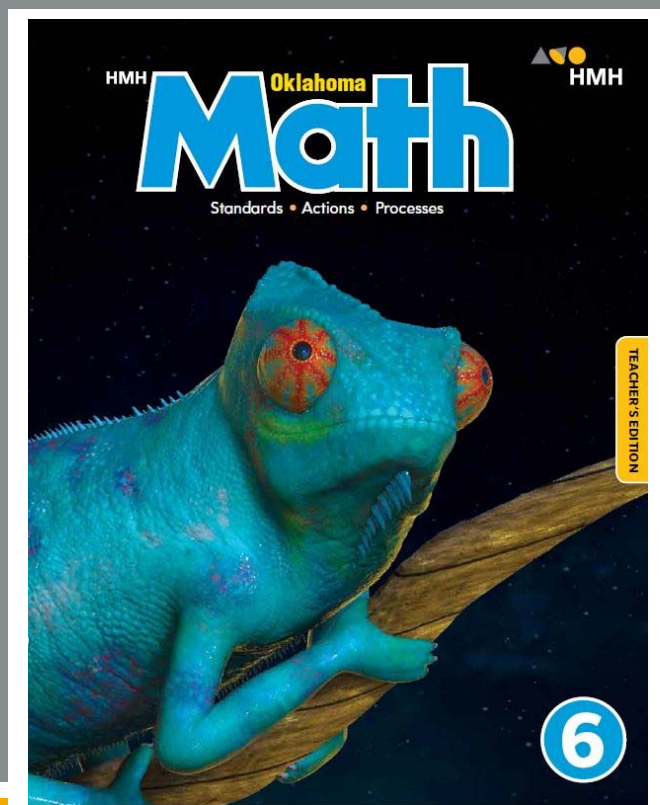Correlation to the
Oklahoma Academic Standards
for Mathematics
Grade 6

Houghton Mifflin Harcourt
Oklahoma Math: Standards, Actions,
Processes ©2019
Grade 6

Houghton Mifflin Harcourt
Oklahoma Math: Standards, Actions, Processes ©2019
Grade 6

correlated to the

Oklahoma Academic Standards for Mathematics (2016)
Grade 6

Citations		Standard	Descriptor
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.			
SE/TE:	23–24, 159–160, 163–164, 165–166, 167–168, 171–172, 173–174	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/TE:	25–26, 161–162, *223,* 277–278, *371*	6.N.1.2	Compare and order positive rational numbers, represented in various forms, or integers using the symbols <, >, and =.
SE/TE:	275–276, 277–278, 279–280	6.N.1.3	Explain that a percent represents parts "out of 100" and ratios "to 100."
SE/TE:	23–24, 25–26, 277–278, 279–280, 283–284, 285–286, 287–288, *289*	6.N.1.4	Determine equivalencies among fractions, decimals, and percents. Select among these representations to solve problems.
SE/TE:	3–4, 5–6, 7–8, 9–10, 17–18, 19–20, 21–22, *27, 101, 151, 197, 267*	6.N.1.5	Factor whole numbers and express prime and composite numbers as a product of prime factors with exponents.
SE/TE:	11–12, 13–14, 17–18, 19–20, 21–22, 63–64, 65–66, 73–74, 75–76, *249*	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

Pages only in the Teacher edition are shown in *italics.*

Citations	Standard	Descriptor
6.N.2. Add and subtract integers in order to solve real-world and mathematical problems.		
SE/TE: 175–176, 177–178	6.N.2.1	Estimate solutions to addition and subtraction of integers problems in order to assess the reasonableness of results.
SE/TE: 165–166, 167–168, 171–172, 173–174, 175–176, 177–178	6.N.2.2	Illustrate addition and subtraction of integers using a variety of representations.
SE/TE: 165–166, 167–168, 171–172, 173–174, 175–176, 177–178, *179, 305, 323*	6.N.2.3	Add and subtract integers; use efficient and generalizable procedures including but not limited to standard algorithms.
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.		
SE/TE: 231–232, 233–234, 235–236, 237–238, 243–244	6.N.3.1	Identify and use ratios to compare quantities. Recognize that multiplicative comparison and additive comparison are different.
SE/TE: 233–234, 235–236, 237–238, 243–244, 245–246	6.N.3.2	Determine the unit rate for ratios.
SE/TE: 233–234, 235–236, 237–238, 241–242, 275–276, 279–280, 283–284, 285–286, 287–288	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/TE: 241–242, 243–244, 245–246, 247–248	6.N.3.4	Use multiplicative reasoning and representations to solve ratio and unit rate problems.
6.N.4. Multiply and divide decimals, fractions, and mixed numbers; solve real-world and mathematical problems with rational numbers.		
SE/TE: 51–52, 53–54, 67–68, 69–70, 75–76, 115–116, 123–124, 127–128, 131–132, *355*	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/TE: 35–36, 37–38, 39–40, 41–42, 43–44, 47–48, 49–50, 53–54, *55*, 63–64, 65–66, 67–68, 69–70, 73–74, 77–78, *79*, 109–110, 111–112, 113–114, 115–116, 121–122, 123–124, 125–126, 127–128, *133*	6.N.4.2	Illustrate multiplication and division of fractions and decimals to show connections to fractions, whole number multiplication, and inverse relationships.

Pages only in the Teacher edition are shown in *italics*

Citations	Standard	Descriptor
SE/TE: 35–36, 37–38, 39–40, 41–42, 43–44, 47–48, 49–50, 51–52, 53–54, 63–64, 65–66, 67–68, 69–70, 109–110, 113–114, 115–116, 117–118, 121–122, 123–124, 125–126, 127–128, 129–130, 131–132	6.N.4.3	Multiply and divide fractions and decimals using efficient and generalizable procedures.
SE/TE: 25–26, 35–36, 37–38, 39–40, 41–42, 43–44, 47–48, 49–50, 51–52, 53–54, 73–74, 75–76, 77–78, 109–110, 121–122, 125–126, 129–130, 131–132, 141–142, 143–144, 145–146, 149–150, 195–196, 205–206, 207–208, 259–260, 261–262, 263–264, 265–266, 285–286, 333–334, 335–336, 337–338, 339–340, 341–342, 345–346, 347–348, 349–350	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.
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.		
SE/TE: 91–92, 93–94, 97–98, 99–100, 321–322	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/TE: 87–88, 89–90, 91–92, 93–94	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/TE: 87–88, 89–90, 193–194, 195–196, 205–206, 207–208, 209–210, 211–212, 215–216, 217–218, 219–220, 221–222	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.

Houghton Mifflin Harcourt *Oklahoma Math: Standards, Actions, Processes, Grade 6* **©2019 correlated to the Oklahoma Academic Standards for Mathematics, Grade 6 (2016)**

Citations	Standard	Descriptor
6.A.2. Use properties of arithmetic to generate equivalent numerical expressions and evaluate expressions involving positive rational numbers.		
SE/TE: 187–188, 189–190, 191–192	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.
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.		
SE/TE: 191–192, 195–196, 207–208, 209–210, 211–212, 215–216, 217–218, 221–222, 297–298, 301–302, 303–304	6.A.3.1	Represent real-world or mathematical situations using expressions, equations and inequalities involving variables and rational numbers.
SE/TE: 209–210, 211–212, 215–216, 217–218	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.
6.GM.1. Calculate area of squares, parallelograms, and triangles to solve real-world and mathematical problems.		
SE/TE: 331–332, 333–334	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/TE: 335–336, 337–338	6.GM.1.2	Develop and use formulas to determine the area of triangles.
SE/TE: 335–336, 337–338, 339–340, 341–342, 345–346, 347–348, 349–350	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.
6.GM.2. Understand and use relationships between angles in geometric figures.		
SE/TE: 299–300, 301–302	6.GM.2.1	Solve problems using the relationships between the angles (vertical, complementary, and supplementary) formed by intersecting lines.
SE/TE: 297–298, 303–304	6.GM.2.2	Develop and use the fact that the sum of the interior angles of a triangle is $180°$ to determine missing angle measures in a triangle.

Pages only in the Teacher edition are shown in *italics*

Citations	Standard	Descriptor
6.GM.3. Choose appropriate units of measurement and use ratios to convert within measurement systems to solve real-world and mathematical problems.		
SE/TE: 257–257	6.GM.3.1	Estimate weights, capacities and geometric measurements using benchmarks in customary and metric measurement systems with appropriate units.
SE/TE: 259–260, 261–262, 263–264, 265–266	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.
6.GM.4. Use translations, reflections, and rotations to establish congruency and understand symmetries.		
SE/TE: 313–314, 315–316, 317–318	6.GM.4.1	Predict, describe, and apply translations (slides), reflections (flips), and rotations (turns) to a two-dimensional figure.
SE/TE: 319–320	6.GM.4.2	Recognize that translations, reflections, and rotations preserve congruency and use them to show that two figures are congruent.
SE/TE: 321–322	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.
SE/TE: 351–352, 353–354	6.GM.4.4	Identify and describe the line(s) of symmetry in two-dimensional shapes.
6.D.1. Display and analyze data.		
SE/TE: 141–142, 143–144, 145–146	6.D.1.1	Calculate the mean, median, and mode for a set of real-world data.
SE/TE: 149–150	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/TE: 145–146, 147–148, 149–150	6.D.1.3	Create and analyze box and whisker plots observing how each segment contains one quarter of the data.

Citations	Standard	Descriptor
6.D.2. Use probability to solve real-world and mathematical problems; represent probabilities using fractions and decimals.		
SE/TE: 363–364	6.D.2.1	Represent possible outcomes using a probability continuum from impossible to certain.
SE/TE: 365–366, 369–370	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.
SE/TE: 367–368	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.