

Grade 1			
Unit	Unit Title	Lesson	Day
4.2	Addition & Subtraction with Properties of Operations	1 of 2	1 - 4
Lesson Focus			
1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Question
<p><b>1.OA.3</b> Apply properties of operations as strategies to add and subtract.<sup>3</sup> Examples: If <math>8 + 3 = 11</math> is known, then <math>3 + 8 = 11</math> known. (Commutative Property of Addition) <b>To add <math>2 + 6 + 4</math> you could add <math>2 + (6 + 4) = 2 + 10 = 12</math>. (Associative Property of Addition)</b></p> <p><sup>3</sup>Students need not use formal names for these properties.</p>	<ul style="list-style-type: none"> <li>•Understand and apply the Associative Property (grouping) to add three addends.</li> <li>•Understand and apply the Commutative Property (order) with the Associative Property to add three addends.</li> <li>•Addends can be grouped in any order, but the sum remains the same.</li> </ul>	<p><b>SMP6</b> Attend to Precision.</p> <p><b>SMP7</b> Look for and make use of structure.</p>	<ul style="list-style-type: none"> <li>•What strategies can you use to add three addends (numbers)?</li> <li>•What are two ways you can find the sum of 3 addends?</li> <li>•What strategies do you consider when grouping numbers to add three addends?</li> </ul>
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Necessary Materials
<ul style="list-style-type: none"> <li>•Understand the Commutative Property.</li> <li>•Understand using doubles and making ten strategies.</li> </ul>	Addend Grouping (Associative Property) Order (Commutative Property)	Difficulty understanding that no matter what order you add the 3 addends the result will be the same.	<p><b>OnCore</b> Lesson 19 &amp; 20            Student pages 37 – 40</p> <p><a href="http://www.mathworksheetwizard.com">www.mathworksheetwizard.com</a>  <i>3 Numbers</i></p>

**Lesson Alignment Guide – Mathematics  
 Cranston Public Schools**

## *Instruction*

### **9. Instruction Practices (What are the teachers doing)**

Teachers will guide students to understand and apply the Associative Property (grouping) and the Commutative Property (order) to add three addends. They help students see that addition is a binary operation – only two numbers can be added at one time, then another addend may be added to the sum. They will remind students to use their number sense when choosing which two numbers they will add first (doubles, make ten). For more advanced students the teacher may guide the students to recognize that they are using both the commutative property (order) and the associative property (group) to solve one problem. For example, when finding the sum of  $7 + 2 + 3$  the teacher may want the student to recognize the facts that make ten ( $7 + 3$ ). Therefore, the student may change the **order** and write  $7 + 3 + 2$  so they can **group** the ( $7 + 3$ ) together first before adding the 2. The OnCore lessons begin to prepare the students for this strategy by having them circle the two numbers they will add first. Teachers may provide additional practice with 3 numbers (one has been provided) using the [www.mathworksheetwizard.com](http://www.mathworksheetwizard.com) site provided.

### **10. Learning Practices (What are the students doing)**

Students will understand and apply the Commutative Property (though they do not need to know the formal name) that three addends can be written in any order, but the sum remains the same. They will use the Associative Property and number sense (doubles, make ten) to determine which two numbers they will (group) to add first. Some students will just be asked to circle the two numbers they will add first, others may rewrite/change the order of the problem so that the two numbers that they want to add first are grouped together. This will be at the discretion of the teacher, along with which materials the students will use to practice with.

# Grade 1

<b>Unit</b>  <b>4.2</b>	<b>Unit Title</b>  <b>Addition &amp; Subtraction with Properties of Operations</b>	<b>Lesson</b>  <b>2 of 2</b>	<b>Day</b>  <b>5 - 10</b>
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## Lesson Focus

1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Question
<p><b>1.OA.8</b> Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations</i>  <math>8 + \square = 11</math>, <math>5 = \square - 3</math>, <math>6 + 6 = \square</math>.</p>	<ul style="list-style-type: none"> <li>•Identify how many are left when you subtract 0 from a number.</li> <li>•When you subtract a number from itself, the difference is zero.</li> <li>•Given three number cards (e.g., 2,4,6) show four different equations known as fact families (<math>2 + 4 = 6</math>, <math>4 + 2 = 6</math>, <math>6 - 4 = 2</math>, <math>6 - 2 = 4</math>).</li> <li>•Use related facts to determine the unknown whole number.</li> <li>•Use a related addition fact to help solve a subtraction problem and visa versa.</li> </ul>	<p><b>SMP6</b> Attend to Precision.</p> <p><b>SMP5</b> Use appropriate tools strategically.</p>	<ul style="list-style-type: none"> <li>•What happens when you subtract 0 from a number?</li> <li>•If the answer is 0, what could your subtraction problem be?</li> <li>•How can you use a related addition fact to help you find the missing number of a subtraction problem?</li> <li>•How can you use a related subtraction fact to help you find the missing number of an addition problem?</li> </ul>
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Necessary Materials
<ul style="list-style-type: none"> <li>•Recognize the value of 0 as having no quantity.</li> <li>•Understand the Commutative Property of Addition.</li> </ul>	<p>Unknown number and symbol <math>\square</math></p>	<p>Misunderstanding what the equal sign means. For example, given <math>5 = \square - 3</math>, many students will replace the <math>\square</math> with the number 5.</p>	<p><b>OnCore</b> Lessons 44 – 46 Student pages 87 – 92</p> <p><b>Triangle Fact Family Cards</b></p> <p><b>K-5 Math Resources</b> <a href="#"><i>Find the Missing Number</i></a></p>

## Instruction

9. Instruction Practices (What are the teachers doing)	10. Learning Practices (What are the students doing)
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Teachers will guide students to determine the unknown whole number in an addition and subtraction equations relating three whole numbers. Teachers will stress the meaning of the equal sign, using the words “is the same as” to replace the equal sign when reading equations. In addition, they will help students to identify how many are left when you subtract 0 from a number and to understand that when you subtract a number from itself, the difference is zero. Teachers may begin this unit having students practice their addition and subtraction facts using the Triangle Fact Family Cards included. Using these Fact Cards helps students to see the relationship between three numbers. Teachers will then help students to use these related facts to determine the unknown whole number. They will help students to see that they will use related addition fact to solve for the unknown in a subtraction problem and visa versa. Teachers will use OnCore Lessons 44 – 46, Fact Family Cards and the K-5 Math Resource materials.

Students will determine the unknown whole number in an addition and subtraction equation relating three whole numbers. They will identify how many are left when you subtract 0 from a number and understand that when you subtract a number from itself, the difference is zero. They will be reminded often by their teacher what the meaning of the equal sign is, using the words “is the same as” when reading equations. Students will practice addition and subtraction facts using the Triangle Fact Family Cards. These cards will help them see the relationship between the three numbers. This practice will help them see how to use related addition facts to solve for the unknown in a subtraction problem and visa versa. Students will practice this standard using the OnCore student pages as well as the K-5 Math Resource activity.