![HCP Harding Charter Preparatory School District logo]

## General Information

| | |
|---|---|
| **Course** *6th Grade Math* | **Grade** *6th* |
| **Stakeholders** School staff members, students, families, and community members | **Symbols** ▲ = Preparing \| ● = Learning \| ★ = Extending |

## General Unit Information

| Unit Name | Numerical Expressions and Factors | Fractions and Decimals | Ratios and Rates | Percents | Algebraic Expressions and Properties | Equations |
|---|---|---|---|---|---|---|
| **Pacing** | 17 Days | 19 Days | 22 Days | 13 Days | 14 Days | 14 Days |
| **Standards** | ● 6.N.2.4 Identify and represent patterns with whole-number exponents and perfect squares. Evaluate powers with whole-number bases and exponents. | ● 6.N.2.6 Determine the greatest common factors and least common multiples. Use common factors and multiples to calculate with fractions, find equivalent fractions, and express the sum of two-digit numbers with a common factor using the distributive property. | ● 6.N.3.1 Identify and use ratios to compare and relate quantities in multiple ways. Recognize that multiplicative comparison and additive comparison are different. | ● 6.N.1.2 Compare and order positive rational numbers, represented in various forms, or integers using the symbols "<", ">", and "=" | ● 6.N.2.6 Determine the greatest common factors and least common multiples. Use common factors and multiples to calculate with fractions, find equivalent fractions, and express the sum of two-digit numbers with a common factor using the distributive property. | ● 6.A.1.2 Represent relationships between two varying positive quantities involving no more than two operations with rules, graphs, and tables; translate between any two of these representations. |
| | ● 6.N.2.5 Factor whole numbers and express prime and composite numbers as a product of prime factors with exponents | ● 6.N.4.1 Estimate solutions to problems with whole numbers, decimals, fractions, and mixed numbers, and use the estimates to assess the reasonableness of results in the context of the problem | ● 6.N.3.2 Determine the unit rate for ratios. | ● 6.N.1.3 Explain that a percent represents parts "out of 100" and ratios "to 100." | ● 6.A.1.3 Use and evaluate variables in expressions, equations, and inequalities that arise from various contexts, including determining when or if, for a given value of the variable, an equation or inequality involving a variable is true or false. | ● 6.A.1.3 Use and evaluate variables in expressions, equations, and inequalities that arise from various contexts, including determining when or if, for a given value of the variable, an equation or inequality involving a variable is true or false. |
| | ● 6.N.2.6 Determine the greatest common factors and least common multiples. Use common factors and multiples to calculate with fractions, find equivalent fractions, and express the sum of two-digit numbers with a common factor using the distributive property. | ● 6.N.4.2 Illustrate multiplication and division of fractions and decimals to show connections to fractions, whole number multiplication, and inverse relationships. | ● 6.N.3.3 Apply the relationship between ratios, equivalent fractions, unit rates, and percents to solve problems in various contexts. | ● 6.N.1.4 Determine equivalencies among fractions, mixed numbers, decimals, and percents. | ● 6.A.2.1 Generate equivalent expressions and evaluate expressions involving positive rational numbers by applying the commutative, associative, and distributive properties and order of operations to model and solve mathematical problems. | ● 6.A.3.1 Model mathematical situations using expressions, equations and inequalities involving variables and rational numbers. |
| | ● 6.N.4.1 Estimate solutions to problems with whole numbers, decimals, fractions, and mixed numbers, and use the estimates to assess the reasonableness of results in the context of the problem. | ● 6.N.4.3 Multiply and divide fractions and decimals using efficient and generalizable procedures. | ● 6.A.1.2 Represent relationships between two varying positive quantities involving no more than two operations with rules, graphs, and tables; translate between any two of these representations. | ● 6.N.3.3 Apply the relationship between ratios, equivalent fractions, unit rates, and percents to solve problems in various contexts. | ● 6.A.3.1 Model mathematical situations using expressions, equations and inequalities involving variables and rational numbers. | ● 6.A.3.2 Use number sense and properties of operations and equality to model and solve mathematical problems involving equations in the form $x + p = q$ and $px = q$, where $p$ and $q$ are nonnegative rational numbers. Graph the solution on a number line, interpret the solution in the original context, and assess the reasonableness of the solution. |
| | ● 6.N.2.1 Estimate solutions for integer addition and subtraction of problems in order to assess the reasonableness of results. | ● 6.N.4.4 Use mathematical modeling to solve and interpret problems including money, measurement, geometry, and data requiring arithmetic with decimals, fractions and mixed numbers. | ● 6.GM.4.1 Estimate weights and capacities using benchmarks in customary and metric measurement systems with appropriate units. | | | |
| | ● 6.GM.2.1 Develop and use formulas for the area of squares and parallelograms using a variety of methods including but not limited to the standard algorithms and finding unknown measures. | | ● 6.GM.4.2 Solve problems that require the conversion of lengths within the same measurement systems using appropriate units. | | | |

| | Integers and Rational Numbers | Geometry | Probability and Statistics | | | |
|---|---|---|---|---|---|---|
| | 22 Days | 20 Days | 13 Days | | | |
| | ● 6.N.1.1 Use manipulatives and models (e.g., number lines) to determine positive and negative numbers and their contexts, identify opposites, and explain the meaning of 0 (zero) in a variety of situations | ● 6.N.4.4 Use mathematical modeling to solve and interpret problems including money, measurement, geometry, and data requiring arithmetic with decimals, fractions and mixed numbers. | ● 6.D.1.1 Interpret the mean, median, and mode for a set of data. | | | |

| | | | | | |
|---|---|---|---|---|---|
| ● 6.N.1.2 Compare and order positive rational numbers, represented in various forms, or integers using the symbols "<", ">", and "=". | ● 6.GM.1.1 Predict, describe, and apply translations (slides), reflections (flips), and rotations (turns) to a two-dimensional figure | ● 6.D.1.2 Explain and justify which measure of center (mean, median, or mode) would provide the most descriptive information for a given set of data | | | |
| ● 6.N.2.1 Estimate solutions for integer addition and subtraction of problems in order to assess the reasonableness of results. | ● 6.GM.1.2 Recognize that translations, reflections, and rotations preserve congruence and use them to show that two figures are congruent. | ● 6.D.2.1 Represent possible outcomes using a probability continuum from impossible to certain. | | | |
| ● 6.N.2.2 Illustrate addition and subtraction of integers using a variety of representations | ● 6.GM.1.3 Identify and describe the line(s) of symmetry in two-dimensional shapes. | ● 6.D.2.2 Determine the sample space for a given experiment and determine which members of the sample space are related to certain events. Sample space may be determined by the use of tree diagrams, tables or pictorial representations. | | | |
| ● 6.N.2.3 Add and subtract integers in a variety of situations; use efficient and generalizable procedures including but not limited to standard algorithms. | ● 6.GM.2.1 Develop and use formulas for the area of squares and parallelograms using a variety of methods including but not limited to the standard algorithms and finding unknown measures | ● 6.D.2.3 Demonstrate simple experiments in which the probabilities are known and compare the resulting relative frequencies with the known probabilities, recognizing that there may be differences between the two results. | | | |
| ● 6.A.1.1 Plot integer- and rational-valued (limited to halves and fourths) ordered-pairs as coordinates in all four quadrants and recognize the reflective relationships among coordinates that differ only by their signs. | ● 6.GM.2.2 Develop and use formulas to determine the area of triangles and find unknown measures. | | | | |
| ● 6.A.1.3 Use and evaluate variables in expressions, equations, and inequalities that arise from various contexts, including determining when or if, for a given value of the variable, an equation or inequality involving a variable is true or false. | ● 6.GM.2.3 Find the area of right triangles, other triangles, special quadrilaterals, and polygons that can be decomposed into triangles and other shapes. | | | | |
| ● 6.A.3.1 Model mathematical situations using expressions, equations and inequalities involving variables and rational numbers. | ● 6.GM.3.1 Solve problems using the relationships between the angles (vertical, complementary, and supplementary) formed by intersecting lines. | | | | |
| | ● 6.GM .3.2 Develop and use the fact that the sum of the interior angles of a triangle is 180 fo determ ine m issing angle measures in a triangle. | | | | |