7–8 | Kansas College & Career Ready Standards Correlation to *Eureka Math²®*

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 Math²®*, 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 Math²* 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 Math² employs streamlined materials that allow teachers to plan more efficiently and focus their energy on delivering high-quality instruction that meets the individual needs of their students. Differentiation suggestions, slide decks, digital interactives, and multiple forms of assessment are just a few of the resources built right into the teacher materials.

Accessibility

Eureka Math² 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 Math²* teacher–writers have created one of the most readable mathematics curricula on the market. The curriculum's readability and accessibility help all students see themselves as mathematical thinkers and doers who are fully capable of owning their mathematics learning.

Digital Engagement

The digital elements of *Eureka Math²* 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 *Eureka Math²*
MP.1 Make sense of problems and persevere in solving them.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.2 Reason abstractly and quantitatively.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.3 Construct viable arguments and critique the reasoning of others.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.4 Model with mathematics.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.5 Use appropriate tools strategically.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.6 Attend to precision.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.7 Look for and make use of structure.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.8 Look for and express regularity in repeated reasoning.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.

Ratios and Proportional Relationships

Analyze proportional relationships and use them to solve real-world and mathematical problems.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.	7–8 M2 Lesson 12: An Experiment with Ratios and Rates 7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships
7.RP.2 Recognize and represent proportional relationships between quantities:	*This standard is fully addressed by the lessons aligned to its subsections.*
7.RP.2a Determine 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.	7–8 M2 Lesson 12: An Experiment with Ratios and Rates 7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships 7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 19: Proportional Reasoning and Percents
7.RP.2b Analyze a table or graph and recognize that, in a proportional relationship, every pair of numbers has the same unit rate (referred to as the "m").	7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 15: Relating Representations of Proportional Relationships 7–8 M2 Lesson 16: Applying Proportional Reasoning

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.RP.2c Represent proportional relationships by equations.	7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships 7–8 M2 Lesson 15: Relating Representations of Proportional Relationships 7–8 M2 Lesson 16: Applying Proportional Reasoning 7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems 7–8 M2 Lesson 18: Handstand Sprint 7–8 M2 Lesson 19: Proportional Reasoning and Percents
7.RP.2d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.	7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships 7–8 M2 Lesson 15: Relating Representations of Proportional Relationships
7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.	7–8 M2 Lesson 16: Applying Proportional Reasoning 7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems 7–8 M2 Lesson 18: Handstand Sprint 7–8 M2 Topic D: Percents and Proportional Relationships

The Number System

Apply and extend previous understandings of operations with positive rational numbers to add, subtract, multiply, and divide all rational numbers.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.NS.1 Represent addition and subtraction on a horizontal or vertical number line diagram.	*This standard is fully addressed by the lessons aligned to its subsections.*
7.NS.1a Describe situations in which opposite quantities combine to make 0. Show that a number and its opposite have a sum of 0 (are additive inverses).	7–8 M1 Lesson 1: Adding Integers and Rational Numbers
7.NS.1b Show $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative.	7–8 M1 Lesson 1: Adding Integers and Rational Numbers
7.NS.1c Model subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$.	7–8 M1 Lesson 4: Subtracting Integers 7–8 M1 Lesson 5: Subtracting Rational Numbers
7.NS.1d Model subtraction as the distance between two rational numbers on the number line where the distance is the absolute value of their difference.	7–8 M1 Lesson 3: Finding Distances to Find Differences

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.NS.1e Apply properties of operations as strategies to add and subtract rational numbers.	7–8 M1 Topic A: Add and Subtract Rational Numbers
7.NS.2 Apply and extend previous understandings of multiplication and division of positive rational numbers to multiply and divide all rational numbers.	*This standard is fully addressed by the lessons aligned to its subsections.*
7.NS.2a Describe how multiplication is extended from positive rational numbers to all 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.	7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers 7–8 M1 Lesson 7: Exponential Expressions and Relating Multiplication to Division
7.NS.2b Explain that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. Leading to situations such that if p and q are integers, then $-\left(\frac{p}{q}\right) = \frac{-p}{q} = \frac{p}{-q}$.	7–8 M1 Lesson 8: Dividing Integers and Rational Numbers

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.NS.2c Apply properties of operations as strategies to multiply and divide rational numbers.	7–8 M1 Topic B: Multiply and Divide Rational Numbers
7.NS.2d Convert a rational number in the form of a fraction to its decimal equivalent using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	7–8 M1 Lesson 9: Decimal Expansions of Rational Numbers
7.NS.3 Solve and interpret real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)	7–8 M1 Lesson 1: Adding Integers and Rational Numbers 7–8 M1 Lesson 3: Finding Distances to Find Differences 7–8 M1 Lesson 4: Subtracting Integers 7–8 M1 Lesson 5: Subtracting Rational Numbers 7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers 7–8 M1 Lesson 8: Dividing Integers and Rational Numbers

The Number System

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

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	7–8 M1 Lesson 20: Using the Pythagorean Theorem 7–8 M1 Lesson 22: Rational and Irrational Numbers 7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes 7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions
8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2).	7–8 M1 Lesson 21: Approximating Values of Roots 7–8 M1 Lesson 22: Rational and Irrational Numbers

Expressions and Equations

Use properties of operations to generate equivalent expressions.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations
7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.	7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations 7–8 M2 Lesson 21: Discount, Markup, Sales Tax, and Tip 7–8 M2 Lesson 22: Percent Increase and Percent Decrease

Expressions and Equations

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.EE.3 Solve multi-step real-life and mathematical problems with rational numbers. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.	7–8 M2 Lesson 11: Using Linear Equations to Solve Real-World Problems 7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems 7–8 M2 Lesson 18: Handstand Sprint 7–8 M2 Lesson 23: What Is the Best Deal?

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct two-step equations and inequalities to solve problems by reasoning about the quantities.	7–8 M2 Lesson 3: Solving Equations 7–8 M2 Lesson 4: Using Equations to Solve Inequalities 7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities
7.EE.4a Solve word problems leading to equations of the form $px + q = r$, and $p(x + q) = r$ where p, q, and r are specific rational numbers. Solve equations of these forms fluently (efficiently, accurately, and flexibly). Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.	7–8 M2 Lesson 1: Finding Unknown Angle Measures 7–8 M2 Lesson 3: Solving Equations 7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities
7.EE.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$ where p, q, and r are specific rational numbers and $p > 0$. Graph the solution set of the inequality and interpret it in the context of the problem.	7–8 M2 Lesson 4: Using Equations to Solve Inequalities 7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities

Expressions and Equations
Work with radicals and integer exponents.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.EE.1 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of whole number perfect squares with solutions between 0 and 15 and cube roots of whole number perfect cubes with solutions between 0 and 5. Know that $\sqrt{2}$ is irrational.	7–8 M1 Lesson 18: Solving Equations with Squares and Cubes 7–8 M1 Lesson 19: The Pythagorean Theorem 7–8 M1 Lesson 20: Using the Pythagorean Theorem 7–8 M1 Lesson 21: Approximating Values of Roots 7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes
8.EE.2 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.	7–8 M1 Lesson 10: Large and Small Positive Numbers 7–8 M1 Lesson 14: Writing Very Large and Very Small Numbers in Scientific Notation 7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation 7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation 7–8 M1 Lesson 17: Get to the Point
8.EE.3 Read and write numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	7–8 M1 Lesson 14: Writing Very Large and Very Small Numbers in Scientific Notation 7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation 7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation 7–8 M1 Lesson 17: Get to the Point

Expressions and Equations
Understand the connections between proportional relationships, lines, and linear equations.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.EE.4 Graph proportional relationships, interpreting its unit rate as the slope (m) of the graph. Compare two different proportional relationships represented in different ways.	7–8 M4 Lesson 4: Comparing Proportional Relationships 7–8 M4 Lesson 5: Proportional Relationships and Slope
8.EE.5 Use similar triangles to explain why the slope (m) is the same between any two distinct points on a non-vertical line in the coordinate plane and extend to include the use of the slope formula ($m = \frac{y_2 - y_1}{x_2 - x_1}$ when given two coordinate points (x_1, y_1) and (x_2, y_2)). Generate the equation $y = mx$ for a line through the origin (proportional) and the equation $y = mx + b$ for a line with slope m intercepting the vertical axis at y-intercept b (not proportional when $b \neq 0$).	7–8 M4 Lesson 5: Proportional Relationships and Slope 7–8 M4 Lesson 6: Slopes of Rising Lines and Falling Lines 7–8 M4 Lesson 7: Using Coordinates to Find Slope 7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line
8.EE.6 Describe the relationship between the proportional relationship expressed in $y = mx$ and the non-proportional linear relationship $y = mx + b$ as a result of a vertical translation.	7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line *Supplemental material is necessary to address relationships as a result of a vertical translation.*

Expressions and Equations

Analyze and solve linear equations and inequalities.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.EE.7 Fluently (efficiently, accurately, and flexibly) solve one-step, two-step, and multi-step linear equations and inequalities in one variable, including situations with the same variable appearing on both sides of the equal sign.	*This standard is fully addressed by the lessons aligned to its subsections.*
8.EE.7a Give examples of linear equations in one variable with one solution ($x = a$), infinitely many solutions ($a = a$), or no solutions ($a = b$). Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).	7–8 M2 Lesson 8: Solving Equations with Rational Coefficients 7–8 M2 Lesson 9: Linear Equations with More Than One Solution 7–8 M2 Lesson 10: Another Possible Number of Solutions
8.EE.7b Solve linear equations and inequalities with rational number coefficients, including equations/inequalities whose solutions require expanding and/or factoring expressions using the distributive property and collecting like terms.	7–8 M2 Lesson 6: Expressing Repeating Decimals as Fractions 7–8 M2 Topic B: Multi-Step Equations and Their Solutions A1 M1 Lesson 13: Solving Linear Inequalities in One Variable

Geometry

Draw, construct, and describe geometrical figures and describe the relationships between them.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.G.1 Solve problems involving scale drawings of geometric figures, such as computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	7–8 M3 Topic D: Scale Drawings and Dilations
7.G.2 Identify three-dimensional objects generated by rotating a two-dimensional (rectangular or triangular) object around one edge.	*Supplemental material is necessary to address this standard.*
7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right cylinder.	7–8 M5 Lesson 13: Understanding Planes and Cross Sections 7–8 M5 Lesson 14: Cross Section Scavenger Hunt 7–8 M5 Lesson 15: Proportionality and Scale Factor of Cross Sections *Supplemental material is necessary to fully address cross sections of right cylinders.*

Geometry
Solve real-life and mathematical problems involving area, surface area, and volume.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.G.4 Use the formulas for the area and circumference of a circle and solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	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
7.G.5 Investigate the relationship between three-dimensional geometric shapes;	*This standard is addressed by the lessons aligned to its subsections.*
7.G.5a Generalize the volume formula for prisms and cylinders ($V = Bh$ where B is the area of the base and h is the height).	7–8 M5 Lesson 16: Volume of Prisms 7–8 M5 Lesson 17: Volume of Cylinders
7.G.5b Generalize the surface area formula for prisms and cylinders ($SA = 2B + Ph$ where B is the area of the base, P is the perimeter of the base, and h is the height (in the case of a cylinder, perimeter is replaced by circumference)).	7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids 7–8 M5 Lesson 12: Surface Area of Cylinders *Supplemental material is necessary to fully address the surface area formula for prisms and cylinders.*

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.G.6 Solve real-world and mathematical problems involving area of two-dimensional objects and volume and surface area of three-dimensional objects including cylinders and right prisms. (Solutions should not require students to take square roots or cube roots. For example, given the volume of a cylinder and the area of the base, students would identify the height.)	7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids 7–8 M5 Lesson 12: Surface Area of Cylinders 7–8 M5 Lesson 16: Volume of Prisms 7–8 M5 Lesson 18: Designing a Fish Tank 7–8 M5 Lesson 21: Volume of Composite Solids

Geometry

Geometric measurement: understand concepts of angle and measure angles.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.G.1 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:	*Supplemental material is necessary to address this standard.*

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.G.1a An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a "one-degree angle," and can be used to measure angles.	*Supplemental material is necessary to address this standard.*
8.G.1b An angle that turns through n one-degree angles is said to have an angle measure of n degrees.	*Supplemental material is necessary to address this standard.*
8.G.2 Measure angles in whole-number degrees using a protractor. Draw angles of specified measure using a protractor and straight edge.	*Supplemental material is necessary to address this standard.*

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.G.3 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	*Supplemental material is necessary to address this standard.*
8.G.4 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and use them to solve simple equations for an unknown angle in a figure.	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
8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	7–8 M3 Lesson 12: Lines Cut by a Transversal 7–8 M3 Lesson 13: Angle Sum of a Triangle 7–8 M3 Lesson 14: Exterior Angles of Triangles 7–8 M3 Lesson 28: Exploring Angles in Similar Triangles 7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.G.6 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on drawing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	7–8 M3 Lesson 1: Sketching and Constructing Geometric Figures 7–8 M3 Lesson 2: Conditions of Unique Triangles 7–8 M3 Lesson 3: Exploring and Constructing Circles

Geometry

Understand and apply the Pythagorean Theorem.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.G.7 Explain a proof of the Pythagorean Theorem and its converse.	7–8 M3 Lesson 15: Proving the Pythagorean Theorem 7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem
8.G.8 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	7–8 M1 Lesson 19: The Pythagorean Theorem 7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem 7–8 M3 Lesson 17: Applications of the Pythagorean Theorem 7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths 7–8 M5 Lesson 19: Volumes of Pyramids and Cones
8.G.9 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	7–8 M3 Lesson 17: Applications of the Pythagorean Theorem

Geometry

Solve real-world and mathematical problems involving measurement.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.G.10 Use the formulas or informal reasoning to find the arc length, areas of sectors, surface areas and volumes of pyramids, cones, and spheres.	7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids 7–8 M5 Lesson 19: Volumes of Pyramids and Cones 7–8 M5 Lesson 20: Volume of Spheres 7–8 M5 Lesson 21: Volume of Composite Solids 7–8 M5 Lesson 22: Volumes of Truncated Cones and Pyramids 7–8 M5 Lesson 23: Applications of Volume *Supplemental material is necessary to address arc length, areas of sectors, and surface areas of cones and spheres.*
8.G.11 Investigate the relationship between the formulas of three-dimensional geometric shapes;	*This standard is addressed by the lessons aligned to its subsections.*
8.G.11a Generalize the volume formula for pyramids and cones ($V = \frac{1}{3}Bh$).	7–8 M5 Lesson 19: Volumes of Pyramids and Cones
8.G.11b Generalize surface area formula of pyramids and cones ($SA = B + \frac{1}{2}Pl$).	7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids *Supplemental material is necessary to fully address the surface area formula of pyramids and cones.*

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.G.12 Solve real-world and mathematical problems involving arc length, area of two-dimensional shapes including sectors, volume and surface area of three-dimensional objects including pyramids, cones and spheres.	7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids 7–8 M5 Topic D: Volume *Supplemental material is necessary to address arc length, areas of sectors, and surface areas of cones and spheres.*

Statistics and Probability

Use random sampling to draw inferences about a population.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.SP.1 Use statistics to gain information about a population by examining a sample of the population;	*This standard is fully addressed by the lessons aligned to its subsections.*
7.SP.1a Know that generalizations about a population from a sample are valid only if the sample is representative of that population and generate a valid representative sample of a population.	7–8 M6 Lesson 10: Populations and Samples 7–8 M6 Lesson 11: Selecting a Sample 7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean
7.SP.1b Identify if a particular random sample would be representative of a population and justify your reasoning.	7–8 M6 Lesson 10: Populations and Samples 7–8 M6 Lesson 11: Selecting a Sample 7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to informally gauge the variation in estimates or predictions.	7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean 7–8 M6 Lesson 13: Sampling Variability and the Effect of Sample Size 7–8 M6 Lesson 14: Sampling Variability When Estimating a Population Proportion

Statistics and Probability

Draw informal comparative inferences about two populations.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.SP.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability (requires introduction of mean absolute deviation).	6 M6 Lesson 10: The Mean Absolute Deviation 6 M6 Lesson 11: Using the Mean and Mean Absolute Deviation 7–8 M6 Topic D: Comparing Populations

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.SP.4 Use measures of center (mean, median and/or mode) and measures of variability (range, interquartile range and/or mean absolute deviation) for numerical data from random samples to draw informal comparative inferences about two populations.	7–8 M6 Topic D: Comparing Populations

Statistics and Probability

Investigate chance processes and develop, use, and evaluate probability models.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.SP.5 Express the probability of a chance event as a number between 0 and 1 that represents the likelihood of the event occurring. (Larger numbers indicate greater likelihood. 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.)	7–8 M6 Lesson 1: What Is Probability?

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.SP.6 Collect data from a chance process (probability experiment). Approximate the probability by observing its long-run relative frequency. Recognize that as the number of trials increase, the experimental probability approaches the theoretical probability. Conversely, predict the approximate relative frequency given the probability.	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
7.SP.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.	7–8 M6 Lesson 6: The Law of Large Numbers
7.SP.7a Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.	7–8 M6 Lesson 3: Theoretical Probability 7–8 M6 Lesson 6: The Law of Large Numbers
7.SP.7b Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	7–8 M6 Lesson 6: The Law of Large Numbers 7–8 M6 Lesson 7: Picking Blue

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
7.SP.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	*This standard is fully addressed by the lessons aligned to its subsections.*
7.SP.8a Know 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.	7–8 M6 Lesson 4: Multistage Experiments
7.SP.8b Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.	7–8 M6 Lesson 4: Multistage Experiments
7.SP.8c Design and use a simulation to generate frequencies for compound events.	7–8 M6 Lesson 8: Probability Simulations 7–8 M6 Lesson 9: Simulations with Random Number Tables

Statistics and Probability

Investigate patterns of association in bivariate data.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	7–8 M6 Lesson 18: Scatter Plots 7–8 M6 Lesson 19: Patterns in Scatter Plots
8.SP.2 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 informally assess the model fit by judging the closeness of the data points to the line.	7–8 M6 Lesson 20: Informally Fitting a Line to Data 7–8 M6 Lesson 21: Linear Models
8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.	7–8 M6 Lesson 20: Informally Fitting a Line to Data 7–8 M6 Lesson 21: Linear Models

Functions

Define, evaluate, and compare functions.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.F.1 Explain that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.	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
8.F.2 Compare properties of two linear functions represented in a variety of ways (algebraically, graphically, numerically in tables, or by verbal descriptions).	7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 8: Comparing Functions
8.F.3 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.	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

Functions

Use functions to model relationships between quantities.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	7–8 M5 Lesson 6: Linear Functions and Rate of Change 7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value 7–8 M5 Lesson 23: Applications of Volume
8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	7–8 M5 Lesson 9: Increasing and Decreasing Functions 7–8 M5 Lesson 10: Graphs of Nonlinear Functions