Sherwood Charter School 2026-2027 Curriculum Map - 6th Grade Math											
Component	**September**	**October**	**November**	**December**	**January**	**February**	**March**	**April**	**May**	**June**
Topic	**Area and Surface Area**	**Introducing Ratios**	**Unit Rates and Percentages**	**Dividing Fractions**	**Arithmetic in Base Ten**	**Expressions and Equations**	**Rational Numbers**	**Data Sets and Distributions**	**Putting It All Together**	**Final Assessment and Reflection**
Topic Description	Areas of triangles, quadrilaterals, and polygons; volume of rectangular prisms; nets; surface area	Ratio language; equivalent ratios; ratio tables; tape diagrams; double number lines; coordinate representations	Unit rates; unit pricing; constant speed; percents; percent of a quantity; finding the whole; measurement conversions	Meaning of fraction division; visual models; equations; contextual problems; relationship between multiplication and division	Multi-digit division; decimal operations; rational-number computation; greatest common factor; least common multiple; distributive property	Exponents; evaluating expressions; variables; equivalent expressions; substitution; equations; inequalities; number-line representations	Integers; opposites; number lines; coordinate planes; quadrants; ordering rational numbers; absolute value; real-world comparisons	Statistical questions; variability; distributions; center; spread; dot plots; histograms; box plots; mean; median; interquartile range; mean absolute deviation	Cumulative review; mathematical modeling; multi-step problem solving; standards-based projects; assessment and reflection	Standards-based assessment; mathematical reflection; summer preparation
Standards Alignment	6.G.A.1: Find the area of triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes. 6.G.A.2: Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes and applying the formulas V = lwh and V = bh. 6.G.A.4: Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures.	6.RP.A.1: Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. 6.RP.A.3: Use ratio and rate reasoning to solve real-world and mathematical problems. 6.RP.A.3.A: Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot pairs of values on the coordinate plane.	6.RP.A.3: Use ratio and rate reasoning to solve real-world and mathematical problems. 6.RP.A.3.B: Solve unit rate problems including those involving unit pricing and constant speed. 6.RP.A.3.C: Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, given a part and the percent. 6.RP.A.3.D: Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	6.NS.A.1: Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions.	6.NS.B.2: Fluently divide multi-digit numbers using the standard algorithm. 6.NS.B.3: Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. 6.NS.B.4: Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12; apply the distributive property to express a sum of two whole numbers 1–100 with a common factor.	6.EE.A.1: Write and evaluate numerical expressions involving whole-number exponents. 6.EE.A.2: Write, read, and evaluate expressions in which letters stand for numbers. 6.EE.A.3: Apply the properties of operations to generate equivalent expressions. 6.EE.A.4: Identify when two expressions are equivalent. 6.EE.B.5: Understand solving an equation or inequality as a process of answering a question about which values make it true. 6.EE.B.6: Use variables to represent numbers and write expressions when solving a real-world or mathematical problem. 6.EE.B.7: Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q. 6.EE.B.8: Write an inequality of the form x < c or x > c to represent a constraint or condition; recognize that inequalities have infinitely many solutions and represent them on number lines.	6.NS.C.6.A: Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite is the number itself. 6.NS.C.6.B: Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, their locations are related by reflections. 6.NS.C.6.C: Find and position integers and other rational numbers on a horizontal or vertical number line diagram and on a coordinate plane. 6.NS.C.7: Understand ordering and absolute value of rational numbers. 6.NS.C.7.A: Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. 6.NS.C.7.B: Write, interpret, and explain statements of order for rational numbers in real-world contexts. 6.NS.C.7.C: Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value in real-world situations. 6.NS.C.7.D: Distinguish comparisons of absolute value from statements about order.	6.SP.A.1: Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. 6.SP.A.2: Understand that a set of data collected to answer a statistical question has a distribution describing its variability, including its center, spread, and overall shape. 6.SP.A.3: Recognize that a measure of center for a numerical data set summarizes all its values with a single number, while a measure of variation describes how its values vary with a single number. 6.SP.B.4: Display numerical data in plots on a number line, including dot plots, histograms, and box plots. 6.SP.B.5: Summarize numerical data sets in relation to their context. 6.SP.B.5.C: Give quantitative measures of center and variability, including the interquartile range and mean absolute deviation.	Integration of all 6th grade standards from Units 1–8	All 6th grade standards
Essential Questions	How can we decompose and compose figures to find area? How do we calculate volume with fractional edge lengths? What is the relationship between nets and surface area?	What is a ratio and how do we describe ratio relationships? How can we use multiple representations to solve ratio problems?	How do unit rates help us make comparisons? How are percentages related to ratios? How can we convert between measurement units?	What does it mean to divide fractions? How are multiplication and division of fractions related?	How do we compute efficiently with large numbers and decimals? How can factors help us solve problems?	How do variables help us represent situations? What makes two expressions equivalent? How do we solve equations and inequalities?	How do we represent and compare numbers less than zero? What is absolute value and when is it useful?	What makes a question statistical? How do we describe and summarize data? What do measures of center and spread tell us?	How do the mathematical concepts we have learned connect? How can we apply multiple strategies to complex problems?	What mathematical growth have I achieved this year? What concepts do I want to strengthen over the summer?
Anticipatory Set	Real-world applications of area and volume, including packaging design and construction	Ratios in recipes, sports statistics, and mixing paint colors	Comparison shopping, speed limits, sales, and discounts	Sharing pizza fairly, cutting fabric, and portioning recipes	Budgeting, splitting costs, and organizing objects into equal groups	Unknown quantities in real life, balancing scales, and temperature ranges	Temperature below zero, elevation below sea level, and bank account balances	Survey data from class, sports statistics, and weather patterns	End-of-year project planning and real-world mathematical modeling	Portfolio review and goal setting for 7th grade
Cross Curriculum Integration/Field Trips	Architecture, engineering design, and packaging industry connections	Cooking and culinary arts; art and color mixing; sports analytics	Consumer education; grocery store visit; business and economics	Home economics; sewing and textiles; culinary applications	Financial literacy and event planning	Science formulas; coding and programming basics	Geography and elevation maps; meteorology; finance	Science data collection; social studies census data; sports analytics	Cross-curricular project showcase and community problem-solving	Preparation for 7th grade mathematics

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Component	September	October	November	December	January	February	March	April	May	June
Topic	**Scale Drawings**	**Introducing Proportional Relationships**	**Measuring Circles**	**Proportional Relationships and Percentages**	**Rational Number Arithmetic**	**Expressions, Equations, and Inequalities**	**Angles, Triangles, and Prisms**	**Probability and Sampling**	**Putting It All Together**	**Final Assessment and Reflection**
Topic Description	Scale factors; scale drawings; actual and drawing lengths; area relationships; reproducing drawings	Unit rates with fractions; proportional tables; graphs; equations; constants of proportionality; interpreting points	Circumference; area; radius; diameter; pi; informal derivation of circle formulas	Percent increase and decrease; discounts; tax; tips; markups; multistep percent problems; rational-number applications	Addition, subtraction, multiplication, and division of rational numbers; signs; absolute value; decimals, fractions, and percents	Combining like terms; distributive property; equivalent expressions; equations; inequalities; contextual modeling	Angle relationships; triangle construction; slicing solids; area, volume, and surface area of composite figures	Populations and samples; random sampling; inference; variability in samples; probability models; experimental and theoretical probability; compound events	Cumulative review; modeling; proportional reasoning; algebraic problem solving; geometry; statistics and probability; final assessment	Standards-based assessment; portfolio reflection; summer preparation
Standards Alignment	7.G.A.1: Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. 7.RP.A.2: Recognize and represent proportional relationships between quantities. 7.RP.A.2.A: 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. 7.RP.A.2.B: Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	7.RP.A.1: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. 7.RP.A.2: Recognize and represent proportional relationships between quantities. 7.RP.A.2.C: Represent proportional relationships by equations. 7.RP.A.2.D: 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.G.B.4: Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	7.RP.A.3: Use proportional relationships to solve multistep ratio and percent problems. 7.EE.B.3: Solve multistep real-life and mathematical problems posed with positive and negative rational numbers in any form, using tools strategically. 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.NS.A.1: Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. 7.NS.A.2.A: Understand that multiplication is extended from fractions 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.NS.A.2.B: Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (e.g., p/q) is a rational number. If p and q are integers, then −(p/q) = (−p)/q = p/(−q). Interpret quotients of rational numbers by describing real-world contexts. 7.NS.A.2.C: Apply properties of operations as strategies to multiply and divide rational numbers. 7.NS.A.2.D: Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. 7.NS.A.3: Solve real-world and mathematical problems involving the four operations with rational numbers.	7.EE.A.1: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.A.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.EE.B.4.A: 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; compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. 7.EE.B.4.B: 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. Graph the solution set of the inequality and interpret it in the context of the problem.	7.G.A.2: Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine one triangle, more than one triangle, or no triangle. 7.G.A.3: Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. 7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure. 7.G.B.6: Solve real-life and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	7.SP.A.1: Understand that statistics can be used to gain information about a population by examining a random sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. 7.SP.A.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 gauge the variation in estimates or predictions. 7.SP.B.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. 7.SP.B.4: Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. 7.SP.C.5: Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. 7.SP.C.6: Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. 7.SP.C.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.SP.C.8: Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	Integration of all 7th grade standards from Units 1–8	All 7th grade standards
Essential Questions	How do scale factors relate actual and drawing measurements? How can we determine if a relationship is proportional?	How can we represent proportional relationships in different ways? What does the constant of proportionality tell us?	What is pi and why is it important? How are circumference and area of circles related?	How do we calculate percent change? How can we solve complex percent problems involving multiple steps?	How do operations with negative numbers work? How can we convert between fractions, decimals, and percents?	How can we simplify and transform expressions? What strategies help us solve multistep equations and inequalities?	How do angle relationships help us solve for unknowns? What shapes result from slicing three-dimensional figures?	How can samples help us understand populations? How do we calculate probabilities of compound events?	How do proportional relationships connect to other mathematical concepts? How can we apply multiple strategies to complex problems?	How have I grown as a mathematician this year? What will I focus on to prepare for 8th grade?
Anticipatory Set	Maps, blueprints, and model building	Speed, recipes with fractional amounts, and currency conversion	Circular objects in the world, wheels, and pizza sizes	Sales shopping, restaurant tipping, and tax calculations	Temperature changes, profit and loss, and elevation changes	Balancing equations, constraint situations, and budgeting with limits	Construction, architectural angles, and 3D printing	Polling and surveys, games of chance, and weather prediction	Real-world mathematical modeling project	Mathematical portfolio review and goal setting
Cross Curriculum Integration/Field Trips	Architecture, city planning, and cartography	Science rates of change; economics; international studies	Engineering, design, and a pizza parlor visit for practical measurement	Consumer mathematics, business visit, and retail economics	Science positive and negative charges; finance; meteorology	Science formulas and equations; economics and budget constraints	Engineering, architecture, and CAD/design technology	Science experimental design; social studies polling; statistics in media	Cross-curricular culminating project and community problem-solving presentation	Preparation for 8th grade mathematics

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Component	September	October	November	December	January	February	March	April	May	June
Topic	**Rigid Transformations and Congruence**	**Dilations, Similarity, and Introducing Slope**	**Linear Relationships**	**Linear Equations and Linear Systems**	**Functions and Volume**	**Associations in Data**	**Exponents and Scientific Notation**	**Pythagorean Theorem and Irrational Numbers**	**Putting It All Together**	**Final Assessment and Reflection**
Topic Description	Translations; reflections; rotations; coordinate rules; congruence; sequences of transformations	Dilations; scale factors; similar figures; angle relationships; proportional relationships; slope; rate of change	Functions; input and output; tables; graphs; equations; rate of change; initial value; linear and nonlinear relationships	Solving linear equations; distributive property; rational coefficients; one, none, or infinitely many solutions; systems; graphing; substitution; real-world systems	Functions in context; qualitative graph interpretation; cylinders; cones; spheres; volume formulas; composite applications	Bivariate data; scatter plots; association; clusters; outliers; lines of fit; linear models; two-way tables; relative frequencies	Integer exponents; equivalent expressions; square and cube roots; powers of ten; scientific notation; operations and estimation	Pythagorean theorem; converse; proofs; distance in the coordinate plane; right triangles in two and three dimensions; rational and irrational numbers; approximations	Cumulative review; functions; systems; geometry; data modeling; scientific notation; irrational numbers; final performance task	Standards-based assessment; portfolio reflection; high school preparation
Standards Alignment	8.G.A.1: Verify experimentally the properties of rotations, reflections, and translations. 8.G.A.2: 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; given two congruent figures, describe a sequence that exhibits the congruence between them. 8.G.A.3: Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	8.G.A.4: 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; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. 8.G.A.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. 8.EE.B.5: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. 8.EE.B.6: 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; 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.	8.F.A.1: Understand 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. 8.F.A.2: Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). 8.F.A.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. 8.F.B.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. 8.F.B.5: Describe qualitatively the functional relationship between two quantities by analyzing a graph. Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	8.EE.C.7: Solve linear equations in one variable. 8.EE.C.7.A: Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. 8.EE.C.7.B: Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. 8.EE.C.8: Analyze and solve pairs of simultaneous linear equations. 8.EE.C.8.A: Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs. 8.EE.C.8.B: Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. 8.EE.C.8.C: Solve real-world and mathematical problems leading to two linear equations in two variables.	8.F.A.1: Understand that a function is a rule that assigns to each input exactly one output. 8.F.B.5: Describe qualitatively the functional relationship between two quantities by analyzing a graph. 8.G.C.9: Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	8.SP.A.1: Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. 8.SP.A.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. 8.SP.A.3: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. 8.SP.A.4: Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.	8.EE.A.1: Know and apply the properties of integer exponents to generate equivalent numerical expressions. 8.EE.A.2: Use square root and cube root symbols to represent solutions to equations. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational. 8.EE.A.3: Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities. 8.EE.A.4: Perform operations with numbers expressed in scientific notation. Interpret scientific notation that has been generated by technology.	8.G.B.6: Explain a proof of the Pythagorean Theorem and its converse. 8.G.B.7: Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. 8.G.B.8: Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. 8.NS.A.1: Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion. 8.NS.A.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.	Integration of all 8th grade standards from Units 1–8	All 8th grade standards
Essential Questions	How do transformations affect figures? How can we use transformations to prove congruence?	How do dilations create similar figures? What is slope and how does it relate to similar triangles?	What is a function? How can we recognize and represent linear relationships? What do slope and y-intercept mean in context?	How do we solve complex linear equations? What does the solution to a system of equations represent?	How can graphs tell stories about changing quantities? How do we calculate volumes of curved solids?	How can we describe relationships between two variables? When is a linear model appropriate?	How do exponent rules help simplify expressions? How does scientific notation help us work with very large and very small numbers?	How can we prove and apply the Pythagorean theorem? What are irrational numbers and how do they differ from rational numbers?	How do all the concepts we have learned connect? How can I demonstrate readiness for high school mathematics?	What mathematical growth have I achieved in middle school? How am I prepared for high school mathematics?
Anticipatory Set	Symmetry in art and nature, video game graphics, and tessellations	Enlarging and reducing images, photography, and ramp steepness	Constant-rate situations, such as cell phone plans and car rentals; graphing stories	Break-even points in business, mixture problems, and comparing plans	Story graphs, containers and packaging, and sports balls	Height versus shoe size, study time versus test scores, and trends in data	Astronomical distances, microscopic measurements, and population sizes	Right triangles in construction, diagonal distances, and the square root of 2	Complex real-world modeling project and high school math preview	Middle school mathematics portfolio review and high school course planning
Cross Curriculum Integration/Field Trips	Art symmetry and design; computer graphics; architecture	Photography, design, and engineering inclines and ramps	Economics cost functions and science linear relationships in data	Business applications, economics, and resource allocation	Physics motion graphs, engineering, and packaging design	Science experimental data; social studies demographic trends; health	Science astronomy and microbiology; technology and computing powers	Construction and carpentry; architecture; engineering; history of mathematics	Cross-curricular capstone project and high school visit/transition activities	High school mathematics transition and algebra readiness