

7–8 | Indiana Academic Standards for Mathematics Correlation to *Eureka Math*²®

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 Math*²®, 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*² 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*² 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*² 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*² 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*² 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.

Process Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>PS.1 Make sense of problems and persevere in solving them.</p>	<p>Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.</p>
<p>PS.2 Reason abstractly and quantitatively.</p>	<p>Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.</p>
<p>PS.3 Construct viable arguments and critique the reasoning of others.</p>	<p>Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.</p>
<p>PS.4 Model with mathematics.</p>	<p>Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.</p>
<p>PS.5 Use appropriate tools strategically.</p>	<p>Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.</p>
<p>PS.6 Attend to precision.</p>	<p>Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.</p>
<p>PS.7 Look for and make use of structure.</p>	<p>Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.</p>
<p>PS.8 Look for and express regularity in repeated reasoning.</p>	<p>Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.</p>

Number Sense

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>7.NS.1</p> <p>Find the prime factorization of whole numbers and write the results using exponents.</p>	<p>6 M2 Lesson 3: The Greatest Common Factor</p> <p>6 M4 Lesson 3: Exploring Exponents</p>
<p>7.NS.2</p> <p>Understand the inverse relationship between squaring and finding the square root of a perfect square whole number. Find square roots of perfect square whole numbers.</p>	<p>7–8 M1 Lesson 18: Solving Equations with Squares and Cubes</p> <p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p>
<p>7.NS.3</p> <p>Know there are rational and irrational numbers. Identify, compare, and order rational and irrational numbers (e.g., $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, π) and plot them on a number line.</p>	<p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p> <p>7–8 M1 Lesson 21: Approximating Values of Roots</p> <p>7–8 M1 Lesson 22: Rational and Irrational Numbers</p> <p>7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes</p>

Number Sense

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>8.NS.1</p> <p>Give examples of rational and irrational numbers and explain the difference between them. Understand that every number has a decimal equivalent. For rational numbers, show that the decimal equivalent terminates or repeats, and convert a repeating decimal into a rational number.</p>	<p>7–8 M1 Lesson 9: Decimal Expansions of Rational Numbers</p> <p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p> <p>7–8 M1 Lesson 22: Rational and Irrational Numbers</p> <p>7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes</p> <p>7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions</p>
<p>8.NS.2</p> <p>Use rational approximations of irrational numbers to compare the size of irrational numbers, plot them approximately on a number line, and estimate the value of expressions involving irrational numbers.</p>	<p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p> <p>7–8 M1 Lesson 21: Approximating Values of Roots</p> <p>7–8 M1 Lesson 22: Rational and Irrational Numbers</p>
<p>8.NS.3</p> <p>Given a numeric expression with common rational number bases and integer exponents, apply the properties of exponents to generate equivalent expressions.</p>	<p>7–8 M1 Lesson 11: Products of Exponential Expressions with Positive Whole-Number Exponents</p> <p>7–8 M1 Lesson 12: More Properties of Exponents</p> <p>7–8 M1 Lesson 13: Making Sense of Integer Exponents</p>

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>8.NS.4</p> <p>Use square root symbols to represent solutions to equations of the form $x^2 = p$, where p is a positive rational number.</p>	<p>7–8 M1 Lesson 18: Solving Equations with Squares and Cubes</p> <p>7–8 M1 Lesson 19: The Pythagorean Theorem</p> <p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p> <p>7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes</p>

Computation

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>7.C.1</p> <p>Understand $p + q$ as the number located a distance q from p, in the positive or negative direction, depending on whether q is positive or negative. Show on a number line that a number and its opposite have a sum of 0 (are additive inverses). Find and interpret sums of rational numbers in real-world contexts.</p>	<p>7–8 M1 Lesson 1: Adding Integers and Rational Numbers</p>
<p>7.C.2</p> <p>Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.</p>	<p>7–8 M1 Lesson 3: Finding Distances to Find Differences</p> <p>7–8 M1 Lesson 4: Subtracting Integers</p> <p>7–8 M1 Lesson 5: Subtracting Rational Numbers</p>

Indiana Academic Standards for Mathematics

Aligned Components of *Eureka Math*²

<p>7.C.3</p> <p>Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers.</p>	<p>7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers</p> <p>7–8 M1 Lesson 7: Exponential Expressions and Relating Multiplication to Division</p>
<p>7.C.4</p> <p>Understand that integers can be divided, provided that the divisor is not zero. Understand that if p and q are integers, then $-\left(\frac{p}{q}\right) = \frac{-p}{q} = \frac{p}{-q}$.</p>	<p>7–8 M1 Lesson 8: Dividing Integers and Rational Numbers</p>
<p>7.C.5</p> <p>Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units.</p>	<p>7–8 M2 Lesson 12: An Experiment with Ratios and Rates</p> <p>7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships</p>
<p>7.C.6</p> <p>Use proportional relationships to solve ratio and percent problems with multiple operations (e.g., simple interest, tax, markups, markdowns, gratuities, conversions within and across measurement systems, and percent increase and decrease).</p>	<p>6 M1 Lesson 19: Using Rates to Convert Units</p> <p>7–8 M2 Lesson 16: Applying Proportional Reasoning</p> <p>7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems</p> <p>7–8 M2 Lesson 18: Handstand Sprint</p> <p>7–8 M2 Topic D: Percents and Proportional Relationships</p>

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>7.C.7</p> <p>Compute fluently with rational numbers using an algorithmic approach.</p>	<p>7–8 M1 Topic A: Add and Subtract Rational Numbers</p> <p>7–8 M1 Topic B: Multiply and Divide Rational Numbers</p>
<p>7.C.8</p> <p>Solve real-world problems with rational numbers by using one or two operations.</p>	<p>7–8 M1 Lesson 1: Adding Integers and Rational Numbers</p> <p>7–8 M1 Lesson 3: Finding Distances to Find Differences</p> <p>7–8 M1 Lesson 4: Subtracting Integers</p> <p>7–8 M1 Lesson 5: Subtracting Rational Numbers</p> <p>7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers</p> <p>7–8 M1 Lesson 8: Dividing Integers and Rational Numbers</p>

Computation

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>8.C.1</p> <p>Solve real-world problems with rational numbers by using multiple operations.</p>	<p>7–8 M1 Lesson 8: Dividing Integers and Rational Numbers</p> <p>7–8 M2 Lesson 11: Using Linear Equations to Solve Real-World Problems</p> <p>7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems</p> <p>7–8 M2 Lesson 18: Handstand Sprint</p> <p>7–8 M2 Lesson 23: What Is the Best Deal?</p>

<p>Indiana Academic Standards for Mathematics</p>	<p>Aligned Components of <i>Eureka Math</i>²</p>
<p>8.C.2</p> <p>Solve real-world and other mathematical problems involving numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Interpret scientific notation that has been generated by technology, such as a scientific calculator, graphing calculator, or Excel spreadsheet.</p>	<p>7–8 M1 Lesson 10: Large and Small Positive Numbers</p> <p>7–8 M1 Lesson 14: Writing Very Large and Very Small Numbers in Scientific Notation</p> <p>7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation</p> <p>7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation</p> <p>7–8 M1 Lesson 17: Get to the Point</p>

Algebra and Functions

<p>Indiana Academic Standards for Mathematics</p>	<p>Aligned Components of <i>Eureka Math</i>²</p>
<p>7.AF.1</p> <p>Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that involve factoring out a common number (e.g., given $2x - 10$, create an equivalent expression $2(x - 5)$). Justify each step in the process.</p>	<p>7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations</p>

**Indiana Academic Standards
for Mathematics**

Aligned Components of *Eureka Math*²

<p>7.AF.2</p> <p>Solve equations of the form $px + q = r$ and $p(x + q) = r$ fluently, where p, q, and r are specific rational numbers. Represent real-world problems using equations of these forms and solve such problems.</p>	<p>7–8 M2 Lesson 1: Finding Unknown Angle Measures</p> <p>7–8 M2 Lesson 3: Solving Equations</p> <p>7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities</p>
<p>7.AF.3</p> <p>Solve inequalities of the form $px + q (> \text{ or } \geq) r$ or $px + q (< \text{ or } \leq) r$, where p, q, and r are specific rational numbers. Represent real-world problems using inequalities of these forms and solve such problems. Graph the solution set of the inequality and interpret it in the context of the problem.</p>	<p>7–8 M2 Lesson 4: Using Equations to Solve Inequalities</p> <p>7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities</p>
<p>7.AF.4</p> <p>Define slope as vertical change for each unit of horizontal change and recognize that a constant rate of change or constant slope describes a linear function. Identify and describe situations with constant or varying rates of change.</p>	<p>7–8 M4 Lesson 5: Proportional Relationships and Slope</p> <p>7–8 M4 Lesson 6: Slopes of Rising Lines and Falling Lines</p> <p>7–8 M4 Lesson 7: Using Coordinates to Find Slope</p> <p>7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line</p> <p>7–8 M5 Lesson 6: Linear Functions and Rate of Change</p> <p>7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value</p>
<p>7.AF.5</p> <p>Graph a line given its slope and a point on the line. Find the slope of a line given its graph.</p>	<p>7–8 M4 Lesson 6: Slopes of Rising Lines and Falling Lines</p> <p>7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line</p>

**Indiana Academic Standards
for Mathematics**

Aligned Components of *Eureka Math*²

<p>7.AF.6</p> <p>Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin).</p>	<p>7–8 M2 Lesson 12: An Experiment with Ratios and Rates</p> <p>7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships</p> <p>7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships</p> <p>7–8 M2 Lesson 19: Proportional Reasoning and Percents</p>
<p>7.AF.7</p> <p>Identify the unit rate or constant of proportionality in tables, graphs, equations, and verbal descriptions of proportional relationships.</p>	<p>7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships</p> <p>7–8 M2 Lesson 15: Relating Representations of Proportional Relationships</p> <p>7–8 M2 Lesson 16: Applying Proportional Reasoning</p>
<p>7.AF.8</p> <p>Explain what the coordinates of a point on the graph of a proportional relationship mean in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$, where r is the unit rate.</p>	<p>7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships</p> <p>7–8 M2 Lesson 15: Relating Representations of Proportional Relationships</p>

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>7.AF.9</p> <p>Represent real-world and other mathematical situations that involve proportional relationships. Write equations and draw graphs to represent these proportional relationships. Recognize that these situations are described by a linear function in the form $y = mx$, where the unit rate, m, is the slope of the line.</p>	<p>7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships</p> <p>7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships</p> <p>7–8 M2 Lesson 15: Relating Representations of Proportional Relationships</p> <p>7–8 M2 Lesson 16: Applying Proportional Reasoning</p> <p>7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems</p> <p>7–8 M2 Lesson 18: Handstand Sprint</p> <p>7–8 M2 Lesson 19: Proportional Reasoning and Percents</p> <p>7–8 M4 Lesson 4: Comparing Proportional Relationships</p> <p>7–8 M4 Lesson 5: Proportional Relationships and Slope</p>

Algebra and Functions

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>8.AF.1</p> <p>Solve linear equations and inequalities with rational number coefficients fluently, including those whose solutions require expanding expressions using the distributive property and collecting like terms. Represent real-world problems using linear equations and inequalities in one variable and solve such problems.</p>	<p>7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions</p> <p>7–8 M2 Topic B: Multi-Step Equations and Their Solutions</p> <p>A1 M1 Lesson 13: Solving Linear Inequalities in One Variable</p> <p><i>Supplemental material is necessary to address real-world problems with multi-step linear inequalities.</i></p>

**Indiana Academic Standards
for Mathematics**

Aligned Components of *Eureka Math*²

<p>8.AF.2</p> <p>Generate linear equations in one variable with one solution, infinitely many solutions, or no solutions. Justify the classification given.</p>	<p>7–8 M2 Lesson 8: Solving Equations with Rational Coefficients</p> <p>7–8 M2 Lesson 9: Linear Equations with More Than One Solution</p> <p>7–8 M2 Lesson 10: Another Possible Number of Solutions</p>
<p>8.AF.3</p> <p>Understand that a function assigns to each x-value (independent variable) exactly one y-value (dependent variable), and that the graph of a function is the set of ordered pairs (x, y).</p>	<p>7–8 M5 Lesson 1: Motion and Speed</p> <p>7–8 M5 Lesson 2: Definition of a Function</p> <p>7–8 M5 Lesson 4: More Examples of Functions</p> <p>7–8 M5 Lesson 5: Graphs of Functions and Equations</p>
<p>8.AF.4</p> <p>Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear, has a maximum or minimum value). Sketch a graph that exhibits the qualitative features of a function that has been verbally described.</p>	<p>7–8 M5 Lesson 9: Increasing and Decreasing Functions</p> <p>7–8 M5 Lesson 10: Graphs of Nonlinear Functions</p>

Indiana Academic Standards for Mathematics

Aligned Components of *Eureka Math*²

<p>8.AF.5</p> <p>Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. Describe similarities and differences between linear and nonlinear functions from tables, graphs, verbal descriptions, and equations.</p>	<p>7–8 M5 Lesson 3: Linear Functions and Proportionality</p> <p>7–8 M5 Lesson 6: Linear Functions and Rate of Change</p> <p>7–8 M5 Lesson 10: Graphs of Nonlinear Functions</p> <p><i>Supplemental material is necessary to address similarities and differences between linear and nonlinear functions.</i></p>
<p>8.AF.6</p> <p>Construct a function to model a linear relationship between two quantities given a verbal description, table of values, or graph. Recognize in $y = mx + b$ that m is the slope (rate of change) and b is the y-intercept of the graph, and describe the meaning of each in the context of a problem.</p>	<p>7–8 M5 Lesson 6: Linear Functions and Rate of Change</p> <p>7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value</p> <p>7–8 M5 Lesson 23: Applications of Volume</p>
<p>8.AF.7</p> <p>Compare properties of two linear functions given in different forms, such as a table of values, equation, verbal description, and graph (e.g., compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed).</p>	<p>7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value</p> <p>7–8 M5 Lesson 8: Comparing Functions</p>

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>8.AF.8</p> <p>Understand that solutions to a system of two linear equations correspond to points of intersection of their graphs because points of intersection satisfy both equations simultaneously. Approximate the solution of a system of equations by graphing and interpreting the reasonableness of the approximation.</p>	<p>7–8 M4 Lesson 11: Introduction to Systems of Linear Equations</p> <p>7–8 M4 Lesson 12: Identifying Solutions</p> <p>7–8 M4 Lesson 13: More Than One Solution</p> <p>7–8 M4 Lesson 16: Choosing a Solution Method</p> <p>7–8 M4 Lesson 19: Back to the Coordinate Plane</p> <p>7–8 M4 Lesson 20: Modeling a Real-World Problem</p>

Geometry and Measurement

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>7.GM.1</p> <p>Explore triangles with given conditions from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle</p>	<p>7–8 M3 Lesson 1: Sketching and Constructing Geometric Figures</p> <p>7–8 M3 Lesson 2: Conditions of Unique Triangles</p>
<p>7.GM.2</p> <p>Identify and describe similarity relationships of polygons including the angle-angle criterion for similar triangles, and solve problems involving similarity.</p>	<p>7–8 M3 Lesson 27: Similar Figures</p> <p>7–8 M3 Lesson 28: Exploring Angles in Similar Triangles</p> <p>7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths</p>

**Indiana Academic Standards
for Mathematics**

Aligned Components of *Eureka Math*²

<p>7.GM.3</p> <p>Solve real-world and other mathematical problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing. Create a scale drawing by using proportional reasoning.</p>	<p>7–8 M3 Topic D: Scale Drawings and Dilations</p>
<p>7.GM.4</p> <p>Solve real-world and other mathematical problems using facts about vertical, adjacent, complementary, and supplementary angles.</p>	<p>7–8 M2 Lesson 1: Finding Unknown Angle Measures</p> <p>7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations</p> <p>7–8 M2 Lesson 7: Solving Multi-Step Equations</p>
<p>7.GM.5</p> <p>Understand the formulas for area and circumference of a circle and use them to solve real-world and other mathematical problems; give an informal derivation of the relationship between circumference and area of a circle.</p>	<p>7–8 M3 Lesson 3: Exploring and Constructing Circles</p> <p>7–8 M3 Lesson 4: Area and Circumference of a Circle</p> <p>7–8 M3 Lesson 5: Area and Circumference of Circular Regions</p> <p>7–8 M3 Lesson 6: Watering a Lawn</p>
<p>7.GM.6</p> <p>Solve real-world and other mathematical problems involving volume of cylinders and three-dimensional objects composed of right rectangular prisms.</p>	<p>7–8 M5 Lesson 16: Volume of Prisms</p> <p>7–8 M5 Lesson 17: Volume of Cylinders</p> <p>7–8 M5 Lesson 18: Designing a Fish Tank</p>

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>7.GM.7</p> <p>Construct nets for right rectangular prisms and cylinders and use the nets to compute the surface area; apply this technique to solve real-world and other mathematical problems.</p>	<p>6 M5 Topic C: Nets and Surface Area</p> <p>7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids</p> <p>7–8 M5 Lesson 12: Surface Area of Cylinders</p>

Geometry and Measurement

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>8.GM.1</p> <p>Identify, define, and describe attributes of three-dimensional geometric objects (right rectangular prisms, cylinders, cones, spheres, and pyramids). Explore the effects of slicing these objects using appropriate technology and describe the two-dimensional figure that results.</p>	<p>6 M5 Lesson 9: Properties of Solids</p> <p>7–8 M5 Lesson 12: Surface Area of Cylinders</p> <p>7–8 M5 Lesson 13: Understanding Planes and Cross Sections</p> <p>7–8 M5 Lesson 14: Cross Section Scavenger Hunt</p> <p>7–8 M5 Lesson 15: Proportionality and Scale Factor of Cross Sections</p> <p>7–8 M5 Lesson 19: Volumes of Pyramids and Cones</p> <p><i>Supplemental material is necessary to address the effects of slicing cylinders, cones, and spheres.</i></p>
<p>8.GM.2</p> <p>Solve real-world and other mathematical problems involving volume of cones, spheres, and pyramids and surface area of spheres.</p>	<p>7–8 M5 Topic D: Volume</p> <p><i>Supplemental material is necessary to address surface area of spheres.</i></p>

**Indiana Academic Standards
for Mathematics**

Aligned Components of *Eureka Math*²

<p>8.GM.3</p> <p>Verify experimentally the properties of rotations, reflections, and translations, including: lines are mapped to lines, and line segments to line segments of the same length; angles are mapped to angles of the same measure; and parallel lines are mapped to parallel lines.</p>	<p>7–8 M3 Lesson 7: Motions of the Plane</p> <p>7–8 M3 Lesson 8: Translations, Reflections, and Rotations</p> <p>7–8 M3 Lesson 9: Rigid Motions on the Coordinate Plane</p> <p>7–8 M3 Lesson 10: Sequencing the Rigid Motions</p>
<p>8.GM.4</p> <p>Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations. Describe a sequence that exhibits the congruence between two given congruent figures.</p>	<p>7–8 M3 Lesson 10: Sequencing the Rigid Motions</p> <p>7–8 M3 Lesson 11: Showing Figures Are Congruent</p> <p>7–8 M3 Lesson 12: Lines Cut by a Transversal</p>
<p>8.GM.5</p> <p>Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations. Describe a sequence that exhibits the similarity between two given similar figures.</p>	<p>7–8 M3 Lesson 27: Similar Figures</p> <p>7–8 M3 Lesson 28: Exploring Angles in Similar Triangles</p>

**Indiana Academic Standards
for Mathematics**

Aligned Components of *Eureka Math*²

<p>8.GM.6</p> <p>Explore dilations, translations, rotations, and reflections on two-dimensional figures in the coordinate plane.</p>	<p>7–8 M3 Lesson 9: Rigid Motions on the Coordinate Plane</p> <p>7–8 M3 Lesson 22: Dilations</p> <p>7–8 M3 Lesson 23: Using Lined Paper to Explore Dilations</p> <p>7–8 M3 Lesson 24: Figures and Dilations</p> <p>7–8 M3 Lesson 25: The Shadowy Hand</p> <p>7–8 M3 Lesson 26: Dilations on the Coordinate Plane</p>
<p>8.GM.7</p> <p>Use inductive reasoning to explain the Pythagorean relationship.</p>	<p>7–8 M1 Lesson 19: The Pythagorean Theorem</p> <p>7–8 M3 Lesson 15: Proving the Pythagorean Theorem</p> <p>7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem</p>
<p>8.GM.8</p> <p>Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and other mathematical problems in two dimensions.</p>	<p>7–8 M1 Lesson 19: The Pythagorean Theorem</p> <p>7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem</p> <p>7–8 M3 Lesson 17: Applications of the Pythagorean Theorem</p> <p>7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths</p>
<p>8.GM.9</p> <p>Apply the Pythagorean Theorem to find the distance between two points in a coordinate plane.</p>	<p>7–8 M3 Lesson 17: Applications of the Pythagorean Theorem</p>

Data Analysis, Statistics, and Probability

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>7.DSP.1</p> <p>Understand that statistics can be used to gain information about a population by examining a sample of the population. Understand that conclusions and generalizations about a population from a sample are valid only if the sample is representative of that population and that random sampling tends to produce representative samples and support valid inferences.</p>	<p>7–8 M6 Lesson 10: Populations and Samples</p> <p>7–8 M6 Lesson 11: Selecting a Sample</p> <p>7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean</p>
<p>7.DSP.2</p> <p>Use data from a random sample to draw inferences about a population. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.</p>	<p>7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean</p> <p>7–8 M6 Lesson 13: Sampling Variability and the Effect of Sample Size</p> <p>7–8 M6 Lesson 14: Sampling Variability When Estimating a Population Proportion</p>
<p>7.DSP.3</p> <p>Find, use, and interpret measures of center (mean and median) and measures of spread (range, interquartile range, and mean absolute deviation) for numerical data from random samples to draw comparative inferences about two populations.</p>	<p>7–8 M6 Topic D: Comparing Populations</p> <p><i>Supplemental material is necessary to address using interquartile range to draw comparative inferences about two populations.</i></p>

**Indiana Academic Standards
for Mathematics**

Aligned Components of *Eureka Math*²

<p>7.DSP.4</p> <p>Make observations about the degree of visual overlap of two numerical data distributions represented in line plots or box plots. Describe how data, particularly outliers, added to a data set may affect the mean and/or median.</p>	<p>6 M6 Lesson 20: Choosing a Measure of Center</p> <p>7–8 M6 Topic D: Comparing Populations</p>
<p>7.DSP.5</p> <p>Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Understand that a probability near 0 indicates an unlikely event, a probability around $\frac{1}{2}$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. Understand that a probability of 1 indicates an event certain to occur and a probability of 0 indicates an event impossible to occur. Identify probabilities of events as impossible, unlikely, equally likely, likely, or certain.</p>	<p>7–8 M6 Lesson 1: What Is Probability?</p>
<p>7.DSP.6</p> <p>Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its relative frequency from a large sample.</p>	<p>7–8 M6 Lesson 1: What Is Probability?</p> <p>7–8 M6 Lesson 2: Outcomes of Chance Experiments</p> <p>7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely</p> <p>7–8 M6 Lesson 7: Picking Blue</p>

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>7.DSP.7</p> <p>Develop probability models that include the sample space and probabilities of outcomes to represent simple events with equally likely outcomes. Predict the approximate relative frequency of the event based on the model. Compare probabilities from the model to observed frequencies; evaluate the level of agreement and explain possible sources of discrepancy.</p>	<p>7–8 M6 Lesson 1: What Is Probability?</p> <p>7–8 M6 Lesson 2: Outcomes of Chance Experiments</p> <p>7–8 M6 Lesson 3: Theoretical Probability</p> <p>7–8 M6 Lesson 6: The Law of Large Numbers</p> <p>7–8 M6 Lesson 7: Picking Blue</p>

Data Analysis, Statistics, and Probability

Indiana Academic Standards for Mathematics	Aligned Components of <i>Eureka Math</i> ²
<p>8.DSP.1</p> <p>Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantitative variables. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.</p>	<p>7–8 M6 Lesson 18: Scatter Plots</p> <p>7–8 M6 Lesson 19: Patterns in Scatter Plots</p>

**Indiana Academic Standards
for Mathematics**

Aligned Components of *Eureka Math*²

<p>8.DSP.2</p> <p>Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and describe the model fit by judging the closeness of the data points to the line.</p>	<p>7–8 M6 Lesson 20: Informally Fitting a Line to Data</p> <p>7–8 M6 Lesson 21: Linear Models</p>
<p>8.DSP.3</p> <p>Write and use equations that model linear relationships to make predictions, including interpolation and extrapolation, in real-world situations involving bivariate measurement data. Interpret the slope and y-intercept in context.</p>	<p>7–8 M6 Lesson 20: Informally Fitting a Line to Data</p> <p>7–8 M6 Lesson 21: Linear Models</p> <p><i>Supplemental material is necessary to address extrapolation.</i></p>
<p>8.DSP.4</p> <p>Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. Understand and use appropriate terminology to describe independent, dependent, complementary, and mutually exclusive events.</p>	<p>7–8 M6 Lesson 4: Multistage Experiments</p> <p><i>Supplemental material is necessary to address using appropriate terminology to describe events.</i></p>

**Indiana Academic Standards
for Mathematics**

Aligned Components of *Eureka Math*²

<p>8.DSP.5</p> <p>Represent sample spaces and find probabilities of compound events (independent and dependent) using organized lists, tables, and tree diagrams.</p>	<p>7–8 M6 Lesson 4: Multistage Experiments</p> <p><i>Supplemental material is necessary to address independent and dependent events.</i></p>
<p>8.DSP.6</p> <p>For events with a large number of outcomes, understand the use of the multiplication counting principle. Develop the multiplication counting principle and apply it to situations with a large number of outcomes.</p>	<p><i>Supplemental material is necessary to address the multiplication counting principle.</i></p>