

Common Core State Standards for Mathematics	This means that the student can...
<b>Domain: Operations and Algebraic Thinking</b>	
<b>Represent and solve problems involving addition and subtraction.</b>	
<p><b>1.OA.1:</b> Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (Note: See Appendix, Table 1.)</p>	<p>When presented with a word problem involving addition or subtraction within 20:</p> <ul style="list-style-type: none"> <li>• Represent the problem with an addition or subtraction equation using a symbol (such as a blank or empty box or question mark) to represent the unknown value; and</li> <li>• Use objects or drawings to model the problem and find the solution (i.e., the missing number).</li> </ul>
<p><b>1.OA.2:</b> Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p>	<p>When presented with a word problem involving addition of three whole numbers within 20:</p> <ul style="list-style-type: none"> <li>• Represent the problem with an addition equation using a symbol (such as a blank or empty box or question mark) to represent the unknown value; and</li> <li>• Use objects or drawings to model the problem and find the solution (i.e., the missing number).</li> </ul>
<b>Understand and apply properties of operations and the relationship between addition and subtraction.</b>	
<p><b>1.OA.3:</b> Apply properties of operations as strategies to add and subtract. (Note: Students need not use formal terms for these properties.)</p> <p><i>Examples: If <math>8 + 3 = 11</math> is known, then <math>3 + 8 = 11</math> is also known. (Commutative property of addition.) To add <math>2 + 6 + 4</math>, the second two numbers can be added to make a ten, so <math>2 + 6 + 4 = 2 + 10 = 12</math>. (Associative property of addition.)</i></p>	<ul style="list-style-type: none"> <li>• Give the answer to <math>b + a</math> if the student already knows the answer to <math>a + b</math> (e.g., if the student already found <math>9 + 2 = 11</math> by using a counting-on strategy (“9...10...11”), then the student automatically gives the answer to <math>2 + 9</math> without having to use a counting or adding strategy).</li> <li>• Strategically group addends (such as using commutative and associate properties to pair two addends that make 10) in order to make it easier to add three numbers (e.g., for <math>3 + 9 + 7</math>, the student adds the 3 and 7 first to make 10).</li> </ul>
<p><b>1.OA.4:</b> Understand subtraction as an unknown-addend problem. For example, subtract <math>10 - 8</math> by finding the number that makes 10 when added to 8.</p>	<p>When given two numbers to subtract:</p> <ul style="list-style-type: none"> <li>• Explain why solving “<math>a - b = \underline{\quad}</math>” is the same as solving “<math>b + \underline{\quad} = a</math>” (or “<math>\underline{\quad} + b = a</math>”); and</li> <li>• Write an addition equation with a symbol for the unknown addend, and then find the missing number using an appropriate strategy such as counting on or adding on.</li> </ul>
<b>Add and subtract within 20.</b>	
<p><b>1.OA.5:</b> Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p>	<ul style="list-style-type: none"> <li>• Use counting-on as a strategy for adding on a smaller number to a larger number, and use counting back as a strategy for subtracting a smaller number from a larger number.</li> </ul>
<p><b>1.OA.6:</b> Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., <math>8 + 6 = 8 + 2 + 4 = 10 + 4 = 14</math>); decomposing a number leading to a ten (e.g., <math>13 - 4 = 13 - 3 - 1 = 10 - 1 = 9</math>); using the relationship between addition and subtraction (e.g., knowing that <math>8 + 4 = 12</math>, one knows <math>12 - 8 = 4</math>); and creating equivalent but easier or known sums (e.g., adding <math>6 + 7</math> by creating the known equivalent <math>6 + 6 + 1 = 12 + 1 = 13</math>).</p>	<ul style="list-style-type: none"> <li>• Use mental strategies to quickly add two numbers whose sum is within 10, especially those numbers that add up to 10.</li> <li>• Use mental strategies to quickly subtract two numbers in which the starting number is 10 or less.</li> <li>• Add within 20 using a variety of strategies (e.g., counting on, making ten, decomposing a number and recomposing numbers to make 10, adding doubles, adding doubles plus 1) and most importantly, picking and using strategies that efficiently lead to the sum.</li> </ul> <p>For example, when adding <math>3 + 9</math>, the student might:</p> <ul style="list-style-type: none"> <li>○ Think of <math>3 + 9</math> as <math>2 + (1 + 9)</math> or <math>2 + 10</math>.</li> <li>○ Start with 9 and count on 3 (“9, 10, 11, 12”).</li> <li>○ Already know that <math>9 + 3 = 12</math> and uses commutative property to know that <math>3 + 9</math> is also 12.</li> </ul> <ul style="list-style-type: none"> <li>• Subtract within 20 using a variety of strategies (e.g., counting back, decomposing, turning the subtraction problem into a missing addend</li> </ul>

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	<p>problem), and most importantly, picking and using strategies that efficiently lead to the sum.</p> <p>For example, when subtracting <math>15 - 7</math>, the students might:</p> <ul style="list-style-type: none"> <li>○ Think of <math>15 - 7</math> as <math>15 - 5 - 2</math> or <math>10 - 2</math>.</li> <li>○ Think of <math>15 - 7</math> as <math>17 - 7 - 2</math>.</li> <li>○ Already know that <math>7 + 8 = 15</math>, and relate this to <math>15 - 7 = 8</math> (fact family).</li> </ul> <p>NOTE: The ability to quickly add or subtract should NOT result from flash cards and memorization as the primary learning strategies.</p>
<b>Work with addition and subtraction equations.</b>	
<p><b>1.OA.7:</b> Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. <i>For example, which of the following equations are true and which are false? <math>6 = 6</math>, <math>7 = 8 - 1</math>, <math>5 + 2 = 2 + 5</math>, <math>4 + 1 = 5 + 2</math>.</i></p>	<ul style="list-style-type: none"> <li>• Say whether an equation is true or false based on the values on both sides of the equal sign being equal.</li> </ul> <p>For example, the student is able to identify the following as true equations:</p> <ul style="list-style-type: none"> <li>○ <math>6 = 6</math></li> <li>○ <math>6 = 5 + 1</math></li> <li>○ <math>1 + 5 = 4 + 2</math> (NOTE: A student who thinks this equation is false is probably thinking that the number after the equal sign should be 6 instead of 4.)</li> </ul>
<p><b>1.OA.8:</b> Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations <math>8 + ? = 11</math>, <math>5 = ? - 3</math>, <math>6 + 6 = ?</math>.</i></p>	<ul style="list-style-type: none"> <li>• Determine the unknown number in an addition equation, in the form <math>a + b = c</math>, in which two of the values are given and the missing value is what needs to be found.</li> <li>• Determine the unknown number in a subtraction equation, in the form <math>a - b = c</math>, in which two of the values are given and the missing value is what needs to be found.</li> </ul>
<b>Domain: Number and Operations in Base Ten</b>	
<b>Extend the counting sequence.</b>	
<p><b>1.NBT.1:</b> Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p>	<ul style="list-style-type: none"> <li>• Say the number names to 120 in sequence beginning from any number, especially the numbers after 99.</li> <li>• Write the numerals to match the name of number (up to 120) that is said aloud.</li> <li>• Read and say the numerals to 120.</li> <li>• Write the numeral to match the number of objects in a given set.</li> </ul>
<b>Understand place value.</b>	
<p><b>1.NBT.2:</b> Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <ol style="list-style-type: none"> <li>a. 10 can be thought of as a bundle of ten ones — called a “ten.”</li> <li>b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.</li> <li>c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</li> </ol>	<ul style="list-style-type: none"> <li>• Represent two-digit numbers with manipulatives or drawings that consist of tens (such as ten-strips) and ones, and more importantly, the student automatically knows that the tens digit indicates how many ten-strips (or other units of ten) are needed and the ones digit indicate the remaining units that are needed. For example, these base-10 tiles represent 34.</li> <li>• Verbalize the number of tens and ones that represent two-digit numbers (e.g., for 34, the student says, “Thirty-four is composed of three tens and four ones.”).</li> </ul> 