



2015 – 2016

Oklahoma Learning Pathways

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Unit	Lesson & Standards Addressed
Number and Operations in Base Ten	Visualizing Whole Numbers Introductory Lesson
	Visualizing Place Value Introductory Lesson
Operations and Algebraic Thinking	Visualizing Addition Introductory Lesson
	Visualizing Subtraction Introductory Lesson
Number and Operations in Base Ten	Comparing Whole Numbers 3.2.1.b.i Compare and order whole numbers up to 4 digits.
Operations and Algebraic Thinking	Estimating Sums and Differences - Application 3.2.2.a Estimate and find the sum or difference (with and without regrouping) of 3- and 4-digit numbers using a variety of strategies to solve application problems.
Number and Operations in Base Ten	Reasoning About Addition and Subtraction Within 1,000 3.2.2.a Estimate and find the sum or difference (with and without regrouping) of 3- and 4-digit numbers using a variety of strategies to solve application problems.
Operations and Algebraic Thinking	Concept of Multiplication - Grouping 3.2.2.b.i Use physical models and a variety of multiplication algorithms to find the product of multiplication problems with one-digit multipliers.
	Concept of Multiplication - Arrays 3.2.2.b.i Use physical models and a variety of multiplication algorithms to find the product of multiplication problems with one-digit multipliers.
	Applying Properties of Addition and Multiplication to Area Models 3.1.3 Recognize and apply the commutative and identity properties of multiplication using models and manipulative to develop computational skills (e.g., $3 \cdot 5 = 5 \cdot 3$, $7 \cdot 1 = 7$).
	Concept of Division 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).
	Interpreting Division Problems 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).
	Constructing Division Problems 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).
	Relationship Between Multiplication and Division 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).
	Multiplication and Division Fact Families 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).
	Solving Multiplication and Division Equations 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).

Unit	Lesson & Standards Addressed
Operations and Algebraic Thinking (continued)	<p>Division as an Unknown-Factor Problem 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).</p> <p>Multiplication and Division Word Problems - Visual Models 3.2.2.b.i Use physical models and a variety of multiplication algorithms to find the product of multiplication problems with one-digit multipliers.</p> <p>Multiplication and Division Word Problems - Equations 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).</p> <p>Multiplication and Division Word Problems - Solutions 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).</p>
Number and Operations in Base Ten	<p>Multiplying by Multiples of Ten 3.2.2.b.ii Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10×10 and the associated division facts (e.g., $5 \times 6 = 30$ and $30 \div 6 = 5$).</p>
Operations and Algebraic Thinking	<p>Solving Equations with Addition, Subtraction, and Multiplication* 3.1.2 Find unknowns in simple arithmetic problems by solving open sentences (equations) and other problems involving addition, subtraction, and multiplication.</p>
Number and Operations - Fractions	<p>Identifying and Comparing Fractions - Visual Models* 3.2.1.b.ii Create and compare physical and pictorial models of equivalent and nonequivalent fractions including halves, thirds, fourths, eighths, tenths, twelfths, and common percents (25%, 50%, 75%, 100%) (e.g., fraction circles, pictures, egg cartons, fraction strips, number lines).</p>
Measurement and Data	<p>Adding Time* 3.4.2.a Solve simple addition problems with time (e.g., 15 minutes added to 1:10 p.m.).</p> <p>Perimeter 3.4.1.c Develop and use the concept of perimeter of different shapes to solve problems.</p>
Geometry	<p>Symmetry 3.3.1 Identify and compare attributes of two- and three- dimensional shapes and develop vocabulary to describe the attributes (e.g., count the edges and faces of a cube, the radius is half of a circle, lines of symmetry).</p>
Measurement and Data	<p>Introduction to Data Displays 3.5.1.b Read graphs and charts, identify the main idea, draw conclusions, and make predictions based on the data (e.g., predict how many children will bring their lunch based on a menu).</p>
Operations and Algebraic Thinking	<p>Additive and Multiplicative Patterns 3.1.1 Describe (orally or in written form), create, extend and predict patterns in a variety of situations (e.g., 3, 6, 9, 12..., use a function machine to generate input and output values for a table, show multiplication patterns on a hundreds chart, determine a rule and generate additional pairs with the same relationship).</p>

Unit	Lesson & Standards Addressed
Number and Operations in Base Ten	Visualizing Place Value Relationships Introductory Lesson
	Visualizing Rounding Introductory Lesson
Operations and Algebraic Thinking	Visualizing Addition and Subtraction Introductory Lesson
	Visualizing Multiplication and Division Introductory Lesson
Number and Operations in Base Ten	Understanding Place Value Relationships 4.2.1.a.i Apply the concept of place value through 6 digits (e.g., write numbers in expanded form).
	Using Place Value Concepts to Compare Whole Numbers 4.2.1.b.i Compare and order whole numbers and decimals to the hundredths place (e.g., pictures of shaded regions of two-dimensional figures, use $>$, $<$, $=$ symbols).
	Rounding Whole Numbers 4.2.1.a.i Apply the concept of place value through 6 digits (e.g., write numbers in expanded form).
	Using Rounding in Problem Solving 4.2.1.a.i Apply the concept of place value through 6 digits (e.g., write numbers in expanded form).
Operations and Algebraic Thinking	Properties of Addition and Multiplication 4.1.3 Recognize and apply the associative property of multiplication (e.g., $6 \cdot (2 \cdot 3) = (6 \cdot 2) \cdot 3$).
	Solving Multiplication and Division Equations 4.1.2 Find variables in simple arithmetic problems by solving open sentences (equations) and other problems involving addition, subtraction, multiplication, and division with whole numbers.
	4.2.2.b.i Demonstrate fluency (memorize and apply) with basic division facts up to $144 \div 12$ and the associated multiplication facts (e.g., $144 \div 12 = 12$ and $12 \times 12 = 144$).
Number and Operations in Base Ten	Multiplying Whole Numbers - Standard Algorithm 4.2.2.a Estimate and find the product of up to three-digit by three-digit using a variety of strategies to solve application problems.
	Multiplying by Powers of Ten 4.2.2.a Estimate and find the product of up to three-digit by three-digit using a variety of strategies to solve application problems.
Operations and Algebraic Thinking	Interpreting Remainders 4.2.2.b.iii Find the quotient (with and without remainders) with 1-digit divisors and a 2- or 3-digit dividend to solve application problems.
Number and Operations - Fractions	Adding and Subtracting Fractions with Like Denominators 4.2.1.b.iii Compare, add, or subtract fractional parts (fractions with like denominators and decimals) using physical or pictorial models. (e.g., egg cartons, fraction strips, circles, and squares).
	Adding and Subtracting Fractions with Like Denominators in Real-World Situations 4.2.1.b.iii Compare, add, or subtract fractional parts (fractions with like denominators and decimals) using physical or pictorial models. (e.g., egg cartons, fraction strips, circles, and squares).
	Comparing Fractions - Visual Models* 4.2.1.b.iii Compare, add, or subtract fractional parts (fractions with like denominators and decimals) using physical or pictorial models. (e.g., egg cartons, fraction strips, circles, and squares).

Unit	Lesson & Standards Addressed
Number and Operations in Base Ten	<p>Comparing Decimal Fractions 4.2.1.b.iii Compare, add, or subtract fractional parts (fractions with like denominators and decimals) using physical or pictorial models. (e.g., egg cartons, fraction strips, circles, and squares).</p> <p>Decimals to Hundredths 4.2.1.a.ii Model, read, write and rename decimal numbers to the hundredths (e.g., money, numerals to words).</p> <p>Introduction to Comparing Decimals to Hundredths 4.2.1.b.i Compare and order whole numbers and decimals to the hundredths place (e.g., pictures of shaded regions of two-dimensional figures, use $>$, $<$, $=$ symbols).</p> <p>Comparing Decimals to Hundredths 4.2.1.b.i Compare and order whole numbers and decimals to the hundredths place (e.g., pictures of shaded regions of two-dimensional figures, use $>$, $<$, $=$ symbols).</p> <p>Recognizing Valid Decimal Comparisons 4.2.1.b.i Compare and order whole numbers and decimals to the hundredths place (e.g., pictures of shaded regions of two-dimensional figures, use $>$, $<$, $=$ symbols).</p>
The Number System	<p>Integer Concepts 4.2.1.b.iv Explore and connect negative numbers using real world situations (e.g. owing money, temperature, measuring elevations above and below sea level).</p>
Measurement and Data	<p>Adding and Subtracting Time 4.4.2.a Solve elapsed time problems.</p> <p>Unit Squares 4.4.1.d Develop and use the concept of area of different shapes using grids to solve problems.</p> <p>Concept of Area 4.4.1.d Develop and use the concept of area of different shapes using grids to solve problems.</p> <p>Area of Rectangles 4.4.1.c Select appropriate customary and metric units of measure and measurement instruments to solve application problems involving length, weight, mass, area, and volume.</p> <p>Recognizing Area as Additive 4.4.1.d Develop and use the concept of area of different shapes using grids to solve problems.</p> <p>Identifying and Comparing Angles* 4.3.2 Identify and compare angles equal to, less than, or greater than 90 degrees (e.g., use right angles to determine the approximate size of other angles).</p> <p>Capacity or Weight 4.4.1.c Select appropriate customary and metric units of measure and measurement instruments to solve application problems involving length, weight, mass, area, and volume.</p> <p>Introduction to Data Displays 4.5.1.a Read and interpret data displays such as tallies, tables, charts, and graphs and use the observations to pose and answer questions (e.g., choose a table in social studies of population data and write problems).</p>
Geometry	<p>Classifying Quadrilaterals I 4.3.3 Identify, draw, and construct models of regular and irregular polygons including triangles, quadrilaterals, pentagons, hexagons, heptagons, and octagons to solve problems.</p> <p>Classifying Triangles 4.3.3 Identify, draw, and construct models of regular and irregular polygons including triangles, quadrilaterals, pentagons, hexagons, heptagons, and octagons to solve problems.</p> <p>Classifying Quadrilaterals II 4.3.3 Identify, draw, and construct models of regular and irregular polygons including triangles, quadrilaterals, pentagons, hexagons, heptagons, and octagons to solve problems.</p>

<i>Unit</i>	<i>Lesson & Standards Addressed</i>
Operations and Algebraic Thinking	Generating and Describing Number Patterns 4.1.1 Discover, describe, extend, and create a wide variety of patterns using tables, graphs, rules, and verbal models (e.g., determine the rule from a table or “function machine”, extend visual and number patterns).

Unit	Lesson & Standards Addressed
Number and Operations in Base Ten	<p>Place Value Relationships Within Whole Numbers and Decimals 5.2.1.a Apply the concept of place value of whole numbers through hundred millions (9 digits) and model, read, and write decimal numbers through the thousandths.</p>
Operations and Algebraic Thinking	<p>Properties of Addition and Multiplication 5.1.3 Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).</p> <p>Relating Factors and Multiples I 5.2.1.d Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).</p> <p>Factors 5.2.1.d Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).</p> <p>Relating Factors and Multiples II 5.2.1.d Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).</p>
The Number System	<p>Greatest Common Factor 5.2.1.d Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).</p> <p>Greatest Common Factor - Applications 5.2.1.d Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).</p> <p>Least Common Multiple 5.2.1.d Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).</p>
Number and Operations in Base Ten	<p>Dividing Whole Numbers - Two-Digit Divisors 5.2.2.c Estimate and find the quotient (with and without remainders) with two-digit divisors and a two- or three-digit dividend to solve application problems.</p>
Number and Operations - Fractions	<p>Adding Fractions 5.2.2.b Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).</p> <p>Adding Fractions - Estimation Strategies 5.2.2.b Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).</p> <p>Subtracting Fractions 5.2.2.b Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).</p> <p>Subtracting Fractions - Estimation Strategies 5.2.2.b Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).</p> <p>Adding and Subtracting Fractions 5.2.2.b Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).</p>

Unit	Lesson & Standards Addressed
<p>Number and Operations - Fractions (continued)</p>	<p>Adding and Subtracting Fractions - Multistep Word Problems 5.2.2.b Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).</p> <p>Word Problems with Fractions and Mixed Numbers - Visual Models 5.2.2.b Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).</p> <p>Word Problems with Fractions and Mixed Numbers - Estimation 5.2.2.b Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).</p> <p>Understanding Fractions with Denominators of 10 and 100 5.2.1.b Represent with models the connection between fractions and decimals, compare and order fractions and decimals, and be able to convert from one representation to the other to solve problems. (e.g., use 10x10 grids, base 10 blocks).</p> <p>Adding Fractions with Denominators of 10 or 100 5.2.2.b Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).</p>
<p>Number and Operations in Base Ten</p>	<p>Decimals to Thousandths 5.2.1.a Apply the concept of place value of whole numbers through hundred millions (9 digits) and model, read, and write decimal numbers through the thousandths.</p> <p>Comparing Decimals to Thousandths 5.2.1.b Represent with models the connection between fractions and decimals, compare and order fractions and decimals, and be able to convert from one representation to the other to solve problems. (e.g., use 10x10 grids, base 10 blocks).</p> <p>Fraction and Decimal Equivalents 5.2.1.b Represent with models the connection between fractions and decimals, compare and order fractions and decimals, and be able to convert from one representation to the other to solve problems. (e.g., use 10x10 grids, base 10 blocks).</p> <p>Comparing Fractions and Decimals 5.2.1.b Represent with models the connection between fractions and decimals, compare and order fractions and decimals, and be able to convert from one representation to the other to solve problems. (e.g., use 10x10 grids, base 10 blocks).</p> <p>Rounding Decimals to the Nearest Tenth and Hundredth 5.2.2.a Estimate, add, or subtract decimal numbers with same and different place values to solve problems (e.g., $3.72 + 1.4$, $\\$4.56 - \\2.12).</p> <p>Adding and Subtracting Decimals 5.2.2.a Estimate, add, or subtract decimal numbers with same and different place values to solve problems (e.g., $3.72 + 1.4$, $\\$4.56 - \\2.12).</p> <p>Adding and Subtracting Decimals in Real-World Situations 5.2.2.a Estimate, add, or subtract decimal numbers with same and different place values to solve problems (e.g., $3.72 + 1.4$, $\\$4.56 - \\2.12).</p>
<p>The Number System</p>	<p>Integer Concepts 5.2.1.c Identify and compare integers using real world situations. (e.g., owing money, temperature, or measuring elevations above and below sea level).</p> <p>Integer Concepts with a Number Line 5.2.1.c Identify and compare integers using real world situations. (e.g., owing money, temperature, or measuring elevations above and below sea level).</p>

Unit	Lesson & Standards Addressed
Expressions and Equations	<p>Solving One-Step Equations - Strategies* 5.1.2 Use algebraic problem-solving techniques (e.g., use a balance to model an equation and show how subtracting a number from one side requires subtracting the same amount from the other side) to solve problems.</p>
Measurement and Data	<p>Area of Rectangles 5.4.1.b Develop and use the formula for perimeter and area of a square and rectangle to solve application problems.</p> <p>Perimeter 5.4.1.b Develop and use the formula for perimeter and area of a square and rectangle to solve application problems.</p> <p>Units of Measure - Customary 5.4.1.c Convert basic measurements of volume, mass and distance within the same system for metric and customary units (e.g., inches to feet, hours to minutes, centimeters to meters).</p> <p>Units of Measure - Metric 5.4.1.c Convert basic measurements of volume, mass and distance within the same system for metric and customary units (e.g., inches to feet, hours to minutes, centimeters to meters).</p> <p>Angles 5.3.2 Classify angles (e.g., acute, right, obtuse, straight). 5.4.1.a Compare, estimate, and determine the measurement of angles.</p> <p>Money Sense 5.4.2 Solve a variety of problems involving money.</p>
Geometry	<p>Classifying Quadrilaterals II 5.3.1 Compare and contrast the basic characteristics of circle and polygons (triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons).</p> <p>Classifying 2-Dimensional Figures 5.3.1 Compare and contrast the basic characteristics of circle and polygons (triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons).</p>
Statistics and Probability	<p>Measures of Spread - Range 5.5.3 Determine the range (spread), mode (most often), and median (middle) of a set of data.</p> <p>Measures of Center - Median 5.5.3 Determine the range (spread), mode (most often), and median (middle) of a set of data.</p> <p>Simple Probability 5.5.2.a Determine the probability of events occurring in familiar contexts or experiments and express probabilities as fractions from zero to one (e.g., find the fractional probability of an event given a biased spinner).</p> <p>Introduction to Compound Probability* 5.5.2.b Use the fundamental counting principle on sets with up to four items to determine the number of possible combinations (e.g. create a tree diagrams to see possible combinations).</p>

Unit	Lesson & Standards Addressed
Number and Operations in Base Ten	<p>Multiplying and Dividing by Powers of Ten 6.2.2.b Multiply and divide decimals with one- or two-digit multipliers or divisors to solve problems.</p> <p>Dividing Whole Numbers - Standard Algorithm 6.2.2.c Estimate and find solutions to single and multi-step problems using whole numbers, decimals, fractions, and percents (e.g., $7/8 + 8/9$ is about 2, $3.9 + 5.3$ is about 9).</p> <p>Multiplying Decimals to Hundredths 6.2.2.b Multiply and divide decimals with one- or two-digit multipliers or divisors to solve problems.</p> <p>Dividing Decimals to Hundredths 6.2.2.b Multiply and divide decimals with one- or two-digit multipliers or divisors to solve problems.</p> <p>Using Reasoning and Estimation to Calculate with Decimals 6.2.2.c Estimate and find solutions to single and multi-step problems using whole numbers, decimals, fractions, and percents (e.g., $7/8 + 8/9$ is about 2, $3.9 + 5.3$ is about 9).</p> <p>Calculating with Decimals 6.2.2.c Estimate and find solutions to single and multi-step problems using whole numbers, decimals, fractions, and percents (e.g., $7/8 + 8/9$ is about 2, $3.9 + 5.3$ is about 9).</p>
Number and Operations - Fractions	<p>Multiplying Unit Fractions by Whole Numbers 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Multiplying Fractions by Whole Numbers 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Solving Word Problems with Multiplication of Fractions by Whole Numbers 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Multiplying Unit Fractions by Fractions and Understanding Multiplication as Scaling 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Multiplying Fractions by Fractions 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Multiplying Fractions by Whole Numbers to Solve Multistep Problems 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Dividing Unit Fractions by Whole Numbers 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Dividing Whole Numbers by Unit Fractions 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p>
The Number System	<p>Using the Relationship Between Multiplication and Division to Divide Fractions 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Dividing Fractions by Fractions 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Using Division of Fractions to Represent and Solve Problems 6.2.2.a Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.</p> <p>Operations with Fractions - Mixed Practice 6.2.2.c Estimate and find solutions to single and multi-step problems using whole numbers, decimals, fractions, and percents (e.g., $7/8 + 8/9$ is about 2, $3.9 + 5.3$ is about 9).</p> <p>Adding and Subtracting Rational Numbers I 6.2.2.d Use the basic operations on integers to solve problems.</p> <p>Adding and Subtracting Rational Numbers II 6.2.2.d Use the basic operations on integers to solve problems.</p>

Unit	Lesson & Standards Addressed
The Number System (continued)	<p>Multiplying and Dividing Rational Numbers 6.2.2.d Use the basic operations on integers to solve problems.</p> <p>Operations with Rational Numbers I 6.2.2.d Use the basic operations on integers to solve problems.</p>
Ratios and Proportional Relationships	<p>Converting Units of Measure I 6.4.2 Convert, add, or subtract measurements within the same system to solve problems (e.g., $9' 8'' + 3' 6''$, 150 minutes = ___ hours and ___ minutes, 6 square inches = ___ square feet).</p> <p>Converting Units of Measure II 6.4.2 Convert, add, or subtract measurements within the same system to solve problems (e.g., $9' 8'' + 3' 6''$, 150 minutes = ___ hours and ___ minutes, 6 square inches = ___ square feet).</p> <p>Percent Concepts 6.2.1 Convert, compare, and order decimals, fractions, and percents using a variety of methods. 6.2.2.c Estimate and find solutions to single and multi-step problems using whole numbers, decimals, fractions, and percents (e.g., $7/8 + 8/9$ is about 2, $3.9 + 5.3$ is about 9).</p> <p>Reasoning with Percents 6.2.1 Convert, compare, and order decimals, fractions, and percents using a variety of methods. 6.2.2.c Estimate and find solutions to single and multi-step problems using whole numbers, decimals, fractions, and percents (e.g., $7/8 + 8/9$ is about 2, $3.9 + 5.3$ is about 9).</p>
Expressions and Equations	<p>Fraction, Decimal, and Percent Equivalents 6.2.1 Convert, compare, and order decimals, fractions, and percents using a variety of methods.</p> <p>Evaluating Simple Expressions 6.1.3 Use substitution to simplify and evaluate algebraic expressions (e.g., if $x = 5$ evaluate $3 - 5x$).</p> <p>Reasoning About One-Step Equations 6.1.4 Write and solve one-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $1/3x = 9$).</p> <p>Writing and Solving One-Step Equations 6.1.4 Write and solve one-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $1/3x = 9$).</p> <p>Evaluating Expressions with Two Operations 6.1.3 Use substitution to simplify and evaluate algebraic expressions (e.g., if $x = 5$ evaluate $3 - 5x$). 6.1.4 Write and solve one-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $1/3x = 9$).</p> <p>Evaluating Expressions with Real Numbers I 6.1.3 Use substitution to simplify and evaluate algebraic expressions (e.g., if $x = 5$ evaluate $3 - 5x$).</p> <p>Identifying and Generating Equivalent Expressions 6.1.3 Use substitution to simplify and evaluate algebraic expressions (e.g., if $x = 5$ evaluate $3 - 5x$).</p> <p>Evaluating Expressions with the Distributive Property 6.1.3 Use substitution to simplify and evaluate algebraic expressions (e.g., if $x = 5$ evaluate $3 - 5x$).</p> <p>Using the Distributive Property to Represent Real-World Situations 6.1.3 Use substitution to simplify and evaluate algebraic expressions (e.g., if $x = 5$ evaluate $3 - 5x$).</p> <p>Independent and Dependent Quantities 6.1.2 Write algebraic expressions and simple equations that correspond to a given situation.</p>

Unit	Lesson & Standards Addressed
Geometry	<p>Circumference 6.4.1 Use formulas to find the circumference and area of circles in terms of pi.</p> <p>Area of Circles 6.4.1 Use formulas to find the circumference and area of circles in terms of pi.</p> <p>Classifying 3-Dimensional Figures 6.3.1 Compare and contrast the basic characteristics of three-dimensional figures (pyramids, prisms, cones, and cylinders).</p> <p>Introduction to the Coordinate Plane 6.3.3 Identify the characteristics of the rectangular coordinate system and use them to locate points and describe shapes drawn in all four quadrants.</p> <p>Representing Real-World Quantities in the First Quadrant 6.3.3 Identify the characteristics of the rectangular coordinate system and use them to locate points and describe shapes drawn in all four quadrants.</p> <p>Introduction to Scatter Plots 6.5.1 Organize, construct displays, and interpret data to solve problems (e.g., data from student experiments, tables, diagrams, charts, graphs).</p>
The Number System	<p>Integers in the Coordinate Plane I 6.3.3 Identify the characteristics of the rectangular coordinate system and use them to locate points and describe shapes drawn in all four quadrants.</p> <p>Integers in the Coordinate Plane II 6.3.3 Identify the characteristics of the rectangular coordinate system and use them to locate points and describe shapes drawn in all four quadrants.</p> <p>Rational Numbers in the Coordinate Plane I 6.3.3 Identify the characteristics of the rectangular coordinate system and use them to locate points and describe shapes drawn in all four quadrants.</p> <p>Rational Numbers in the Coordinate Plane II 6.3.3 Identify the characteristics of the rectangular coordinate system and use them to locate points and describe shapes drawn in all four quadrants.</p>
Geometry	<p>Distance on the Coordinate Plane I 6.3.3 Identify the characteristics of the rectangular coordinate system and use them to locate points and describe shapes drawn in all four quadrants.</p>
The Number System	<p>Distance on the Coordinate Plane II 6.3.3 Identify the characteristics of the rectangular coordinate system and use them to locate points and describe shapes drawn in all four quadrants.</p>
Expressions and Equations	<p>Understanding Exponents 6.2.2.e Build and recognize models of multiples to develop the concept of exponents and simplify numerical expressions with exponents and parentheses using order of operations.</p> <p>Evaluating Expressions and Equations with Exponents 6.2.2.e Build and recognize models of multiples to develop the concept of exponents and simplify numerical expressions with exponents and parentheses using order of operations.</p>

Unit	Lesson & Standards Addressed
Statistics and Probability	<p>Measures of Spread - Range 6.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data (with and without outliers) and understand why a specific measure provides the most useful information in a given context.</p> <p>Measures of Center - Median 6.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data (with and without outliers) and understand why a specific measure provides the most useful information in a given context.</p> <p>Measures of Center - Mean 6.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data (with and without outliers) and understand why a specific measure provides the most useful information in a given context.</p> <p>Summarizing Data 6.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data (with and without outliers) and understand why a specific measure provides the most useful information in a given context.</p> <p>Line Plots 6.5.1 Organize, construct displays, and interpret data to solve problems (e.g., data from student experiments, tables, diagrams, charts, graphs).</p> <p>Bar Graphs and Histograms 6.5.1 Organize, construct displays, and interpret data to solve problems (e.g., data from student experiments, tables, diagrams, charts, graphs).</p> <p>Circle Graphs 6.5.1 Organize, construct displays, and interpret data to solve problems (e.g., data from student experiments, tables, diagrams, charts, graphs).</p> <p>Stem-and-Leaf Plots 6.5.1 Organize, construct displays, and interpret data to solve problems (e.g., data from student experiments, tables, diagrams, charts, graphs).</p> <p>Quartiles 6.5.1 Organize, construct displays, and interpret data to solve problems (e.g., data from student experiments, tables, diagrams, charts, graphs).</p> <p>Box Plots 6.5.1 Organize, construct displays, and interpret data to solve problems (e.g., data from student experiments, tables, diagrams, charts, graphs).</p> <p>Compound Probability 6.5.2 Use the fundamental counting principle on sets with up to five items to determine the number of possible combinations.</p>
Expressions and Equations	<p>Introduction to the Language of Algebra 6.1.2 Write algebraic expressions and simple equations that correspond to a given situation. 6.1.4 Write and solve one-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $1/3x = 9$).</p> <p>Introduction to Solving Word Problems with Algebra 6.1.2 Write algebraic expressions and simple equations that correspond to a given situation. 6.1.4 Write and solve one-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $1/3x = 9$).</p>

Unit	Lesson & Standards Addressed
Expressions and Equations	<p>Solving and Modeling Two-Step Problems 7.1.2 Write and solve two-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $-2x + 4 = -2$).</p> <p>Solving Equations with the Distributive Property 7.1.2 Write and solve two-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $-2x + 4 = -2$).</p> <p>Solving Equations with the Distributive Property in Context 7.1.2 Write and solve two-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $-2x + 4 = -2$).</p> <p>Solving Two-Step Equations 7.1.2 Write and solve two-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $-2x + 4 = -2$).</p>
Ratios and Proportional Relationships	<p>Identifying Ratios 7.2.2.a Solve problems using ratios and proportions.</p> <p>Ratios 7.2.2.a Solve problems using ratios and proportions.</p> <p>Concept of Ratios and Rates 7.2.2.a Solve problems using ratios and proportions.</p> <p>Using Ratios to Solve Problems 7.2.2.a Solve problems using ratios and proportions.</p> <p>Identifying Unit Rates 7.2.2.a Solve problems using ratios and proportions.</p> <p>Solving Problems with Unit Rates 7.2.2.a Solve problems using ratios and proportions.</p> <p>Interpreting Unit Rates on Graphs 7.2.2.a Solve problems using ratios and proportions.</p> <p>Proportion Concepts 7.2.2.a Solve problems using ratios and proportions.</p> <p>Proportional Relationships in Tables and Equations 7.1.1 Identify, describe, and analyze functional relationships (linear and nonlinear) between two variables (e.g., as the value of x increases on a table, do the values of y increase or decrease, identify a positive rate of change on a graph and compare it to a negative rate of change). 7.2.2.a Solve problems using ratios and proportions.</p> <p>Interpreting Points on Graphs of Proportional Relationships 7.2.2.a Solve problems using ratios and proportions.</p> <p>Using Proportions to Solve Problems 7.2.2.a Solve problems using ratios and proportions.</p> <p>Proportions in Scale Drawings 7.2.1.c Demonstrate the concept of ratio and proportion with models (e.g., similar geometric shapes, scale models). 7.2.2.a Solve problems using ratios and proportions.</p> <p>Introduction to Similar Figures 7.2.1.c Demonstrate the concept of ratio and proportion with models (e.g., similar geometric shapes, scale models). 7.2.2.a Solve problems using ratios and proportions.</p> <p>Using Similar Figures to Solve Problems 7.2.1.c Demonstrate the concept of ratio and proportion with models (e.g., similar geometric shapes, scale models). 7.2.2.a Solve problems using ratios and proportions.</p>

Unit	Lesson & Standards Addressed
Ratios and Proportional Relationships (continued)	<p>Similarity 7.2.1.c Demonstrate the concept of ratio and proportion with models (e.g., similar geometric shapes, scale models). 7.2.2.a Solve problems using ratios and proportions.</p> <p>Calculations with Percent 7.2.2.b Solve percent application problems (e.g., discounts, tax, finding the missing value of percent/part/whole).</p> <p>Percent and Percent Change 7.2.2.b Solve percent application problems (e.g., discounts, tax, finding the missing value of percent/part/whole).</p> <p>Percent and Percent Error 7.2.2.b Solve percent application problems (e.g., discounts, tax, finding the missing value of percent/part/whole).</p> <p>Simple Interest 7.2.2.b Solve percent application problems (e.g., discounts, tax, finding the missing value of percent/part/whole).</p>
The Number System	<p>Comparing Rational Numbers I 7.2.1.a Compare and order positive and negative rational numbers.</p> <p>Comparing Rational Numbers II 7.2.1.a Compare and order positive and negative rational numbers.</p>
Expressions and Equations	<p>Evaluating Expressions and Equations with Exponents 7.2.2.c Simplify numerical expressions with integers, exponents, and parentheses using order of operations.</p> <p>Understanding Square and Cube Roots 7.2.1.b Build and recognize models of perfect squares to find their square roots and estimate the square root of other numbers (e.g., the square root of 12 is between 3 and 4).</p> <p>Approximating Values of Irrational Numbers 7.2.1.b Build and recognize models of perfect squares to find their square roots and estimate the square root of other numbers (e.g., the square root of 12 is between 3 and 4).</p>
Geometry	<p>Classifying Triangles 7.3.1 Classify regular and irregular geometric figures including triangles and quadrilaterals according to their sides and angles.</p> <p>Classifying Quadrilaterals II 7.3.1 Classify regular and irregular geometric figures including triangles and quadrilaterals according to their sides and angles.</p> <p>Perimeter 7.4.1 Develop and apply the formulas for perimeter and area of triangles and quadrilaterals to solve problems.</p> <p>Area of Parallelograms 7.4.1 Develop and apply the formulas for perimeter and area of triangles and quadrilaterals to solve problems.</p> <p>Area of Triangles 7.4.1 Develop and apply the formulas for perimeter and area of triangles and quadrilaterals to solve problems.</p> <p>Area of Trapezoids and Composite Figures 7.4.1 Develop and apply the formulas for perimeter and area of triangles and quadrilaterals to solve problems.</p> <p>Circumference 7.4.2 Apply the formula for the circumference and area of a circle to solve problems.</p> <p>Area of Circles 7.4.2 Apply the formula for the circumference and area of a circle to solve problems.</p> <p>Area of Complex Composite Figures 7.4.1 Develop and apply the formulas for perimeter and area of triangles and quadrilaterals to solve problems. 7.4.2 Apply the formula for the circumference and area of a circle to solve problems. 7.4.3 Find the area and perimeter of composite figures to solve application problems.</p>

Unit	Lesson & Standards Addressed
Geometry (continued)	<p>Angle Pairs 7.3.2 Identify and analyze the angle relationships formed by parallel lines cut by a transversal (e.g., alternate interior angles, alternate exterior angles, adjacent, and vertical angles).</p> <p>Parallel Lines and Transversals 7.3.2 Identify and analyze the angle relationships formed by parallel lines cut by a transversal (e.g., alternate interior angles, alternate exterior angles, adjacent, and vertical angles).</p> <p>Translations 7.3.3 Construct geometric figures and identify geometric transformations on the rectangular coordinate plane (e.g., rotations, translations, reflections, magnifications).</p> <p>Reflections 7.3.3 Construct geometric figures and identify geometric transformations on the rectangular coordinate plane (e.g., rotations, translations, reflections, magnifications).</p> <p>Rotations 7.3.3 Construct geometric figures and identify geometric transformations on the rectangular coordinate plane (e.g., rotations, translations, reflections, magnifications).</p> <p>Composition of Transformations 7.3.3 Construct geometric figures and identify geometric transformations on the rectangular coordinate plane (e.g., rotations, translations, reflections, magnifications).</p> <p>Dilations 7.3.3 Construct geometric figures and identify geometric transformations on the rectangular coordinate plane (e.g., rotations, translations, reflections, magnifications).</p>
Statistics and Probability	<p>Measures of Spread - Range 7.5.3 Compute the mean, median, mode, and range for data sets and understand how additional data or outliers in a set may affect the measures of central tendency.</p> <p>Measures of Center - Median 7.5.3 Compute the mean, median, mode, and range for data sets and understand how additional data or outliers in a set may affect the measures of central tendency.</p> <p>Measures of Center - Mean 7.5.3 Compute the mean, median, mode, and range for data sets and understand how additional data or outliers in a set may affect the measures of central tendency.</p> <p>Deviation from the Mean 7.5.3 Compute the mean, median, mode, and range for data sets and understand how additional data or outliers in a set may affect the measures of central tendency.</p> <p>Comparing Data 7.5.1 Compare, translate, and interpret between displays of data (e.g., multiple sets of data on the same graph, data from subsets of the same population, combinations of diagrams, tables, charts, and graphs).</p> <p>Compound Probability 7.5.2 Determine the probability of an event involving “or”, “and”, or “not” (e.g., on a spinner with one blue, two red and two yellow sections, what is the probability of getting a red or a yellow?).</p>
Expressions and Equations	<p>Solving Word Problems with Algebra 7.1.2 Write and solve two-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $-2x + 4 = -2$).</p>

Unit	Lesson & Standards Addressed
Reasoning with Equations and Inequalities	<p>Solving Equations with One Variable 7.1.2 Write and solve two-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $-2x + 4 = -2$).</p>
	<p>Solving One-Step Equations 7.1.2 Write and solve two-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $-2x + 4 = -2$).</p>
Expressions and Equations	<p>Combining Like Terms 7.1.2 Write and solve two-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $-2x + 4 = -2$).</p>
	<p>Concept of Inequalities I 7.1.3 Model, write, solve, and graph one-step linear inequalities with one variable.</p>
	<p>Concept of Inequalities II 7.1.3 Model, write, solve, and graph one-step linear inequalities with one variable.</p>

Unit	Lesson & Standards Addressed
Expressions and Equations	<p>Understanding Properties of Integer Exponents 8.2.2.a Use the rules of exponents, including integer exponents, to solve problems (e.g., $7^2 \cdot 7^3 = 7$ to the 5th power, 3 to the -10th \cdot 3 to the 8th power = 3^{-2}).</p> <p>Applying Properties of Integer Exponents 8.2.2.a Use the rules of exponents, including integer exponents, to solve problems (e.g., $7^2 \cdot 7^3 = 7$ to the 5th power, 3 to the -10th \cdot 3 to the 8th power = 3^{-2}).</p>
Ratios and Proportional Relationships	<p>Distance, Rate, and Time 8.1.1.d Apply appropriate formulas to solve problems (e.g., $d=rt$, $I=prt$).</p>
The Number System	<p>Adding and Subtracting Rational Numbers I 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Adding and Subtracting Rational Numbers II 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Multiplying and Dividing Rational Numbers 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Writing and Interpreting Expressions with Rational Numbers 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Operations with Rational Numbers I 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Operations with Rational Numbers II 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p>
Expressions and Equations	<p>Common Factors in Polynomials 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p>
Functions	<p>Interpreting Graphs of Real-World Situations 8.5.1 Select, analyze and apply data displays in appropriate formats to draw conclusions and solve problems.</p>
Expressions and Equations	<p>Interpreting Slope 8.1.1.c Predict the effect on the graph of a linear equation when the slope or y-intercept changes (e.g., make predictions from graphs, identify the slope or y-intercept in the equation $y = mx + b$ and relate to a graph).</p> <p>Slope 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems. 8.1.1.c Predict the effect on the graph of a linear equation when the slope or y-intercept changes (e.g., make predictions from graphs, identify the slope or y-intercept in the equation $y = mx + b$ and relate to a graph).</p>
Functions	<p>Slope-Intercept Form 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems. 8.1.1.b Graph and interpret the solution to one- and two-step linear equations on a number line with one variable and on a coordinate plane with two variables. 8.1.1.c Predict the effect on the graph of a linear equation when the slope or y-intercept changes (e.g., make predictions from graphs, identify the slope or y-intercept in the equation $y = mx + b$ and relate to a graph).</p> <p>Point-Slope Form 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems. 8.1.1.b Graph and interpret the solution to one- and two-step linear equations on a number line with one variable and on a coordinate plane with two variables.</p>

Unit	Lesson & Standards Addressed
Expressions and Equations	<p>Analyzing Solution Sets to Linear Equations with the Variable on Both Sides 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems.</p> <p>Solving Equations with the Variable on Both Sides 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems.</p> <p>Interpreting Numbers Written in Scientific Notation 8.2.1 Represent and interpret large numbers and numbers less than one in exponential and scientific notation.</p> <p>Operations with Numbers in Scientific Notation 8.2.2.b Solve problems using scientific notation.</p> <p>Concept of Inequalities II 8.1.2 Model, write, solve, and graph one- and two-step linear inequalities with one variable.</p>
Ratios and Proportional Relationships	<p>Using Similar Figures to Solve Problems 8.4.2 Apply knowledge of ratio and proportion to solve relationships between similar geometric figures.</p>
Measurement and Data	<p>Area of Basic Composite Figures 8.4.3 Find the area of a “region of a region” for simple composite figures and the area of cross sections of regular geometric solids (e.g., area of a rectangular picture frame).</p> <p>Volume of Rectangular Prisms I 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Volume of Rectangular Prisms II 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p>
Geometry	<p>Classifying 3-Dimensional Figures 8.3.1 Construct models, sketch (from different perspectives), and classify solid figures such as rectangular solids, prisms, cones, cylinders, pyramids, and combined forms.</p> <p>Surface Area and Volume of Rectangular Prisms 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Surface Area of Cylinders 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Surface Area of Pyramids 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Volume of Cylinders 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Pythagorean Theorem - Hypotenuse 8.3.2 Develop the Pythagorean Theorem and apply the formula to find the length of line segments, the shortest distance between two points on a graph, and the length of an unknown side of a right triangle.</p> <p>Pythagorean Theorem - Legs 8.3.2 Develop the Pythagorean Theorem and apply the formula to find the length of line segments, the shortest distance between two points on a graph, and the length of an unknown side of a right triangle.</p>

Unit	Lesson & Standards Addressed
Geometry (continued)	<p>Pythagorean Theorem - Mixed Problems 8.3.2 Develop the Pythagorean Theorem and apply the formula to find the length of line segments, the shortest distance between two points on a graph, and the length of an unknown side of a right triangle.</p> <p>Pythagorean Theorem - Distance Formula 8.3.2 Develop the Pythagorean Theorem and apply the formula to find the length of line segments, the shortest distance between two points on a graph, and the length of an unknown side of a right triangle.</p>
Statistics and Probability	<p>Measures of Spread - Range 8.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data and understand why a specific measure provides the most useful information in a given context.</p> <p>Measures of Center - Median 8.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data and understand why a specific measure provides the most useful information in a given context.</p> <p>Measures of Center - Mean 8.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data and understand why a specific measure provides the most useful information in a given context.</p> <p>Sampling 8.5.2 Determine how samples are chosen (random, limited, biased) to draw and support conclusions about generalizing a sample to a population (e.g., is the average height of a men’s college basketball team a good representative sample for height predictions?).</p>

Unit	Lesson & Standards Addressed
Expressions and Equations	<p>Understanding Properties of Integer Exponents 8.2.2.a Use the rules of exponents, including integer exponents, to solve problems (e.g., $7^2 \cdot 7^3 = 7$ to the 5th power, 3 to the -10th \cdot 3 to the 8th power = 3^{-2}).</p> <p>Applying Properties of Integer Exponents 8.2.2.a Use the rules of exponents, including integer exponents, to solve problems (e.g., $7^2 \cdot 7^3 = 7$ to the 5th power, 3 to the -10th \cdot 3 to the 8th power = 3^{-2}).</p>
Ratios and Proportional Relationships	<p>Distance, Rate, and Time 8.1.1.d Apply appropriate formulas to solve problems (e.g., $d=rt$, $l=prt$).</p>
The Number System	<p>Adding and Subtracting Rational Numbers I 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Adding and Subtracting Rational Numbers II 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Multiplying and Dividing Rational Numbers 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Writing and Interpreting Expressions with Rational Numbers 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Operations with Rational Numbers I 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p> <p>Operations with Rational Numbers II 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p>
Expressions and Equations	<p>Common Factors in Polynomials 8.2.2.c Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.</p>
Functions	<p>Interpreting Graphs of Real-World Situations 8.5.1 Select, analyze and apply data displays in appropriate formats to draw conclusions and solve problems.</p>
Expressions and Equations	<p>Interpreting Slope 8.1.1.c Predict the effect on the graph of a linear equation when the slope or y-intercept changes (e.g., make predictions from graphs, identify the slope or y-intercept in the equation $y = mx + b$ and relate to a graph).</p> <p>Slope 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems. 8.1.1.c Predict the effect on the graph of a linear equation when the slope or y-intercept changes (e.g., make predictions from graphs, identify the slope or y-intercept in the equation $y = mx + b$ and relate to a graph).</p>
Functions	<p>Slope-Intercept Form 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems. 8.1.1.b Graph and interpret the solution to one- and two-step linear equations on a number line with one variable and on a coordinate plane with two variables. 8.1.1.c Predict the effect on the graph of a linear equation when the slope or y-intercept changes (e.g., make predictions from graphs, identify the slope or y-intercept in the equation $y = mx + b$ and relate to a graph).</p> <p>Point-Slope Form 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems. 8.1.1.b Graph and interpret the solution to one- and two-step linear equations on a number line with one variable and on a coordinate plane with two variables.</p>

Unit	Lesson & Standards Addressed
Expressions and Equations	<p>Analyzing Solution Sets to Linear Equations with the Variable on Both Sides 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems.</p> <p>Solving Equations with the Variable on Both Sides 8.1.1.a Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems.</p> <p>Interpreting Numbers Written in Scientific Notation 8.2.1 Represent and interpret large numbers and numbers less than one in exponential and scientific notation.</p> <p>Operations with Numbers in Scientific Notation 8.2.2.b Solve problems using scientific notation.</p> <p>Concept of Inequalities II 8.1.2 Model, write, solve, and graph one- and two-step linear inequalities with one variable.</p>
Ratios and Proportional Relationships	<p>Using Similar Figures to Solve Problems 8.4.2 Apply knowledge of ratio and proportion to solve relationships between similar geometric figures.</p>
Measurement and Data	<p>Area of Basic Composite Figures 8.4.3 Find the area of a “region of a region” for simple composite figures and the area of cross sections of regular geometric solids (e.g., area of a rectangular picture frame).</p> <p>Volume of Rectangular Prisms I 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Volume of Rectangular Prisms II 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p>
Geometry	<p>Classifying 3-Dimensional Figures 8.3.1 Construct models, sketch (from different perspectives), and classify solid figures such as rectangular solids, prisms, cones, cylinders, pyramids, and combined forms.</p> <p>Surface Area and Volume of Rectangular Prisms 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Surface Area of Cylinders 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Surface Area of Pyramids 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Volume of Cylinders 8.4.1 Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).</p> <p>Pythagorean Theorem - Hypotenuse 8.3.2 Develop the Pythagorean Theorem and apply the formula to find the length of line segments, the shortest distance between two points on a graph, and the length of an unknown side of a right triangle.</p> <p>Pythagorean Theorem - Legs 8.3.2 Develop the Pythagorean Theorem and apply the formula to find the length of line segments, the shortest distance between two points on a graph, and the length of an unknown side of a right triangle.</p>

Unit	Lesson & Standards Addressed
Geometry (continued)	<p>Pythagorean Theorem - Mixed Problems 8.3.2 Develop the Pythagorean Theorem and apply the formula to find the length of line segments, the shortest distance between two points on a graph, and the length of an unknown side of a right triangle.</p> <p>Pythagorean Theorem - Distance Formula 8.3.2 Develop the Pythagorean Theorem and apply the formula to find the length of line segments, the shortest distance between two points on a graph, and the length of an unknown side of a right triangle.</p>
Statistics and Probability	<p>Measures of Spread - Range 8.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data and understand why a specific measure provides the most useful information in a given context.</p> <p>Measures of Center - Median 8.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data and understand why a specific measure provides the most useful information in a given context.</p> <p>Measures of Center - Mean 8.5.3 Find the measures of central tendency (mean, median, mode, and range) of a set of data and understand why a specific measure provides the most useful information in a given context.</p> <p>Sampling 8.5.2 Determine how samples are chosen (random, limited, biased) to draw and support conclusions about generalizing a sample to a population (e.g., is the average height of a men’s college basketball team a good representative sample for height predictions?).</p>

Unit	Lesson & Standards Addressed
Linear, Quadratic, and Exponential Models	<p>Introduction to Nonlinear Models Al.2.1.a Distinguish between linear and nonlinear data. Al.2.5.a Match exponential and quadratic functions to a table, graph or situation and vice versa.</p>
Creating Equations	<p>Writing and Solving Linear Equations in One Variable Al.1.1.a Translate word phrases and sentences into expressions and equations and vice versa. Al.1.1.d Solve two-step and three-step problems using concepts such as rules of exponents, rate, distance, ratio and proportion, and percent. Al.2.2.e Match equations to a graph, table, or situation and vice versa.</p> <p>Writing and Graphing Linear Equations in Two or More Variables Al.2.2.c.I Slope I. Calculate the slope of a line using a graph, an equation, two points or a set of data points. Al.2.2.d Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, a set of data points. Al.2.2.e Match equations to a graph, table, or situation and vice versa.</p> <p>Equations of Parallel and Perpendicular Lines Al.2.2.c.II Slope II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical.</p> <p>Writing Linear Inequalities in One Variable Al.2.3.b Match inequalities (with 1 or 2 variables) to a graph, table, or situation and vice versa.</p>
Reasoning with Equations and Inequalities	<p>Solving Linear Inequalities in One Variable Al.2.3.a Solve linear inequalities by graphing or using properties of inequalities.</p>
Creating Equations	<p>Modeling Exponential Relationships with Equations, Inequalities, and Graphs Al.2.5.a Match exponential and quadratic functions to a table, graph or situation and vice versa.</p> <p>Solving Literal Equations Al.1.1.b Solve literal equations involving several variables for one variable in terms of the others.</p>
Geometry	<p>Volume of Cylinders Al.1.1.c Use the formulas from measurable attributes of geometric models (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.</p> <p>Volume of Pyramids and Cones Al.1.1.c Use the formulas from measurable attributes of geometric models (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.</p>
Reasoning with Equations and Inequalities	<p>Solving Systems of Linear Equations Al.2.4 Solve a system of linear equations by graphing, substitution or elimination.</p> <p>Solving Linear Equations Graphically Al.2.2.a Solve linear equations by graphing or using properties of equality.</p>

Unit	Lesson & Standards Addressed
Interpreting Functions	Function Notation I AI.2.1.d Evaluate a function using tables, equations or graphs.
	Function Notation II AI.2.1.b Distinguish between relations and functions. AI.2.1.c Identify dependent and independent variables, domain and range. AI.2.1.d Evaluate a function using tables, equations or graphs.
	Interpreting Graphs of Linear and Exponential Functions in Context AI.2.1.d Evaluate a function using tables, equations or graphs. AI.2.2.c.III Slope III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).
	Sketching Graphs of Linear and Exponential Functions from a Context AI.2.5.a Match exponential and quadratic functions to a table, graph or situation and vice versa.
	Understanding the Domain of a Function AI.2.1.c Identify dependent and independent variables, domain and range.
	Sketching Graphs of Exponential Functions from Symbolic Representations AI.2.5.a Match exponential and quadratic functions to a table, graph or situation and vice versa.
Building Functions	Transformations of Graphs of Linear and Exponential Functions AI.2.2.b Recognize the parent graph of the functions $y = k$, $y = x$, $y = x $, and predict the effects of transformations on the parent graph.
Linear, Quadratic, and Exponential Functions	Distinguishing Between Linear and Exponential Relationships AI.2.1.a Distinguish between linear and nonlinear data.
Building Functions	Writing Linear and Exponential Functions from a Context AI.2.5.a Match exponential and quadratic functions to a table, graph or situation and vice versa.
Statistics and Probability	Compound Probability AI.3.1.c Solve two-step and three-step problems using concepts such as probability and measures of central tendency.
	Measures of Center - Mean AI.3.1.c Solve two-step and three-step problems using concepts such as probability and measures of central tendency.
Interpreting Categorical and Quantitative Data	Data Displays on the Real Number Line AI.3.1.a Translate from one representation of data to another and understand that the data can be represented using a variety of tables, graphs, or symbols and that different modes of representation often convey different messages.
	Summarizing and Interpreting Categorical Data AI.3.1.b Make valid inferences, predictions, and/or arguments based on data from graphs, tables, and charts.
	Correlation AI.3.2 Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.
Expressions and Equations	Factoring Expressions AI.1.2.c Factor polynomial expressions.
Arithmetic with Polynomials and Rational Expressions	Adding and Subtracting Polynomials AI.1.2.b Simplify polynomials by adding, subtracting or multiplying.
	Multiplying Polynomials AI.1.2.b Simplify polynomials by adding, subtracting or multiplying.
The Real Number System	Using Rational Exponents to Rewrite Expressions AI.1.2.a Simplify and evaluate linear, absolute value, rational and radical expressions.

<i>Unit</i>	<i>Lesson & Standards Addressed</i>
Creating Equations	Modeling Quadratic Relationships with Equations, Inequalities, and Graphs AI.2.5.a Match exponential and quadratic functions to a table, graph or situation and vice versa.
Building Functions	Writing Quadratic Functions from a Context AI.2.5.a Match exponential and quadratic functions to a table, graph or situation and vice versa.
Interpreting Functions	Sketching Graphs of Quadratic Functions in Context AI.2.5.a Match exponential and quadratic functions to a table, graph or situation and vice versa.
Seeing Structure in Expressions	Factoring Quadratic Expressions AI.2.5.b Solve quadratic equations by graphing, factoring, or using the quadratic formula.
Reasoning with Equations and Inequalities	Solving Quadratics - Completing the Square AI.2.5.b Solve quadratic equations by graphing, factoring, or using the quadratic formula. Problem Solving with Quadratic Functions AI.2.5.b Solve quadratic equations by graphing, factoring, or using the quadratic formula. Using the Quadratic Formula AI.2.5.b Solve quadratic equations by graphing, factoring, or using the quadratic formula.

Unit	Lesson & Standards Addressed
Geometry	<p>Angle Pairs G.2.2.c Use relationships between pairs of angles (for example, adjacent, complementary, vertical) to solve problems.</p> <p>Angles in a Polygon G.2.3.b Apply the interior and exterior angle sum of convex polygons to solve problems, and verify using algebraic and deductive proofs.</p>
Congruence	<p>Defining Basic Geometric Elements G.2.3.d Use properties of 2-dimensional figures and side length, perimeter or circumference, and area to determine unknown values and correctly identify the appropriate unit of measure of each.</p> <p>Defining Transformations G.5.2.b Use transformations (reflection, rotation, translation) on geometric figures to solve problems within coordinate geometry.</p> <p>Rotational and Reflectional Symmetry G.5.2.b Use transformations (reflection, rotation, translation) on geometric figures to solve problems within coordinate geometry.</p> <p>Rigid Motion and Congruence G.2.5.b Use the relationships of congruency of 2-dimensional figures to determine unknown values, such as angles, side lengths, perimeter or circumference, and area. G.5.2.b Use transformations (reflection, rotation, translation) on geometric figures to solve problems within coordinate geometry.</p> <p>What is Proof? G.2.2.b Use the angle relationships formed by two lines cut by a transversal to determine if the two lines are parallel and verify, using algebraic and deductive proofs. G.2.4.a Determine and verify the relationships of similarity of triangles, using algebraic and deductive proofs. G.2.5.a Determine and verify the relationships of congruency of triangles, using algebraic and deductive proofs.</p> <p>Proving Theorems About Lines and Angles G.2.2.b Use the angle relationships formed by two lines cut by a transversal to determine if the two lines are parallel and verify, using algebraic and deductive proofs.</p> <p>Proving Theorems About Congruent Triangles G.2.5.a Determine and verify the relationships of congruency of triangles, using algebraic and deductive proofs.</p>
Similarity, Right Triangles, and Trigonometry	<p>Problem Solving with Congruent Triangles G.2.5.a Determine and verify the relationships of congruency of triangles, using algebraic and deductive proofs. G.2.5.b Use the relationships of congruency of 2-dimensional figures to determine unknown values, such as angles, side lengths, perimeter or circumference, and area.</p>
Congruence	<p>Proving Theorems About Parallelograms G.2.3.b Apply the interior and exterior angle sum of convex polygons to solve problems, and verify using algebraic and deductive proofs. G.2.3.c Develop and apply the properties of quadrilaterals to solve problems (for example, rectangles, parallelograms, rhombi, trapezoids, kites).</p> <p>Constructing Angles and Special Line Segments G.2.1 Use geometric tools (for example, protractor, compass, straight edge) to construct a variety of figures.</p>
Similarity, Right Triangles, and Trigonometry	<p>Transformations and Similarity G.5.2.b Use transformations (reflection, rotation, translation) on geometric figures to solve problems within coordinate geometry. G.2.4.a Determine and verify the relationships of similarity of triangles, using algebraic and deductive proofs.</p> <p>Problem Solving with Transformations and Similarity G.5.2.b Use transformations (reflection, rotation, translation) on geometric figures to solve problems within coordinate geometry. G.2.4.a Determine and verify the relationships of similarity of triangles, using algebraic and deductive proofs.</p>

Unit	Lesson & Standards Addressed
<p>Geometry</p>	<p>Understanding the Pythagorean Theorem G.3.1 Use the Pythagorean Theorem and its converse to find missing side lengths and to determine acute, right, and obtuse triangles, and verify using algebraic and deductive proofs.</p> <p>Pythagorean Theorem - Hypotenuse G.3.1 Use the Pythagorean Theorem and its converse to find missing side lengths and to determine acute, right, and obtuse triangles, and verify using algebraic and deductive proofs.</p> <p>Pythagorean Theorem - Legs G.3.1 Use the Pythagorean Theorem and its converse to find missing side lengths and to determine acute, right, and obtuse triangles, and verify using algebraic and deductive proofs.</p> <p>Pythagorean Theorem - Mixed Problems G.3.1 Use the Pythagorean Theorem and its converse to find missing side lengths and to determine acute, right, and obtuse triangles, and verify using algebraic and deductive proofs.</p>
<p>Similarity, Right Triangles, and Trigonometry</p>	<p>Proving Theorems About Similar Triangles G.2.4.a Determine and verify the relationships of similarity of triangles, using algebraic and deductive proofs.</p> <p>Similarity and Trigonometric Ratios G.2.4.b Use ratios of similar 2-dimensional figures to determine unknown values, such as angles, side lengths, perimeter or circumference, and area. G.3.3 Express the trigonometric functions as ratios and use sine, cosine, and tangent ratios to solve real-world problems.</p> <p>Problem Solving with Similarity and Trigonometric Ratios G.2.4.b Use ratios of similar 2-dimensional figures to determine unknown values, such as angles, side lengths, perimeter or circumference, and area. G.3.3 Express the trigonometric functions as ratios and use sine, cosine, and tangent ratios to solve real-world problems.</p> <p>Sine and Cosine of Complementary Angles G.3.3 Express the trigonometric functions as ratios and use sine, cosine, and tangent ratios to solve real-world problems.</p>
<p>Geometry</p>	<p>Surface Area of Cones G.4.1.b Use properties of 3-dimensional figures; side lengths, perimeter or circumference, and area of a face; and volume, lateral area, and surface area to determine unknown values and correctly identify the appropriate unit of measure of each.</p> <p>Surface Area of Spheres G.4.1.b Use properties of 3-dimensional figures; side lengths, perimeter or circumference, and area of a face; and volume, lateral area, and surface area to determine unknown values and correctly identify the appropriate unit of measure of each.</p> <p>Surface Area of Composite Solids G.4.1.b Use properties of 3-dimensional figures; side lengths, perimeter or circumference, and area of a face; and volume, lateral area, and surface area to determine unknown values and correctly identify the appropriate unit of measure of each.</p> <p>Volume of Pyramids and Cones G.4.1.b Use properties of 3-dimensional figures; side lengths, perimeter or circumference, and area of a face; and volume, lateral area, and surface area to determine unknown values and correctly identify the appropriate unit of measure of each.</p> <p>Volume of Spheres G.4.1.b Use properties of 3-dimensional figures; side lengths, perimeter or circumference, and area of a face; and volume, lateral area, and surface area to determine unknown values and correctly identify the appropriate unit of measure of each.</p> <p>Volume of Composite Solids G.4.1.b Use properties of 3-dimensional figures; side lengths, perimeter or circumference, and area of a face; and volume, lateral area, and surface area to determine unknown values and correctly identify the appropriate unit of measure of each.</p>

Unit	Lesson & Standards Addressed
Geometric Measurement and Dimension	<p>Understanding Formulas for Curved Figures G.2.6.b Find angle measures and segment lengths using the relationships among radii, chords, secants, and tangents of a circle. G.4.1.b Use properties of 3-dimensional figures; side lengths, perimeter or circumference, and area of a face; and volume, lateral area, and surface area to determine unknown values and correctly identify the appropriate unit of measure of each.</p> <p>Cross-Sections of 3-Dimensional Figures G.4.3 Create a model of a 3-dimensional figure from a 2-dimensional drawing and make a 2-dimensional representation of a 3-dimensional object (for example, nets, blueprints, perspective drawings).</p>
Expressing Geometric Properties with Equations	<p>Coordinates of Parallel and Perpendicular Lines G.5.1 Find the distance between two points; the midpoint of a segment; and calculate the slopes of parallel, perpendicular, horizontal, and vertical lines.</p> <p>Problem Solving with Coordinates of Parallel and Perpendicular Lines G.5.1 Find the distance between two points; the midpoint of a segment; and calculate the slopes of parallel, perpendicular, horizontal, and vertical lines.</p> <p>Dividing a Segment Proportionally G.5.1 Find the distance between two points; the midpoint of a segment; and calculate the slopes of parallel, perpendicular, horizontal, and vertical lines.</p>
Circles	<p>Tangents, Chords, Radii, and Angles in Circles G.2.6.a Find angle measures and arc measures related to circles. G.2.6.b Find angle measures and segment lengths using the relationships among radii, chords, secants, and tangents of a circle.</p>
Similarity, Right Triangles, and Trigonometry	<p>Law of Sines and Law of Cosines G.3.3 Express the trigonometric functions as ratios and use sine, cosine, and tangent ratios to solve real-world problems.</p>