

Category	Objectives	Standards
Whole Number Computation	<ol style="list-style-type: none"> <li>1. Divide multi-digit numbers using the standard algorithm.</li> </ol>	6.NS.2 Fluently divide multi-digit numbers using the standard algorithm.
Numerical and Algebraic Expressions	<ol style="list-style-type: none"> <li>1. Write numerical expressions involving whole-number exponents.</li> <li>2. Evaluate numerical expressions involving whole-number exponents</li> <li>3. Translate phrases into algebraic expressions with one variable.</li> <li>4. Evaluate algebraic expressions with one variable, including expressions arising from formulas in problems.</li> <li>5. Identify parts of an expression using appropriate mathematical terms.</li> <li>6. Apply the distributive property of multiplication over addition to simplify computations with whole numbers.</li> <li>7. Apply rules (conventions) for order of operations to whole numbers with and without parentheses.</li> <li>8. Write algebraic expressions to solve problems.</li> <li>9. Generate equivalent expressions.</li> <li>10. Identify whether two expressions are equivalent.</li> </ol>	<p>6.EE.1 Write and evaluate numerical expressions involving whole-number exponents.</p> <p>6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers.</p> <ol style="list-style-type: none"> <li>a. Write expressions that record operations with numbers and with letters standing for numbers.</li> <li>b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.</li> <li>c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).</li> </ol> <p>6.EE.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or any number in a specified set.</p> <p>6.EE.3 Apply the properties of operations to generate equivalent expressions.</p> <p>6.EE.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).</p>
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Equations and Inequalities	<ol style="list-style-type: none"> <li>1. Translate sentences into one-step equations of the form <math>x + p = q</math>, or <math>p x = q</math>.</li> <li>2. Use substitution to determine whether a given number in a set makes an equation or inequality true.</li> <li>3. Solve one-step equations to solve problems.</li> <li>4. Write an inequality of the form <math>x &gt; c</math> or <math>x &lt; c</math> to represent a constraint on a problem.</li> <li>5. Represent the solution to an inequality on a number line.</li> </ol>	<p>6.EE.5 Understand solving an equation or inequality as a process of answering a question: Which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.</p> <p>6.EE.7 Solve real-world and mathematical problems by writing and solving equations of the form <math>x + p = q</math> and <math>px = q</math> for cases in which <math>p</math>, <math>q</math> and <math>x</math> are all nonnegative rational numbers.</p> <p>6.EE.8 Write an inequality of the form <math>x &gt; c</math> or <math>x &lt; c</math> to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form <math>x &gt; c</math> or <math>x &lt; c</math> have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p>
Decimal Computation	<ol style="list-style-type: none"> <li>1. Solve simple or multi-step problems involving computation with decimals using the standard algorithms.</li> </ol>	<p>6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</p>
Locate, Compare, and Order Rational Numbers	<ol style="list-style-type: none"> <li>1. Locate fractions and mixed numbers on the number line.</li> <li>2. Locate decimals on a number line.</li> <li>3. Locate percents on a number line.</li> <li>4. Compare fractions and mixed numbers using <math>&lt;</math>, <math>&gt;</math>, <math>=</math>.</li> <li>5. Order fractions and mixed numbers.</li> <li>6. Rename fractions and mixed numbers using equivalence.</li> <li>7. Compare decimals using <math>&lt;</math>, <math>&gt;</math>, <math>=</math>.</li> <li>8. Order decimals.</li> <li>9. Compare percents using <math>&lt;</math>, <math>&gt;</math>, <math>=</math>.</li> <li>10. Order percents.</li> </ol>	<p>6.NS.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.</p> <p>c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p> <p>6.NS.7 Understand ordering and absolute value of rational numbers.</p> <p>a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.</p> <p>b. Write, interpret, and explain statements of order for rational numbers in real-world contexts.</p>

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<p>Integers</p>	<ol style="list-style-type: none"> <li>1. Identify the integer that is the opposite of a given integer.</li> <li>2. Use positive and negative numbers to represent quantities in real-world contexts. Explain the meaning of 0 in context.</li>   <li>3. Locate integers on a number line (horizontal or vertical).</li> <li>4. Locate ordered pairs with positive and/or negative coordinates in quadrants of the coordinate plane.</li>   <li>5. Compare locations of ordered pairs that differ only by sign.</li> <li>6. Interpret statements of inequality (&lt;, &gt;) as indicating the position of two numbers in relationship to each other on a number line.</li>   <li>7. Write, interpret, and explain statements of order for integers in real-world contexts.</li> <li>8. Identify and explain the absolute value of a rational number as its distance from 0 on the number line.</li> <li>9. Identify and explain the difference between comparing the absolute value (magnitude) of two numbers and comparing their positions on a number line.</li> </ol>	<p>6.NS.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p> <p>6.NS.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.</p> <ol style="list-style-type: none"> <li>a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., <math>-(-3) = 3</math>, and that 0 is its own opposite.</li> <li>b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</li> <li>c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</li> </ol> <p>6.NS.7 Understand ordering and absolute value of rational numbers.</p> <ol style="list-style-type: none"> <li>a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.</li> <li>b. Write, interpret, and explain statements of order for rational numbers in real-world contexts.</li> <li>c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.</li> <li>d. Distinguish comparisons of absolute value from statements about order.</li> </ol>
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Single variable	1. Formulate statistical questions for data	6.SP.1 Recognize a statistical question as one that

<p>statistics</p>	<p>collection.</p> <ol style="list-style-type: none"> <li>2. Select the appropriate graphical representation for a data set.</li> <li>3. Define and explain “measure of center.”</li> <li>4. Define and explain “measure of spread/variability”</li> <li>5. Compare and interpret measures of central tendency (center).</li> <li>6. Compare and interpret measures of spread (variability).</li> <li>7. Use observations about differences in data to make justifiable inferences.</li> <li>8. Display numerical data in a line plot (dot plot).</li> <li>9. Display numerical data in a histogram.</li> <li>10. Display numerical data in a box plot.</li> <li>11. Describe the data investigation in terms of number of observations, nature of attribute measured, methods and units of measure.</li> <li>12. Describe a data set in terms of its context and overall shape using measures of center and variability.</li> </ol>	<p>anticipates variability in the data related to the question and accounts for it in the answers.</p> <p>6.SP.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.</p> <p>6.SP.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p>6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p>6.SP.5 Summarize numerical data sets in relation to their context, such as by:</p> <ol style="list-style-type: none"> <li>a. Reporting the number of observations.</li> <li>b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</li> <li>c. Given quantitative measures of center (median and/or mean) and variability (inter-quartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</li> <li>d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</li> </ol>
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Number Theory	<ol style="list-style-type: none"> <li>1. Use divisibility rules to determine if a number is a factor of another number.</li> </ol>	6.NS.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common

	<ol style="list-style-type: none"> <li>2. Find the greatest common factor of two whole numbers less than or equal to 100.</li> <li>3. Find the least common multiple of two whole numbers less than or equal to 12.</li> <li>4. Use the distributive property to express a sum of two whole numbers with a common factor as a multiple of a sum of two whole numbers.</li> </ol>	<p>multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers.</p>
<p>Fraction Computation</p>	<ol style="list-style-type: none"> <li>1. Compute and interpret quotients of fractions in word problems. Write an equation and justify using models.</li> </ol>	<p>6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.</p>
<p>Proportions and Ratios</p>	<ol style="list-style-type: none"> <li>1. Use ratio language and notation to describe a ratio relationship between two quantities.</li> <li>2. Write and explain a unit rate for a given ratio.</li> <li>3. Use rate and ratio reasoning to represent problem situations and solve problems.</li> <li>4. Use tables of equivalent ratios to solve problems. Plot ordered pairs from the tables to describe and compare ratios.</li> <li>5. Solve unit rate problems including those involving unit pricing and constant speed.</li> <li>6.</li> </ol>	<p>6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.</p> <p>6.RP.2 Understand the concept of a unit rate <math>a/b</math> associated with a ratio <math>a:b</math> with <math>b \neq 0</math>, and use rate language in the context of a ratio relationship.</p> <p>6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <ol style="list-style-type: none"> <li>a. Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.</li> <li>b. Solve unit rate problems including those involving unit pricing and constant speed.</li> </ol>
<p><b>Category</b></p>	<p><b>Objective</b></p>	<p><b>Standards</b></p>
<p>Percents</p>	<ol style="list-style-type: none"> <li>1. Solve problems by finding a percent of a number.</li> <li>2. Solve problems to find the whole given</li> </ol>	<p>6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line</p>

	a part and the percent.	diagrams, or equations. c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.
Algebraic Relationships	<ol style="list-style-type: none"> <li>1. Solve problems by finding the next term in a function table using real world situations.</li> <li>2. Solve problems by finding the missing term in a function table using real world situations.</li> <li>3. Identify and compare situations with constant or varying rates of change given a graph</li> <li>4. Identify and compare situations with constant or varying rates of change given a table.</li> <li>5. Write an equation for a one-operation function table.</li> <li>6. Identify the dependent variable in a real world situation.</li> <li>7. Identify the independent variable in a real world situation.</li> <li>8. Write an equation to express a dependent quantity in terms of an independent quantity in a real-world situation.</li> </ol>	6.EE.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.
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(continued)	<ol style="list-style-type: none"> <li>9. Use ordered pairs to plot points in all four quadrants.</li> <li>10. Find vertical or horizontal distance between points with the same first coordinate or the same second coordinate.</li> <li>11. Complete and interpret tables and line graphs (coordinate graphs) that represent the relationship between two variables in all four quadrants.</li> </ol>	<p>6.NS.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p> <p>6.NS.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.</p> <ol style="list-style-type: none"> <li>b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</li> <li>c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</li> </ol>
2-D Figures	<ol style="list-style-type: none"> <li>1. Draw polygons in the coordinate plane given coordinates for the vertices, and identify the figure.</li> <li>2. Find the length of vertical or horizontal sides of polygons drawn in the coordinate plane to solve problems.</li> </ol>	<p>6.G.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.</p>

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Measurement	<ol style="list-style-type: none"> <li>1. Make measurement conversions within the metric system (distance, mass, capacity)</li> <li>2. Make measurement conversions within the customary system (distance, weight, capacity).</li> <li>3. Make conversions in other standard systems of measure (time, money).</li> </ol>	<p>6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <p>d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p>
Area	<ol style="list-style-type: none"> <li>1. Find the area of triangles.</li> <li>2. Find the area of rectangles.</li> <li>3. Find the area of parallelograms.</li> <li>4. Find the areas of other special quadrilaterals or composite shapes by combining them or subdividing them into rectangles and/or triangles to solve problems.</li> </ol>	<p>6.G.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p>
Volume and Surface Area	<ol style="list-style-type: none"> <li>1. Identify nets for prisms and pyramids.</li> <li>2. Find surface area of three-dimensional figures made up of rectangle and triangle faces using nets to solve problems.</li> <li>3. Find the volume of a right rectangular prism with fractional edge lengths using models to solve problems.</li> <li>4. Find the volume of a right rectangular prism with fractional edge lengths using formulas to solve problems.</li> </ol>	<p>6.G.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.</p> <p>6.G.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas <math>V = l * w * h</math> and <math>V = b * h</math> to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.</p>