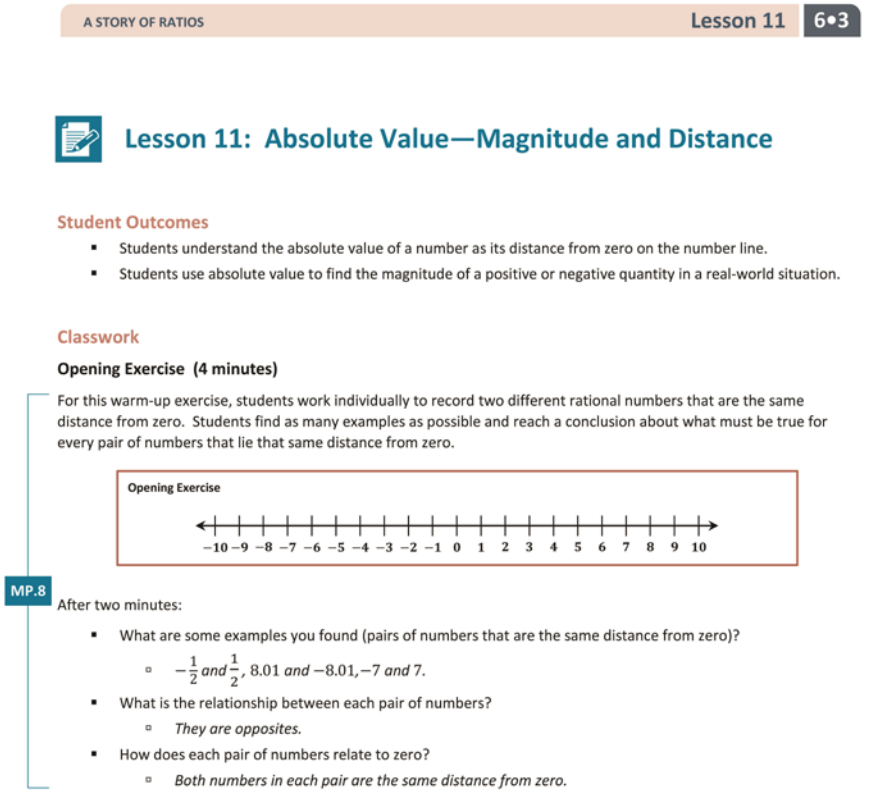
Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

Full Suite of Resources

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

Mathematics Process Standards	Aligned Components of *Eureka Math*
PS.1 Make sense of problems and persevere in solving them.	Lessons in every module engage students in mathematical processes. These are designated in the Module Overview and labeled in lessons. For example: 
PS.2 Reason abstractly and quantitatively.	
PS.3 Construct viable arguments and critique the reasoning of others.	
PS.4 Model with mathematics.	
PS.5 Use appropriate tools strategically.	
PS.6 Attend to precision.	
PS.7 Look for and make use of structure.	
PS.8 Look for and express regularity in repeated reasoning.	

Number Sense

Students begin to apply negative integers within real-world contexts and use number lines to model opposite signed numbers as located on opposite sides of zero.

Indiana Academic Standards for Mathematics	Aligned Components of *Eureka Math*
6.NS.1 Use positive and negative numbers to represent and compare quantities in real-world contexts, explaining the meaning of 0 in each situation. (E)	G6 M3 Lesson 2: Real-World Positive and Negative Numbers and Zero G6 M3 Lesson 3: Real-World Positive and Negative Numbers and Zero G6 M3 Lesson 4: The Opposite of a Number G6 M3 Lesson 5: The Opposite of a Number's Opposite G6 M3 Lesson 6: Rational Numbers on the Number Line G6 M3 Lesson 13: Statements of Order in the Real World
6.NS.2 Explain how opposite signs of numbers indicate locations on opposite sides of 0 on the number line; identify the opposite of the opposite of a number.	G6 M3 Lesson 4: The Opposite of a Number G6 M3 Lesson 5: The Opposite of a Number's Opposite G6 M3 Lesson 6: Rational Numbers on the Number Line
6.NS.3 Compare and order rational numbers and plot them on a number line. Write, interpret, and explain statements of order for rational numbers in real-world contexts.	G6 M3 Topic A: Understanding Positive and Negative Numbers on the Number Line G6 M3 Topic B: Order and Absolute Value G6 M3 Topic C: Rational Numbers and the Coordinate Plane
6.NS.4 Solve real-world problems with positive fractions and decimals by using one or two operations. (E)	G6 M2 Topic A: Arithmetic Operations Including Dividing by a Fraction G6 M2 Topic B: Multi-Digit Decimal Operations—Adding, Subtracting, and Multiplying G6 M2 Topic C: Dividing Whole Numbers and Decimals

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6.NS.5 Apply the order of operations and properties of operations (i.e., identity, inverse, commutative properties of addition and multiplication, associative properties of addition and multiplication, and distributive property) to evaluate numerical expressions with nonnegative rational numbers, including those using grouping symbols, such as parentheses, and involving whole number exponents. (E)	G6 M4 Lesson 5: Exponents G6 M4 Lesson 6: The Order of Operations G6 M4 Topic C: Replacing Letters and Numbers G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions G6 M4 Topic E: Expressing Operations in Algebraic Form G6 M4 Topic F: Writing and Evaluating Expressions and Formulas
6.NS.6 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers from 1 to 100, with a common factor as a multiple of a sum of two whole numbers with no common factor.	G6 M2 Lesson 17: Divisibility Tests for 3 and 9 G6 M2 Lesson 18: Least Common Multiple and Greatest Common Factor G6 M2 Lesson 19: The Euclidean Algorithm as an Application of the Long Division Algorithm

Indiana Academic Standards for Mathematics	Aligned Components of *Eureka Math*
6.NS.7 Apply the properties of operations (i.e., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions and to justify whether two linear expressions are equivalent when the two expressions name the same number regardless of which value is substituted into them. (E)	G6 M4 Topic A: Relationships of the Operations G6 M4 Lesson 8: Replacing Numbers with Letters G6 M4 Lesson 9: Writing Addition and Subtraction Expressions G6 M4 Lesson 10: Writing and Expanding Multiplication Expressions G6 M4 Lesson 11: Factoring Expressions G6 M4 Lesson 12: Distributing Expressions G6 M4 Lesson 13: Writing Division Expressions
6.NS.8 Evaluate positive rational numbers with whole number exponents.	G6 M4 Topic B: Special Notations of Operations G6 M4 Lesson 16: Write Expressions in Which Letters Stand for Numbers

Ratios and Proportional Reasoning

Students use ratios and reasoning to compare two quantities and understand unit rate. Students use ratios and unit rates to model and solve real-world problems.

Indiana Academic Standards for Mathematics	Aligned Components of *Eureka Math*
6.RP.1 Convert between any two representations (fractions, decimals, percents) of positive rational numbers without the use of a calculator. (E)	G6 M1 Lesson 24: Percent and Rates per 100 G6 M1 Lesson 25: A Fraction as a Percent

Indiana Academic Standards for Mathematics	Aligned Components of *Eureka Math*
6.RP.2 Understand the concept of a unit rate and use terms related to rate in the context of a ratio relationship.	G6 M1 Topic A: Representing and Reasoning About Ratios G6 M1 Topic B: Collections of Equivalent Ratios G6 M1 Topic C: Unit Rates G6 M1 Lesson 24: Percent and Rates per 100 G6 M1 Lesson 25: A Fraction as a Percent
6.RP.3 Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane.	G6 M1 Topic A: Representing and Reasoning About Ratios
6.RP.4 Solve real-world and other mathematical problems involving rates and ratios using models and strategies such as reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. (E)	G6 M1 Lesson 3: Equivalent Ratios G6 M1 Lesson 4: Equivalent Ratios G6 M1 Lesson 5: Solving Problems by Finding Equivalent Ratios G6 M1 Lesson 6: Solving Problems by Finding Equivalent Ratios G6 M1 Lesson 7: Associated Ratios and the Value of a Ratio G6 M1 Lesson 8: Equivalent Ratios Defined Through the Value of a Ratio G6 M1 Topic B: Collections of Equivalent Ratios G6 M1 Topic C: Unit Rates

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6.RP.5 Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. (E)	G6 M4 Lesson 31: Problems in Mathematical Terms G6 M4 Lesson 32: Multi-Step Problems in the Real World

Algebra and Functions

Students evaluate algebraic expressions, write algebraic expressions to represent quantities in context, and create equivalent algebraic expressions.

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6.AF.1 Define and use multiple variables when writing expressions to represent real-world and other mathematical problems, and evaluate them for given values. (E)	G6 M4 Topic C: Replacing Letters and Numbers G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions G6 M4 Topic E: Expressing Operations in Algebraic Form G6 M4 Topic F: Writing and Evaluating Expressions and Formulas

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6.AF.2 Demonstrate which values from a specified set, if any, make the equation or inequality true. Use substitution to determine whether a given number in a specified set makes an equation or inequality true. (E)	G6 M4 Topic F: Writing and Evaluating Expressions and Formulas G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
6.AF.3 Solve equations of the form $x + p = q$, $x - p = q$, $px = q$, and $\frac{x}{p} = q$ fluently for cases in which p, q and x are all nonnegative rational numbers. Represent real-world problems using equations of these forms and solve such problems. (E)	G6 M4 Topic F: Writing and Evaluating Expressions and Formulas G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
6.AF.4 Write an inequality of the form $x > c$, $x \geq c$, $x < c$, or $x \leq c$, where c is a rational number, to represent a constraint or condition in a real-world or other mathematical problem. Explain that inequalities have infinitely many solutions and how to represent solutions on a number line diagram.	G6 M4 Lesson 33: From Equations to Inequalities G6 M4 Lesson 34: Writing and Graphing Inequalities in Real-World Problems

Indiana Academic Standards for Mathematics	Aligned Components of *Eureka Math*
6.AF.5 Solve real-world and other mathematical problems by graphing points with rational number coordinates on a coordinate plane. Include the use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. (E)	G6 M3 Topic C: Rational Numbers and the Coordinate Plane G6 M5 Topic B: Polygons on the Coordinate Plane

Geometry and Measurement

Students find areas of complex shapes and find volumes of rectangular prisms.

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6.GM.1 Convert between measurement systems (Customary to metric and metric to Customary) given the conversion factors, and use these conversions in solving real-world problems.	G6 M1 Lesson 21: Getting the Job Done—Speed, Work, and Measurement Units G6 M1 Lesson 22: Getting the Job Done—Speed, Work, and Measurement Units G6 M1 Lesson 23: Problem-Solving Using Rates, Unit Rates, and Conversions
6.GM.2 Apply the sums of interior angles of triangles and quadrilaterals to solve real-world and mathematical problems.	G7 M6 Topic B: Constructing Triangles

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6.GM.3 Find the area of complex shapes composed of polygons by composing or decomposing into simple shapes; apply this technique to solve real-world and other mathematical problems.	G6 M5 Topic A: Area of Triangles, Quadrilaterals, and Polygons G6 M5 Lesson 8: Drawing Polygons in the Coordinate Plane G6 M5 Lesson 9: Determining Perimeter and Area of Polygons on the Coordinate Plane
6.GM.4 Find the volume of a right rectangular prism with fractional edge lengths using unit cubes of the appropriate unit fraction edge lengths (e.g., using technology or concrete materials) and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = Bh$ to find volumes of right rectangular prisms with fractional edge lengths to solve real-world and other mathematical problems. (E)	G6 M5 Topic C: Volume of Right Rectangular Prisms G6 M5 Lesson 19: Surface Area and Volume in the Real World G6 M5 Lesson 20: Addendum Lesson for Modeling–Applying Surface Area and Volume to Aquariums

Data Analysis and Statistics

Students represent data using line plots, histograms, and box plots.

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6.DS.1 Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots.	G6 M6 Lesson 2: Displaying a Data Distribution G6 M6 Lesson 3: Creating a Dot Plot G6 M6 Lesson 4: Creating a Histogram G6 M6 Lesson 5: Describing a Distribution Displayed in a Histogram G6 M6 Lesson 14: Summarizing a Distribution Using a Box Plot G6 M6 Lesson 15: More Practice with Box Plots G6 M6 Lesson 16: Understanding Box Plots G6 M6 Lesson 17: Developing a Statistical Project G6 M6 Lesson 18: Connecting Graphical Representations and Numerical Summaries G6 M6 Lesson 20: Describing Center, Variability, and Shape of a Data Distribution from a Graphic Representation G6 M6 Lesson 21: Summarizing a Data Distribution by Describing Center, Variability, and Shape G6 M6 Lesson 22: Presenting a Summary of a Statistical Project
6.DS.2 Formulate statistical questions; collect and organize the data (e.g., using technology), and display and interpret the data with graphical representations (e.g., using technology). (E)	G6 M6 Topic A: Understanding Distributions G6 M6 Topic B: Summarizing a Distribution that Is Approximately Symmetric Using the Mean and Mean Absolute Deviation G6 M6 Topic C: Summarizing a Distribution that is Skewed Using the Median and the Interquartile Range G6 M6 Topic D: Summarizing and Describing Distributions

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6.DS.3 Summarize numerical data sets in relation to their context in multiple ways, such as: (E)	G6 M6 Lesson 4: Creating a Histogram G6 M6 Lesson 5: Describing a Distribution Displayed in a Histogram G6 M6 Topic B: Summarizing a Distribution that Is Approximately Symmetric Using the Mean and Mean Absolute Deviation G6 M6 Topic C: Summarizing a Distribution that is Skewed Using the Median and the Interquartile Range G6 M6 Lesson 18: Connecting Graphical Representations and Numerical Summaries G6 M6 Lesson 19: Comparing Data Distributions G6 M6 Lesson 20: Describing Center, Variability, and Shape of a Data Distribution from a Graphic Representation
6.DS.3.a Report the number of observations;	G6 M6 Lesson 2: Displaying a Data Distribution G6 M6 Lesson 3: Creating a Dot Plot G6 M6 Lesson 4: Creating a Histogram G6 M6 Lesson 5: Describing a Distribution Displayed in a Histogram
6.DS.3.b Describe the nature of the attribute under investigation, including how it was measured and its units of measurement;	G6 M6 Lesson 2: Displaying a Data Distribution
6.DS.3.c Determine quantitative measures of center (mean and/or median) and spread (range and interquartile range);	G6 M6 Topic C: Summarizing a Distribution that is Skewed Using the Median and the Interquartile Range G6 M6 Lesson 21: Summarizing a Data Distribution by Describing Center, Variability, and Shape G6 M6 Lesson 22: Presenting a Summary of a Statistical Project

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6.DS.3.d Describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered; and	G6 M6 Lesson 21: Summarizing a Data Distribution by Describing Center, Variability, and Shape G6 M6 Lesson 22: Presenting a Summary of a Statistical Project
6.DS.3.e Relate the choice of measures of center and spread to the shape of the data distribution and the context in which the data were gathered.	G6 M6 Lesson 21: Summarizing a Data Distribution by Describing Center, Variability, and Shape G6 M6 Lesson 22: Presenting a Summary of a Statistical Project