
7–8 | Missouri Mathematics Learning Standards 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.

Standards for Mathematical Practice	Aligned Components of <i>Eureka Math</i> ²
<p>MP.1 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>MP.2 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>MP.3 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>MP.4 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>MP.5 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>MP.6 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>MP.7 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>MP.8 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>

Ratios and Proportional Relationships

7.RP.A Analyze proportional relationships and use them to solve problems.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>7.RP.A.1</p> <p>Compute unit rates, including those that involve complex fractions, with 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.RP.A.2</p> <p>Recognize and represent proportional relationships between quantities.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>7.RP.A.2.a</p> <p>Determine when two quantities are in a proportional relationship.</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.RP.A.2.b</p> <p>Identify and/or compute the constant of proportionality (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> <p>7–8 M2 Lesson 16: Applying Proportional Reasoning</p>
<p>7.RP.A.2.c</p> <p>Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.</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>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>7.RP.A.2.d</p> <p>Recognize that the graph of any proportional relationship will pass through the origin.</p>	7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships
<p>7.RP.A.3</p> <p>Solve problems involving ratios, rates, percentages and 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 Topic D: Percents and Proportional Relationships</p>

Number Sense and Operations

7.NS.A Apply and extend previous understandings of operations to add, subtract, multiply and divide rational numbers.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>7.NS.A.1</p> <p>Apply and extend previous understandings of numbers to add and subtract rational numbers.</p>	<i>This standard is fully addressed by the lessons aligned to its subsections.</i>
<p>7.NS.A.1.a</p> <p>Add and subtract rational numbers.</p>	7–8 M1 Topic A: Add and Subtract Rational Numbers
<p>7.NS.A.1.b</p> <p>Represent addition and subtraction on a horizontal or vertical number line.</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>

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<p>7.NS.A.1.c</p> <p>Describe situations and show that a number and its opposite have a sum of 0 (additive inverses).</p>	<p>7–8 M1 Lesson 1: Adding Integers and Rational Numbers</p>
<p>7.NS.A.1.d</p> <p>Understand subtraction of rational numbers as adding the additive inverse.</p>	<p>7–8 M1 Lesson 4: Subtracting Integers 7–8 M1 Lesson 5: Subtracting Rational Numbers</p>
<p>7.NS.A.1.e</p> <p>Determine the distance between two rational numbers on the number line is the absolute value of their difference.</p>	<p>7–8 M1 Lesson 3: Finding Distances to Find Differences</p>
<p>7.NS.A.1.f</p> <p>Interpret sums and differences of rational numbers.</p>	<p>7–8 M1 Lesson 1: Adding Integers and Rational Numbers 7–8 M1 Lesson 5: Subtracting Rational Numbers</p>
<p>7.NS.A.2</p> <p>Apply and extend previous understandings of numbers to multiply and divide rational numbers.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>7.NS.A.2.a</p> <p>Multiply and divide rational numbers.</p>	<p>7–8 M1 Topic B: Multiply and Divide Rational Numbers</p>

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<p>7.NS.A.2.b</p> <p>Determine that a number and its reciprocal have a product of 1 (multiplicative inverse).</p>	<p>6 M4 Lesson 20: Solving Equations with Multiplication and Division</p>
<p>7.NS.A.2.c</p> <p>Understand that every quotient of integers (with non-zero divisor) is a rational number.</p>	<p>7–8 M1 Lesson 8: Dividing Integers and Rational Numbers</p>
<p>7.NS.A.2.d</p> <p>Convert a rational number to a decimal.</p>	<p>7–8 M1 Lesson 9: Decimal Expansions of Rational Numbers</p>
<p>7.NS.A.2.e</p> <p>Understand that all rational numbers can be written as fractions or decimal numbers that terminate or repeat.</p>	<p>7–8 M1 Lesson 8: Dividing Integers and Rational Numbers 7–8 M1 Lesson 9: Decimal Expansions of Rational Numbers</p>
<p>7.NS.A.2.f</p> <p>Interpret products and quotients of rational numbers by describing real-world contexts.</p>	<p>7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers 7–8 M1 Lesson 7: Exponential Expressions and Relating Multiplication to Division 7–8 M1 Lesson 8: Dividing Integers and Rational Numbers</p>

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<p>7.NS.A.3</p> <p>Solve problems involving the four arithmetic operations with rational numbers.</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>
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Number Sense and Operations

8.NS.A Know that there are numbers that are not rational, and approximate them by rational numbers.

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<p>8.NS.A.1</p> <p>Explore the real number system.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>8.NS.A.1.a</p> <p>Know the differences between rational and irrational numbers.</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>8.NS.A.1.b</p> <p>Understand that all rational numbers have a decimal expansion that terminates or repeats.</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>

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<p>8.NS.A.1.c</p> <p>Convert decimals which repeat into fractions and fractions into repeating decimals.</p>	<p>7–8 M1 Lesson 9: Decimal Expansions of Rational Numbers</p> <p>7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions</p>
<p>8.NS.A.1.d</p> <p>Generate equivalent representations of rational numbers.</p>	<p>6 M1 Lesson 22: Introduction to Percents</p> <p>7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions</p>
<p>8.NS.A.2</p> <p>Estimate the value and compare the size of irrational numbers and approximate their locations on a number line.</p>	<p>7–8 M1 Lesson 21: Approximating Values of Roots</p> <p>7–8 M1 Lesson 22: Rational and Irrational Numbers</p>

Expressions, Equations and Inequalities

7.EE.1.A Use properties of operations to generate equivalent expressions.

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<p>7.EE.1.A.1</p> <p>Apply properties of operations to simplify and to factor linear algebraic expressions with rational coefficients.</p>	<p>7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations</p>
<p>7.EE.1.A.2</p> <p>Understand how to use equivalent expressions to clarify quantities in a problem.</p>	<p>7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations</p> <p>7–8 M2 Lesson 21: Discount, Markup, Sales Tax, and Tip</p> <p>7–8 M2 Lesson 22: Percent Increase and Percent Decrease</p>

Expressions, Equations and Inequalities

7.EE1.B Solve problems using numerical and algebraic expressions and equations.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>7.EE1.B.3</p> <p>Solve multi-step problems posed with 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>7.EE1.B.3.a</p> <p>Convert between equivalent forms of the same number.</p>	<p>6 M1 Lesson 22: Introduction to Percents</p>
<p>7.EE1.B.3.b</p> <p>Assess the reasonableness of answers using mental computation and estimation strategies.</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>7.EE1.B.4</p> <p>Write and/or solve linear equations and inequalities in one variable.</p>	<p>7–8 M2 Lesson 3: Solving Equations</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.EE1.B.4.a</p> <p>Write and/or solve equations of the form $x + p = q$ and $px = q$ in which p and q are rational numbers.</p>	<p>6 M4 Lesson 19: Solving Equations with Addition and Subtraction</p> <p>6 M4 Lesson 20: Solving Equations with Multiplication and Division</p> <p>6 M4 Lesson 21: Solving Problems with Equations</p>

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<p>7.EE1.B.4.b</p> <p>Write and/or solve two-step equations of the form $px + q = r$ and $p(x + q) = r$, where p, q and r are rational numbers, and interpret the meaning of the solution in the context of the problem.</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.EE1.B.4.c</p> <p>Write, solve and/or graph inequalities of the form $px + q > r$ or $px + q < r$, where p, q and r are rational numbers.</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>

Expressions, Equations and Inequalities

8.EE1.A Work with radicals and integer exponents.

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<p>8.EE1.A.1</p> <p>Know and apply the properties of integer 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>
<p>8.EE1.A.2</p> <p>Investigate concepts of square and cube roots.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>

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<p>8.EE1.A.2.a</p> <p>Solve equations of the form $x^2 = p$ and $x^3 = p$, 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>
<p>8.EE1.A.2.b</p> <p>Evaluate square roots of perfect squares less than or equal to 625 and cube roots of perfect cubes less than or equal to 1,000.</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>
<p>8.EE1.A.2.c</p> <p>Recognize that square roots of non-perfect squares are irrational.</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>
<p>8.EE1.A.3</p> <p>Express very large and very small quantities in scientific notation and approximate how many times larger one is than the other.</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>
<p>8.EE1.A.4</p> <p>Use scientific notation to solve problems.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>

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<p>8.EE1.A.4.a</p> <p>Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used.</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>
<p>8.EE1.A.4.b</p> <p>Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.</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>

Expressions, Equations and Inequalities

8.EE1.B Understand the connections between proportional relationships, lines and linear equations.

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<p>8.EE1.B.5</p> <p>Graph proportional relationships.</p>	<p>7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships</p>
<p>8.EE1.B.5.a</p> <p>Interpret the unit rate as the slope of the graph.</p>	<p>7–8 M4 Lesson 4: Comparing Proportional Relationships</p> <p>7–8 M4 Lesson 5: Proportional Relationships and Slope</p>
<p>8.EE1.B.5.b</p> <p>Compare two different proportional relationships.</p>	<p>7–8 M4 Lesson 4: Comparing Proportional Relationships</p>

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<p>8.EE1.B.6</p> <p>Apply concepts of slope and y-intercept to graphs, equations and proportional relationships.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>8.EE1.B.6.a</p> <p>Explain why the slope (m) is the same between any two distinct points on a non-vertical line in the Cartesian coordinate plane.</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>8.EE1.B.6.b</p> <p>Derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.</p>	<p>7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line</p>

Expressions, Equations and Inequalities

8.EE1.C Analyze and solve linear equations and inequalities and pairs of simultaneous linear equations.

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<p>8.EE1.C.7</p> <p>Solve linear equations and inequalities in one variable.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>

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<p>8.EE1.C.7.a</p> <p>Create and identify linear equations with one solution, infinitely many solutions or no solutions.</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.EE1.C.7.b</p> <p>Solve linear equations and inequalities with rational number coefficients, including equations and inequalities whose solutions require expanding expressions using the distributive property and combining like terms.</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>8.EE1.C.8</p> <p>Analyze and solve systems of linear equations.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>8.EE1.C.8.a</p> <p>Graph systems of linear equations and recognize the intersection as the solution to the system.</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>

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<p>8.EE1.C.8.b</p> <p>Explain why solution(s) to a system of two linear equations in two variables correspond to point(s) of intersection of the graphs.</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>
<p>8.EE1.C.8.c</p> <p>Explain why systems of linear equations can have one solution, no solution or infinitely many solutions.</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>8.EE1.C.8.d</p> <p>Solve systems of two linear equations.</p>	<p>7–8 M4 Topic C: Solving Systems of Linear Equations</p> <p>7–8 M4 Topic D: Writing and Solving Systems of Linear Equations</p> <p>A1 M2 Lesson 9: A New Way to Solve Systems</p> <p>A1 M2 Lesson 10: The Elimination Method</p>

Geometry and Measurement

7.GM.A Draw and describe geometrical figures and describe the relationships between them.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>7.GM.A.1</p> <p>Solve problems involving scale drawings of real objects and geometric figures, including computing actual lengths and areas from a scale drawing and reproducing the drawing at a different scale.</p>	<p>7–8 M3 Topic D: Scale Drawings and Dilations</p>
<p>7.GM.A.2</p> <p>Use a variety of tools to construct geometric shapes.</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>7–8 M3 Lesson 3: Exploring and Constructing Circles</p>
<p>7.GM.A.2.a</p> <p>Determine if provided constraints will create a unique triangle through construction.</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.A.2.b</p> <p>Construct special quadrilaterals given specific parameters.</p>	<p>7–8 M3 Lesson 1: Sketching and Constructing Geometric Figures</p>
<p>7.GM.A.3</p> <p>Describe two-dimensional cross sections of pyramids, prisms, cones and 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><i>Supplemental material is needed to address cross sections of cones and cylinders.</i></p>

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<p>7.GM.A.4 Understand the concepts of circles.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>7.GM.A.4.a Analyze the relationships among the circumference, the radius, the diameter, the area and Pi in a circle.</p>	<p>7–8 M3 Lesson 3: Exploring and Constructing Circles 7–8 M3 Lesson 4: Area and Circumference of a Circle 7–8 M3 Lesson 5: Area and Circumference of Circular Regions</p>
<p>7.GM.A.4.b Know and apply the formulas for circumference and area of circles to solve problems.</p>	<p>7–8 M3 Lesson 3: Exploring and Constructing Circles 7–8 M3 Lesson 4: Area and Circumference of a Circle 7–8 M3 Lesson 5: Area and Circumference of Circular Regions 7–8 M3 Lesson 6: Watering a Lawn</p>

Geometry and Measurement

7.GM.B Apply and extend previous understanding of angle measure, area and volume.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>7.GM.B.5 Use angle properties to write and solve equations for an unknown angle.</p>	<p>7–8 M2 Lesson 1: Finding Unknown Angle Measures 7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations 7–8 M2 Lesson 7: Solving Multi-Step Equations</p>
<p>7.GM.B.6 Understand the relationship between area, surface area and volume.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>7.GM.B.6.a</p> <p>Find the area of triangles, quadrilaterals and other polygons composed of triangles and rectangles.</p>	<p>7 M4 Lesson 16: Solving Area Problems by Composition and Decomposition</p>
<p>7.GM.B.6.b</p> <p>Find the volume and surface area of prisms, pyramids and cylinders.</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> <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 19: Volumes of Pyramids and Cones</p> <p>7–8 M5 Lesson 18: Designing a Fish Tank</p> <p>7–8 M5 Lesson 21: Volume of Composite Solids</p>

Geometry and Measurement

8.GM.A Understand congruence and similarity using physical models, transparencies or geometry software.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>8.GM.A.1</p> <p>Verify experimentally the congruence properties of rigid transformations.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>8.GM.A.1.a</p> <p>Verify that angle measure, betweenness, collinearity and distance are preserved under rigid transformations.</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>

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<p>8.GM.A.1.b</p> <p>Investigate if orientation is preserved under rigid transformations.</p>	<p>8 M2 Lesson 5: Rotations</p>
<p>8.GM.A.2</p> <p>Understand that two-dimensional figures are congruent if a series of rigid transformations can be performed to map the pre-image to the image.</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.A.2.a</p> <p>Describe a possible sequence of rigid transformations between two 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.A.3</p> <p>Describe the effect of dilations, translations, rotations and reflections on two-dimensional figures using coordinates.</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.A.4</p> <p>Understand that two-dimensional figures are similar if a series of transformations (rotations, reflections, translations and dilations) can be performed to map the pre-image to the image.</p>	<p>7–8 M3 Lesson 27: Similar Figures</p> <p>7–8 M3 Lesson 28: Exploring Angles in Similar Triangles</p>

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<p>8.GM.A.4.a</p> <p>Describe a possible sequence of transformations between two similar figures.</p>	<p>7–8 M3 Lesson 27: Similar Figures</p> <p>7–8 M3 Lesson 28: Exploring Angles in Similar Triangles</p>
<p>8.GM.A.5</p> <p>Explore angle relationships and establish informal arguments.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>8.GM.A.5.a</p> <p>Derive the sum of the interior angles of a triangle.</p>	<p>7–8 M3 Lesson 13: Angle Sum of a Triangle</p>
<p>8.GM.A.5.b</p> <p>Explore the relationship between the interior and exterior angles of a triangle.</p>	<p>7–8 M3 Lesson 14: Exterior Angles of Triangles</p>
<p>8.GM.A.5.c</p> <p>Construct and explore the angles created when parallel lines are cut by a transversal.</p>	<p>7–8 M3 Lesson 12: Lines Cut by a Transversal</p> <p>7–8 M3 Lesson 13: Angle Sum of a Triangle</p>
<p>8.GM.A.5.d</p> <p>Use the properties of similar figures to solve problems.</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>

Geometry and Measurement

8.GM.B Understand and apply the Pythagorean Theorem.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>8.GM.B.6</p> <p>Use models to demonstrate a proof of the Pythagorean Theorem and its converse.</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.B.7</p> <p>Use the Pythagorean Theorem to determine unknown side lengths in right triangles in problems in two- and three-dimensional contexts.</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>7–8 M5 Lesson 19: Volumes of Pyramids and Cones</p>
<p>8.GM.B.8</p> <p>Use the Pythagorean Theorem to find the distance between points in a Cartesian coordinate system.</p>	<p>7–8 M3 Lesson 17: Applications of the Pythagorean Theorem</p>

Geometry and Measurement

8.GM.C Solve problems involving volume of cones, pyramids and spheres.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>8.GM.C.9</p> <p>Solve problems involving surface area and volume.</p>	<p>7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids</p> <p>7–8 M5 Topic D: Volume</p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>8.GM.C.9.a</p> <p>Understand the concept of surface area and find surface area of pyramids.</p>	<p>7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids</p>
<p>8.GM.C.9.b</p> <p>Understand the concept of volume and find the volume of pyramids, cones and spheres.</p>	<p>7–8 M5 Lesson 19: Volumes of Pyramids and Cones</p> <p>7–8 M5 Lesson 20: Volume of Spheres</p> <p>7–8 M5 Lesson 21: Volume of Composite Solids</p> <p>7–8 M5 Lesson 22: Volumes of Truncated Cones and Pyramids</p> <p>7–8 M5 Lesson 23: Applications of Volume</p>

Data Analysis, Statistics and Probability

7.DSP.A Use random sampling to draw inferences about a population.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>7.DSP.A.1</p> <p>Understand that statistics can be used to gain information about a population by examining a sample of the population.</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.A.1.a</p> <p>Understand that a sample is a subset of a population.</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.A.1.b</p> <p>Understand that generalizations from a sample are valid only if the sample is representative of the population.</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>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>7.DSP.A.1.c</p> <p>Understand that random sampling is used 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.A.2</p> <p>Use data from multiple samples to draw inferences about a population and investigate variability in estimates of the characteristic of interest.</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>

Data Analysis, Statistics and Probability

7.DSP.B Draw informal comparative inferences about two populations.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>7.DSP.B.3</p> <p>Analyze different data distributions using statistical measures.</p>	<p>7–8 M6 Topic D: Comparing Populations</p>
<p>7.DSP.B.4</p> <p>Compare the numerical measures of center, measures of frequency and measures of variability from two random samples to draw inferences about the population.</p>	<p>7–8 M6 Topic D: Comparing Populations</p>

Data Analysis, Statistics and Probability

7.DSP.C Develop, use and evaluate probability models.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>7.DSP.C.5 Investigate the probability of chance events.</p>	<p><i>This standard is fully addressed by the lesson aligned to its subsections.</i></p>
<p>7.DSP.C.5.a Determine probabilities of simple events.</p>	<p>7–8 M6 Lesson 1: What Is Probability?</p>
<p>7.DSP.C.5.b Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.</p>	<p>7–8 M6 Lesson 1: What Is Probability?</p>
<p>7.DSP.C.6 Investigate the relationship between theoretical and experimental probabilities for simple events.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>7.DSP.C.6.a Predict outcomes using theoretical probability.</p>	<p>7–8 M6 Lesson 1: What Is Probability? 7–8 M6 Lesson 2: Outcomes of Chance Experiments 7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely 7–8 M6 Lesson 7: Picking Blue</p>

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<p>7.DSP.C.6.b</p> <p>Perform experiments that model theoretical probability.</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>
<p>7.DSP.C.6.c</p> <p>Compare theoretical and experimental probabilities.</p>	<p>7–8 M6 Lesson 1: What Is Probability?</p> <p>7–8 M6 Lesson 5: Outcomes That Are Not Equally Likely</p> <p>7–8 M6 Lesson 7: Picking Blue</p>
<p>7.DSP.C.7</p> <p>Explain possible discrepancies between a developed probability model and observed frequencies.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>7.DSP.C.7.a</p> <p>Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.</p>	<p>7–8 M6 Lesson 3: Theoretical Probability</p> <p>7–8 M6 Lesson 6: The Law of Large Numbers</p>
<p>7.DSP.C.7.b</p> <p>Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.</p>	<p>7–8 M6 Lesson 6: The Law of Large Numbers</p> <p>7–8 M6 Lesson 7: Picking Blue</p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>7.DSP.C.8</p> <p>Find probabilities of compound events using organized lists, tables, tree diagrams and simulations.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>7.DSP.C.8.a</p> <p>Represent the sample space of a compound event.</p>	<p>7–8 M6 Lesson 4: Multistage Experiments</p>
<p>7.DSP.C.8.b</p> <p>Design and use a simulation to generate frequencies for compound events.</p>	<p>7–8 M6 Lesson 8: Probability Simulations</p> <p>7–8 M6 Lesson 9: Simulations with Random Number Tables</p>

Data Analysis, Statistics and Probability

8.DSP.A Investigate patterns of association in bivariate data.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>8.DSP.A.1</p> <p>Construct and interpret scatter plots of bivariate measurement data to investigate patterns of association between two quantities.</p>	<p>7–8 M6 Lesson 18: Scatter Plots</p> <p>7–8 M6 Lesson 19: Patterns in Scatter Plots</p>
<p>8.DSP.A.2</p> <p>Generate and use a trend line for bivariate data, and informally assess the fit of 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>

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<p>8.DSP.A.3</p> <p>Interpret the parameters of a linear model of bivariate measurement data to solve problems.</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.A.4</p> <p>Understand the patterns of association in bivariate categorical data displayed in a two-way table.</p>	<p>7–8 M6 Topic F: Bivariate Categorical Data</p>
<p>8.DSP.A.4.a</p> <p>Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects.</p>	<p>7–8 M6 Topic F: Bivariate Categorical Data</p>
<p>8.DSP.A.4.b</p> <p>Use relative frequencies calculated for rows or columns to describe possible association between the two variables.</p>	<p>7–8 M6 Topic F: Bivariate Categorical Data</p>

Functions

8.F.A Define, evaluate and compare functions.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i> ²
<p>8.F.A.1 Explore the concept of functions.</p>	<p><i>This standard is addressed by the lessons aligned to its subsections.</i></p>
<p>8.F.A.1.a Understand that a function assigns to each input exactly one output.</p>	<p>7–8 M5 Lesson 1: Motion and Speed 7–8 M5 Lesson 2: Definition of a Function 7–8 M5 Lesson 4: More Examples of Functions 7–8 M5 Lesson 5: Graphs of Functions and Equations</p>
<p>8.F.A.1.b Determine if a relation is a function.</p>	<p>7–8 M5 Lesson 1: Motion and Speed 7–8 M5 Lesson 2: Definition of a Function 7–8 M5 Lesson 4: More Examples of Functions 7–8 M5 Lesson 5: Graphs of Functions and Equations <i>Supplemental material is necessary to address the term relation.</i></p>
<p>8.F.A.1.c Graph a function.</p>	<p>7–8 M5 Lesson 5: Graphs of Functions and Equations</p>
<p>8.F.A.2 Compare characteristics of two functions each represented in a different way.</p>	<p>7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 8: Comparing Functions</p>
<p>8.F.A.3 Investigate the differences between linear and nonlinear functions.</p>	<p>7–8 M5 Lesson 3: Linear Functions and Proportionality 7–8 M5 Lesson 6: Linear Functions and Rate of Change 7–8 M5 Lesson 10: Graphs of Nonlinear Functions</p>

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>8.F.A.3.a</p> <p>Interpret the equation $y = mx + b$ as defining a linear function, whose parameters are the slope (m) and the y-intercept (b).</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>8.F.A.3.b</p> <p>Recognize that the graph of a linear function has a constant rate of change.</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>8.F.A.3.c</p> <p>Give examples of nonlinear functions.</p>	<p>7–8 M5 Lesson 10: Graphs of Nonlinear Functions</p>

Functions

8.F.B Use functions to model relationships between quantities.

Missouri Mathematics Learning Standards	Aligned Components of <i>Eureka Math</i>²
<p>8.F.B.4</p> <p>Use functions to model linear relationships between quantities.</p>	<p><i>This standard is fully addressed by the lessons aligned to its subsections.</i></p>
<p>8.F.B.4.a</p> <p>Explain the parameters of a linear function based on 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>

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<p>8.F.B.4.b</p> <p>Determine the parameters of a linear function.</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>8.F.B.4.c</p> <p>Determine the x-intercept of a linear function.</p>	<p>7–8 M4 Lesson 2: The Graph of a Linear Equation in Two Variables</p>
<p>8.F.B.5</p> <p>Describe the functional relationship between two quantities from a graph or a verbal description.</p>	<p>7–8 M5 Lesson 9: Increasing and Decreasing Functions</p> <p>7–8 M5 Lesson 10: Graphs of Nonlinear Functions</p>