

## 6th grade math weekly pacing with Engage alignment

Week	Lessons	Resources
<b>Module One: Division of Fractions Conceptions Cluster</b> <b>Time Frame: 2 weeks (10 days)</b>		
1	NC.6.NS.1 Use visual models and common denominators to: <ul style="list-style-type: none"> <li>• Interpret and compute quotients of fractions.</li> <li>• Solve real-world and mathematical problems involving division of fractions</li> </ul>	<a href="#">Module Two Lessons 1 - 4</a>
2	NC.6.NS.1 Use visual models and common denominators to: <ul style="list-style-type: none"> <li>• Solve real-world and mathematical problems involving division of fractions</li> </ul>	<a href="#">Module Two Lessons 7 &amp; 8</a>
<b>Module Two: Making Sense of Decimal Conceptions Cluster</b> <b>Time Frame: 2 weeks (10 days)</b>		
1	NC.6.NS.3 Apply and extend previous understandings of decimals to develop and fluently use the standard algorithms for addition, subtraction, multiplication and division of decimals.	<a href="#">Module Two Lesson 9 - 11</a>
2	NC.6.NS.2 Fluently divide using long division with a minimum of a four-digit dividend and interpret the quotient and remainder in context.	<a href="#">Module Two Lesson 13 - 15</a>
<b>Module Three: Integer and Rational Number Reasoning Cluster</b> <b>Time Frame: 7 Weeks (42 days)</b>		
1 & 2	NC.6.NS.5 Understand and use rational numbers to: <ul style="list-style-type: none"> <li>• Describe quantities having opposite directions or values.</li> <li>• Represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</li> <li>• Understand the absolute value of a rational number as its distance from 0 on</li> </ul>	<a href="#">Module Three Lessons 1 - 6</a>

	<p>the number line to:</p> <ul style="list-style-type: none"> <li>o Interpret absolute value as magnitude for a positive or negative quantity in a real-world context.</li> <li>o Distinguish comparisons of absolute value from statements about order.</li> </ul> <p>NC.6.NS.6a Understand rational numbers as points on the number line and as ordered pairs on a coordinate plane.</p> <p>a. On a number line:</p> <ul style="list-style-type: none"> <li>o Recognize opposite signs of numbers as indicating locations on opposite sides of 0 and that the opposite of the opposite of a number is the number itself.</li> <li>o Find and position rational numbers on a horizontal or vertical number line.</li> </ul>	
3 & 4	<p>NC.6.NS.7 Understand ordering 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>	<a href="#">Module Three Lessons 7 - 13</a>
5	<p>NC.6.NS.6b Understand rational numbers as points on the number line and as ordered pairs on a coordinate plane</p> <p>b. On a coordinate plane:</p> <ul style="list-style-type: none"> <li>o Understand signs of numbers in ordered pairs as indicating locations in quadrants.</li> </ul>	<a href="#">Module Three Lessons 14 &amp; 15</a>
6	<p>NC.6.NS.6b Understand rational numbers as points on the number line and as ordered pairs on a coordinate plane</p> <p>b. On a coordinate plane:</p> <ul style="list-style-type: none"> <li>o 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>o Find and position pairs of rational</li> </ul>	<a href="#">Module Three Lessons 16 &amp; 18</a>

	numbers on a coordinate plane.	
7	Integer and Rational Reasoning review	
<b>Module Four: Reasoning with Area and Surface Area And Volume</b> <b>Time Frame: 5 weeks (25 days)</b>		
1	<p>NC.6.G.1 Create geometric models to solve real-world and mathematical problems to:</p> <ul style="list-style-type: none"> <li>• Find the area of triangles by composing into rectangles and decomposing into right triangles.</li> <li>• Find the area of special quadrilaterals and polygons by decomposing into triangles or rectangles. Clarification Checking for Understand</li> </ul>	Module Five Lessons 1 - 3
2	<p>NC.6.G.1 Create geometric models to solve real-world and mathematical problems to:</p> <ul style="list-style-type: none"> <li>• Find the area of triangles by composing into rectangles and decomposing into right triangles.</li> <li>• Find the area of special quadrilaterals and polygons by decomposing into triangles or rectangles. Clarification Checking for Understand</li> </ul>	Module Five Lessons 4 - 6
3	<p>NC.6.G.3 Use the coordinate plane to solve real-world and mathematical problems by:</p> <ul style="list-style-type: none"> <li>• Drawing polygons in the coordinate plane given coordinates for the vertices.</li> <li>• Using coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate.</li> </ul>	<p>Module Five Lessons 7 - 10</p> <p>Module Three Lesson 19</p>
4	<p>NC.6.G.2 Apply and extend previous understandings of the volume of a right rectangular prism to find the volume of right rectangular prisms with fractional edge lengths. Apply this understanding to the context of solving real-world and mathematical problems.</p>	Module Five Lessons 11 - 14
5	NC.6.G.4 Represent right prisms and right	Module Five Lessons 15, 17, 18, 19 (no19a)

	pyramids using nets made up of rectangles and triangles, and use nets to find the surface area of these figures. Apply these techniques in the context of solving real world and mathematical problems.	
<b>Module Five: Reasoning with Factors and Multiples Clusters</b> <b>Time Frame: 2 weeks (10 days)</b>		
1	<p>NC.6.NS.4 Understand and use prime factorization and the relationships between factors to:</p> <ul style="list-style-type: none"> <li>• Find the unique prime factorization for a whole number.</li> <li>• Find the greatest common factor of two whole numbers less than or equal to 100. <ul style="list-style-type: none"> <li>• Use the greatest common factor and the distributive property to rewrite the sum of two whole numbers, each less than or equal to 100.</li> </ul> </li> <li>• Find the least common multiple of two whole numbers less than or equal to 12 to add and subtract fractions with unlike denominators</li> </ul>	<p>Module Two <a href="#">Lesson 17</a> and <a href="#">Lesson 18</a></p> <p><b>Lesson 17:</b> Students apply divisibility rules, specifically for 3 and 9, to understand factors and multiples.</p>
2	<p>NC.6.NS.4 Understand and use prime factorization and the relationships between factors to:</p> <ul style="list-style-type: none"> <li>• Find the unique prime factorization for a whole number.</li> <li>• Find the greatest common factor of two whole numbers less than or equal to 100. <ul style="list-style-type: none"> <li>• Use the greatest common factor and the distributive property to rewrite the sum of two whole numbers, each less than or equal to 100.</li> </ul> </li> <li>• Find the least common multiple of two whole numbers less than or equal to 12 to add and subtract fractions with unlike denominators</li> </ul>	<p><b>Lesson 18:</b> Students find the least common multiple and greatest common factor and apply factors to the Distributive Property.</p>
<b>Module Six: Ratio Reasoning Cluster</b> <b>Time Frame: 6 weeks (30 days)</b>		
1	NC.6.RP.1 Understand the concept of a	<a href="#">Module One Lessons 1-7</a>

	<p>ratio and use ratio language to:</p> <ul style="list-style-type: none"> <li>• Describe a ratio as a multiplicative relationship between two quantities.</li> <li>• Model a ratio relationship using a variety of representations.</li> </ul>	
2	<p>NC.6.RP.3 Use ratio reasoning with equivalent whole-number ratios to solve real-world and mathematical problems by:</p> <ul style="list-style-type: none"> <li>• Creating and using a table to compare ratios.</li> <li>• Finding missing values in the tables.</li> <li>• Using a unit ratio.</li> <li>• Converting and manipulating measurements using given ratios.</li> </ul>	Module One Lessons 9 - 12
3	<p>NC.6.RP.3 Use ratio reasoning with equivalent whole-number ratios to solve real-world and mathematical problems by:</p> <ul style="list-style-type: none"> <li>• Creating and using a table to compare ratios.</li> <li>• Finding missing values in the tables.</li> <li>• Using a unit ratio.</li> <li>• Converting and manipulating measurements using given ratios.</li> <li>• Plotting the pairs of values on the coordinate plane.</li> </ul>	Module One Lessons 13-14
4	<p>NC.6.RP.2 Understand that ratios can be expressed as equivalent unit ratios by finding and interpreting both unit ratios in context.</p>	Module One Lesson 16 - 21 & 23
5	<p>NC.6.RP.4 Use ratio reasoning to solve real-world and mathematical problems with percents by:</p> <ul style="list-style-type: none"> <li>• Understanding and finding a percent of a quantity as a ratio per 100.</li> <li>• Using equivalent ratios, such as benchmark percents (50%, 25%, 10%, 5%, 1%), to determine a part of any given quantity.</li> <li>• Finding the whole, given a part and the percent.</li> </ul>	Module One Lessons 24 - 26
6	<p>NC.6.RP.4 Use ratio reasoning to solve real-world and mathematical problems with</p>	Module One Lessons 27-29

	<p>percents by:</p> <ul style="list-style-type: none"> <li>• Understanding and finding a percent of a quantity as a ratio per 100.</li> <li>• Using equivalent ratios, such as benchmark percents (50%, 25%, 10%, 5%, 1%), to determine a part of any given quantity.</li> <li>• Finding the whole, given a part and the percent.</li> </ul>	
<p><b>Module Seven: Reasoning with Algebraic Expressions Cluster</b>  <b>Time Frame: 4 Weeks (20 days)</b></p>		
1 & 2	<p>NC.6.EE.1 Write and evaluate numerical expressions, with and without grouping symbols, involving whole-number exponents.</p>	Module Four Lessons 3 - 6
2	<p>NC.6.EE.2 Write, read, and evaluate algebraic expressions.</p> <ul style="list-style-type: none"> <li>• Write expressions that record operations with numbers and with letters standing for numbers.</li> <li>• Identify parts of an expression using mathematical terms and view one or more of those parts as a single entity.</li> <li>• Evaluate expressions at specific values of their variables using expressions that arise from formulas used in real-world problems.</li> </ul>	Module Four Lessons 7-14 (skip 8)
3	<p>NC.6.EE.2 Write, read, and evaluate algebraic expressions.</p> <ul style="list-style-type: none"> <li>• Write expressions that record operations with numbers and with letters standing for numbers.</li> <li>• Identify parts of an expression using mathematical terms and view one or more of those parts as a single entity.</li> <li>• Evaluate expressions at specific values of their variables using expressions that arise from formulas used in real-world problems.</li> </ul> <p>NC.6.EE.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem</p>	Module Four Lesson 15 - 21(skip 22)

**Module Eight: Reasoning with Algebraic Equations Cluster**

**Time Frame:** 3 weeks (15 days)

1	<p>NC.6.EE.5 Use substitution to determine whether a given number in a specified set makes an equation true.</p> <p>NC.6.EE.7 Solve real-world and mathematical problems by writing and solving equations of the form:</p> <ul style="list-style-type: none"><li>• <math>x + p = q</math> in which p, q and x are all nonnegative rational numbers; and,</li><li>• <math>p \cdot x = q</math> for cases in which p, q and x are all nonnegative rational numbers</li></ul>	Module Four Lesson 23 -29
2	<p>NC.6.EE.8 Reason about inequalities by:</p> <ul style="list-style-type: none"><li>• Using substitution to determine whether a given number in a specified set makes an inequality true.</li><li>• Writing 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.</li><li>• Recognizing that inequalities of the form <math>x &gt; c</math> or <math>x &lt; c</math> have infinitely many solutions.</li><li>• Representing solutions of inequalities on number line diagrams.</li></ul>	Module Four Lesson 30-34
3	<p>Review of equations and inequalities:</p> <p>NC.6.EE.9 Represent and analyze quantitative relationships by:</p> <ul style="list-style-type: none"><li>• Using variables to represent two quantities in a real-world or mathematical context that change in relationship to one another.</li><li>• Analyze the relationship between quantities in different representations (context, equations, tables, and graphs).</li></ul>	

**Module Nine: Statistics**

**Time Frame:** 2 weeks (10 days)

1	<p>NC.6.SP.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.</p>	Module Six Lessons 1 - 5
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	<p>NC.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>NC.6.SP.4 Display numerical data in plots on a number line. • Use dot plots, histograms, and box plots to represent data. • Compare the attributes of different representations of the same data.</p>	
2	<p>NC.6.SP.3 Understand that both a measure of center and a description of variability should be considered when describing a numerical data set.</p> <p>a. Determine the measure of center of a data set and understand that it is a single number that summarizes all the values of that data set.</p> <ul style="list-style-type: none"> <li>o Understand that a mean is a measure of center that represents a balance point or fair share of a data set and can be influenced by the presence of extreme values within the data set.</li> <li>o Understand the median as a measure of center that is the numerical middle of an ordered data set.</li> </ul> <p>b. Understand that describing the variability of a data set is needed to distinguish between data sets in the same scale, by comparing graphical representations of different data sets in the same scale that have similar measures of center, but different spreads.</p> <p>NC.6.SP.5 Summarize numerical data sets in relation to their context.</p> <p>a. Describe the collected data by:</p> <ul style="list-style-type: none"> <li>• Reporting the number of observations in dot plots and histograms.</li> <li>• Communicating the nature of the attribute under investigation, how it was measured, and the units of measurement.</li> </ul> <p>b. Analyze center and variability by:</p> <ul style="list-style-type: none"> <li>• Giving quantitative measures of center, describing variability, and any overall pattern, and noting any striking deviations.</li> </ul>	Module Six Lessons 6 - 11



	<ul style="list-style-type: none"><li>• Justifying the appropriate choice of measures of center using the shape of the data distribution</li></ul>	
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