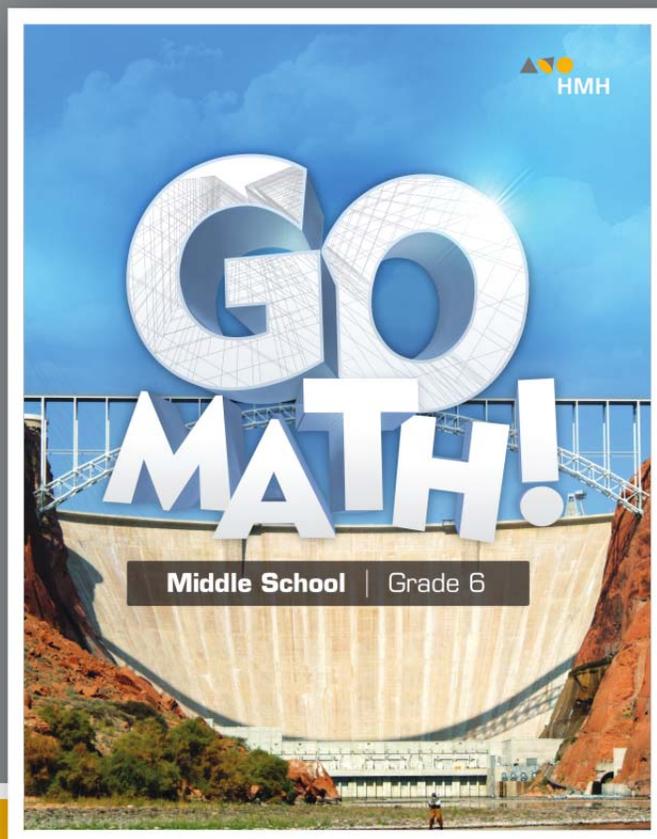


Correlation to the  
Oklahoma Academic Standards  
for Mathematics  
Grade 6



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Grade 6



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correlated to the

**Oklahoma Academic Standards for Mathematics**  
**Grade 6**

| Citations   | Standard | Descriptor  |
|---|----------|---|
| <b>6.N.1. Read, write, and represent integers and rational numbers expressed as fractions, decimals, percents, and ratios; write positive integers as products of factors; use these representations in real-world and mathematical situations.</b> |          |   |
| SE: 7–12, 19–24, 47–52  | 6.N.1.1  | Represent integers with counters and on a number line and rational numbers on a number line, recognizing the concepts of opposites, direction, and magnitude; use integers and rational numbers in real-world and mathematical situations, explaining the meaning of 0 in each situation. |
| SE: 59–64, 203-208<br>Online Lesson: 4, 5   | 6.N.1.2  | Compare and order positive rational numbers, represented in various forms, or integers using the symbols $<$ , $>$ , and $=$ .  |
| SE: 203–208, 209-214  | 6.N.1.3  | Explain that a percent represents parts “out of 100” and ratios “to 100.”   |
| SE: 203-208, 209–214, 215–222   | 6.N.1.4  | Determine equivalencies among fractions, decimals, and percents. Select among these representations to solve problems.  |
| SE: 243–248<br>Online Lesson: 9   | 6.N.1.5  | Factor whole numbers and express prime and composite numbers as a product of prime factors with exponents.  |
| SE: 31–36, 37–40  | 6.N.1.6  | 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                                  |
| <b>6.N.2. Add and subtract integers in order to solve real-world and mathematical problems.</b>   |          |   |
| Online Lesson: 2, 3   | 6.N.2.1  | Estimate solutions to addition and subtraction of integers problems in order to assess the reasonableness of results.   |
| Online Lesson: 1, 2, 3  | 6.N.2.2  | Illustrate addition and subtraction of integers using a variety of representations.   |
| Online Lesson: 1, 2, 3  | 6.N.2.3  | Add and subtract integers; use efficient and generalizable procedures including but not limited to standard algorithms.   |

| Citations   | Standard | Descriptor   |
|---|----------|--|
| <b>6.N.3. Understand the concept of ratio and its relationship to fractions and percents and to the multiplication and division of whole numbers. Use ratios to solve real-world and mathematical problems.</b>     |          |  |
| SE: 149-154   | 6.N.3.1  | Identify and use ratios to compare quantities. Recognize that multiplicative comparison and additive comparison are different.   |
| SE: 155-160   | 6.N.3.2  | Determine the unit rate for ratios.  |
| SE: 149-154<br>Online Lesson: 8   | 6.N.3.3  | Apply the relationship between ratios, equivalent fractions and percents to solve problems in various contexts, including those involving mixture and concentrations.  |
| SE: 149-154, 155-160  | 6.N.3.4  | Use multiplicative reasoning and representations to solve ratio and unit rate problems.  |
| <b>6.N.4. Multiply and divide decimals, fractions, and mixed numbers; solve real-world and mathematical problems with rational numbers.</b>   |          |  |
| SE: 79-84, 84A-84B, 84C-84D, 85-90, 90A-90B, 107, 108, 110, 114, 121, 123, 126  | 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.   |
| SE: 79-84, 84C-84D, 90A-90B<br>Online Lesson: 6   | 6.N.4.2  | Illustrate multiplication and division of fractions and decimals to show connections to fractions, whole number multiplication, and inverse relationships.   |
| SE: 79-84, 84C-84D, 85-90<br>Online Lesson: 5   | 6.N.4.3  | Multiply and divide fractions and decimals using efficient and generalizable procedures.   |
| SE: 79-84, 84C-84D, 85-90   | 6.N.4.4  | Solve and interpret real-world and mathematical problems including those involving money, measurement, geometry, and data requiring arithmetic with decimals, fractions and mixed numbers.   |
| <b>6.A.1. Recognize and represent relationships between varying quantities; translate from one representation to another; use patterns, tables, graphs and rules to solve real-world and mathematical problems.</b> |          |  |
| SE: 173-178, 331-336, 337-344<br>Online Lesson: 12, 17  | 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.                             |
| SE: 337-344, 345-350, 351-356   | 6.A.1.2  | Represent relationships between two varying quantities involving no more than two operations with rules, graphs, and tables; translate between any two of these representations.   |
| SE: 269-274, 297-302, 319-324   | 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. |

| Citations  | Standard | Descriptor  |
|--|----------|---|
| <b>6.A.2. Use properties of arithmetic to generate equivalent numerical expressions and evaluate expressions involving positive rational numbers.</b>  |          |   |
| SE: 249-254, 261-268, 269-274, 275-282   | 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 solve real-world and mathematical problems.   |
| <b>6.A.3. Use equations and inequalities to represent real-world and mathematical problems and use the idea of maintaining equality to solve equations. Interpret solutions in the original context.</b> |          |   |
| SE: 7-12, 13-18, 47-52, 261-268, 297-302, 302C-302F, 303-310, 310A-310D  | 6.A.3.1  | Represent real-world or mathematical situations using expressions, equations and inequalities involving variables and rational numbers.   |
| SE: 302C-302F, 303-310, 310A-310D  | 6.A.3.2  | Use number sense and properties of operations and equality to solve real-world and mathematical problems involving equations in the form $x + p = q$ and $px = q$ , where $x$ , $p$ , 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. |
| <b>6.GM.1. Calculate area of squares, parallelograms, and triangles to solve real-world and mathematical problems.</b>   |          |   |
| SE: 371-376, 377-382, 389-394, 407-412<br>Online Lesson: 10  | 6.GM.1.1 | Develop and use formulas for the area of squares and parallelograms using a variety of methods including but not limited to the standard algorithm.   |
| SE: 371-376, 377-382<br>Online Lesson: 11  | 6.GM.1.2 | Develop and use formulas to determine the area of triangles.  |
| SE: 371-376, 377-382, 389-394  | 6.GM.1.3 | Find the area of right triangles, other triangles, special quadrilaterals, and polygons that can be decomposed into triangles and other shapes to solve real-world and mathematical problems.   |
| <b>6.GM.2. Understand and use relationships between angles in geometric figures.</b>   |          |   |
| Online Lesson: 14  | 6.GM.2.1 | Solve problems using the relationships between the angles (vertical, complementary, and supplementary) formed by intersecting lines.  |
| Online Lesson: 15  | 6.GM.2.2 | Develop and use the fact that the sum of the interior angles of a triangle is $180^\circ$ to determine missing angle measures in a triangle.  |

| Citations  | Standard | Descriptor  |
|--|----------|---|
| <b>6.GM.3. Choose appropriate units of measurement and use ratios to convert within measurement systems to solve real-world and mathematical problems.</b> |          |   |
| Online Lesson: 7   | 6.GM.3.1 | Estimate weights, capacities and geometric measurements using benchmarks in customary and metric measurement systems with appropriate units.  |
| SE: 185-190, 191-294   | 6.GM.3.2 | Solve problems in various real-world and mathematical contexts that require the conversion of weights, capacities, geometric measurements, and time within the same measurement systems using appropriate units.  |
| <b>6.GM.4. Use translations, reflections, and rotations to establish congruency and understand symmetries.</b>   |          |   |
| Online Lesson: 16, 17, 18, 19  | 6.GM.4.1 | Predict, describe, and apply translations (slides), reflections (flips), and rotations (turns) to a two-dimensional figure.   |
| Online Lesson: 16, 17, 18  | 6.GM.4.2 | Recognize that translations, reflections, and rotations preserve congruency and use them to show that two figures are congruent.  |
| SE: 401-406  | 6.GM.4.3 | Use distances between two points that are either vertical or horizontal to each other (not requiring the distance formula) to solve real-world and mathematical problems about congruent two-dimensional figures. |
| Online Lesson 13   | 6.GM.4.4 | Identify and describe the line(s) of symmetry in two-dimensional shapes.  |
| <b>6.D.1. Display and analyze data.</b>  |          |   |
| SE: 449-454<br>Online Lesson: 20   | 6.D.1.1  | Calculate the mean, median, and mode for a set of real-world data.  |
| SE: 449-454<br>Online Lesson: 20   | 6.D.1.2  | Explain and justify which measure of central tendency (mean, median, or mode) would provide the most descriptive information for a given set of data.   |
| SE: 463-468  | 6.D.1.3  | Create and analyze box and whisker plots observing how each segment contains one quarter of the data.   |

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| <b>6.D.2. Use probability to solve real-world and mathematical problems; represent probabilities using fractions and decimals.</b> |          |   |
| Online Lesson: 21  | 6.D.2.1  | Represent possible outcomes using a probability continuum from impossible to certain.   |
| Online Lesson: 22  | 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. |
| Online Lesson 23   | 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.               |