

Unit: 1.2	Title: Working With Addition	Lesson 1 of 3	Days: 1-7
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together.... e.g., by using objects...	Solve addition word problems using objects or pictures. <input type="checkbox"/> Develop counting-on strategies within 20.	SMP3 Construct viable arguments and critique the reasoning of others. SMP4 Model with mathematics. SMP3 Use appropriate tools strategically.	How can you solve a problem using objects? • What strategies can you use to combine two numbers? • How can you use counting on when solving a problem?
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
In kindergarten, students solved addition word problems and added within 10 using objects, fingers, sounds, acting out situations, and verbal explanations. They fluently added within five	Review: addition, add, sum, addend New: equal, equation, solution, solve, strategies, total, combinations, more, fewer	<input type="checkbox"/> Watch for counting on errors. <input type="checkbox"/> Understanding where the equal sign is when a number sentence/equation is written vertically.	Investigations Unit 3 1.1 (activity 2), 1.3 (math workshop 2A), 1.4 (discussion 2) 1.5, 1.8-1.9 SAB pp. 1, 6, 9, 11, 15-18, 23, 26 RM pp. 9-12, 25 OnCore Lesson 1 – 3 Student pages 1 – 6 Manipulatives
<b>Suggested Learning Practices</b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will be following lessons from Unit 3 Investigations 1.1 (activity 2), 1.3 (math workshop 2A), 1.4 (discussion 2) 1.5, 1.8-1.9 In these lessons teachers will: <input type="checkbox"/> Guide students to find combinations of numbers. <input type="checkbox"/> Guide students to solve addition problems and discuss strategies for solving them. <input type="checkbox"/> Make a connection between adding and having more. Following the OnCore lesson guidelines in lessons 1-3 (TM pp.2-4), teachers will: <input type="checkbox"/> Guide children to use pictures and concrete objects to model adding to and putting		In Investigations Unit 1 students will: <input type="checkbox"/> Find combinations of numbers. <input type="checkbox"/> Solve addition problems and discuss strategies they used. <input type="checkbox"/> Use pictures and concrete objects to model adding to and putting together. In OnCore Lessons 1-3 Students will: <input type="checkbox"/> Write the number to show how many. <input type="checkbox"/> Model addition with a cube train.	

together.

Link the term adding to and more and make the connection between concrete models and addition sentences.

Unit- 1.2	Title: Working With Addition	Lesson 2 of 3	Days: 8-11
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
1.OA.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).	<input type="checkbox"/> Relate counting to addition by developing counting on strategies within 20.	SMP1 Makes sense of problems and persevere in solving them. SMP7 Look for and make use of structure.	<input type="checkbox"/> When counting, how do you know what number comes next? <input type="checkbox"/> How is counting like addition? <input type="checkbox"/> How can you use counting on as a strategy when adding?
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
In kindergarten, students learned to count to 100 by 1s and 10s. They also learned to count on to 10 from any number between 1 and 9. Comparing two single digit numbers to find which is greater (or less) than.	Count on Addend Sum Addition/add Penny/cent Heads/tails	<input type="checkbox"/> When counting, students may count 19, ten teen rather than 20. <input type="checkbox"/> When counting on, students may repeat the number rather than moving to the next number. (Ex.: Teacher asks, “Add two by counting on from 6”, Students repeat 6 and say “6-7” instead of “7-8”).	Investigations Unit 1 Sessions 3.3-3.5, 4.2-4.3, 4.5-4.7 SAB pp. 9, 21-22, 27, 29, 32-35, 37-38, 41-45 47-48 RM pp. 17, 26-27, 30-31, 34 Unit 2 SAB pp.16-17, 26-27 Unit 3 SAB p.23 OnCore Lesson 23 Student pp. 45 (White-out the circle above the boxed greater addend to reflect the example), 46 Number lines, 100s chart, cubes, pennies
<b>Suggested Learning Practices</b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will be following lessons from Unit 1 Investigations Sessions 3.3-3.5,		In Investigations Unit 1 students will: <input type="checkbox"/> Count sets of objects up to 20.	

# Grade 1

# Unit Overview

# Mathematics

4.3 and 4.5-4.7. In these lessons teachers will:

- Have students count a set of objects up to 20 and find the total of two or more quantities up to a total of 20 by counting all and counting on. (Please note students will represent problems with pictures to count and will not need to be using number combinations at this time.)

Guide children to count on as a strategy to find sums within 20 following the lesson guidelines in OnCore lesson 23 (TM p. 24), teachers will:

- Help students use cubes to model counting on.
- Make sure students understand how to find the greater number in each problem.

- Find the total of two or more quantities up to a total of 20 by counting all and counting on. (Please Note: Although NBT.3 is comparing numbers, students are practicing with this in order to select the larger addend to count on from. Good practice would be the game Compare in Unit 1 SAB p.9)

In OnCore Lesson 23 students will:

- Use count on 1, 2, or 3 as a strategy to find sums within 20.

Unit: 1.2	Title: Working With Addition	Lesson 3 of 3	Days: 12-15
<b>Lesson Focus</b>			
1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Questions
<p>1.OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. 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>.</p>	<p><input type="checkbox"/> Develop an understanding of the equal sign.</p> <p><input type="checkbox"/> Determine if equations involving addition are true or false.</p>	<p>SMP3 Construct viable arguments and critique the reasoning of others.</p> <p>SMP4 Model with mathematics.</p> <p>SMP3 Use appropriate tools strategically.</p>	<p>How can you use objects to show an equation is true?</p> <ul style="list-style-type: none"> <li>• What does it mean to be equal?</li> <li>• How can you determine if an addition equation is true or false?</li> </ul>
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Teaching Materials
<p>Understand how to compare two numbers.</p>	<p>Review: addition, add, strategy, sum, addend</p> <p>New: Equal sign, equal, equation, number sentence, true, false,</p>	<p><input type="checkbox"/> Errors in addition.</p> <p><input type="checkbox"/> Understanding of the equal sign “is the same as”.</p>	<p>Investigations Unit 3 Session 1.9 (Discussion 3) Session 3.2 Today’s Number (use addition examples with = sign) SAB p.32 RM p.38 Number lines, snap cubes, Numbers (0-20) and symbol (+ =) cards <a href="http://www.k-5mathteachingresources.com">http://www.k-5mathteachingresources.com</a> Equal Sums, True or False, and other resources</p>

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

Teachers will be following lessons from Investigations Unit 3 Sessions 1.9 (discussion 3), 3.2, and Snap-In 1.10.A. In these lessons teachers will:

- Guide students to find relationships among combinations of numbers and use the equal sign to show equivalent expressions.
- Give students Today's Number for them to write equations.
- Introduce what a true or a false statement is.
- Present mathematical equations and ask for an explanation of whether they are true or false.

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

In Investigations Unit 1 students will:

- Find and explore relationships among combinations of numbers up to 15.
- Use number cards, +, and = cards to form equations that represent an action.
- Use the equal sign to show equivalent expressions.
- Write equations for Today's Number.
- Determine whether an equation is true or false.

Unit 2.1	Title: Working With Subtraction	Lesson 1 of 3	Days 1-7
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</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.</p>	<p>Use pictures to show “taking from” to find differences. Use objects to solve “taking from” and “taking apart” subtraction problems. Solve “taking from” and “taking apart” subtraction problems using the strategy make a model. Begin to understand the meaning of the equal sign when modeling with equations.</p>	<p><b>SMP1</b> Make sense of problem and persevere in solving them.  <b>SMP4</b> Model with mathematics.</p>	<p>What strategies can you use to solve subtraction problems? How can you show “taking from” of “taking apart” with pictures or objects? How do you solve subtraction problems by making a model? How can you solve the problem a different way?</p>
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
Subtraction within 10.	Taking from, take apart, minus, difference, subtraction model, bar model Equation, subtraction sentence	Misinterpreting the problem. Recognizing what the whole is. Confusing the subtraction sign.	<p><b>OnCore</b> Lessons 6 – 9 Student pages 11 – 18 <b>Investigations Unit 3</b> Investigations 2 pg. 78 SAB page #21,22,24,25, 35,45 Additional subtraction practice: Unit 4 #5,6,20 Unit 5 #8,9,22 Unit 6#33,38 Unit 7 #4,6,14</p>
<b>Suggested Learning Practices</b>			
<p><b>9. Instruction Practices (What are the teachers doing)</b> Teachers will guide students to solve <i>taking from</i> and <i>taking apart</i> subtractions problems. Teachers will use OnCore Lessons 6 – 9 and Investigations Unit 3 INV 2 to help students understand how to solve them using objects, pictures, bar models and equations. Teachers will focus on helping students understand the whole and the parts of the whole in each situation. Additional practice pages have also been provided.</p>		<p><b>10. Learning Practices (What are the students doing)</b> Students will learn how to solve taking from and taking apart subtraction problems using objects, pictures, bar models and equations. They will focus on understanding what represents the whole and parts of the whole in each situation. As students represent situations using equations they will begin to understand the meaning of the equal sign.</p>	

Unit:2.1	Title: Working With Subtraction	Lesson 2 of 3	Days 8-11
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
1.OA.5 Relate counting to addition and subtraction. (e.g., by counting back 2 to subtract 2).	Use count back as a strategy to subtract.	<p><b>SMP1</b> Make sense of problems and persevere in solving them.</p> <p><b>SMP2</b> Reason abstractly and quantitatively.</p>	<ul style="list-style-type: none"> <li>•How can you use the strategy count back to subtract?</li> <li>•Why does the strategy count back work?</li> </ul>
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
Skip count backwards by 1, 2, 3, etc.	Count back	Counting the first object as one as they are counting back.	<p><b>OnCore</b> Lesson 24 Student pages 47 &amp; 48 <b>Investigations</b> SAB Unit 5 pg. 14</p>
<b>Suggested Learning Practices</b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will help students relate counting to addition and subtraction. Using the strategy counting back is a great way for students to understand subtraction. Using OnCore lesson 24 teachers will model using counters and Investigations SAB is an example of how to model this strategy using a number line. As teachers make students aware of different strategies they will help them choose the one that is most efficient for them.		Students will learn to relate counting to addition and subtraction by using the count back strategy to solve subtraction. They will practice counting back using counters with the OnCore student pages 47 & 48. The investigations SAB pg. 14 will introduce the students to the counting back strategy using a number line. As students explore different strategies we hope they will ultimately choose the one that is most efficient for them.	

Unit:2.1	Title: Working With Subtraction	Lesson 3 of 3	Days 12-15
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</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 or false? <math>6=6</math>, <math>7=8-1</math>, <math>4+1=5+2</math></i></p>	<ul style="list-style-type: none"> <li>•Understand the meaning of the equal sign to mean “is the same as”.</li> <li>•Determine if an equation is true or false.</li> </ul>	<p><b>SMP1</b> Make sense of problems and persevere in solving them.</p> <p><b>SMP2</b> Reason abstractly and quantitatively.</p>	<ul style="list-style-type: none"> <li>•How can you determine if a number sentence (equation) is true or false?</li> </ul>
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
<ul style="list-style-type: none"> <li>•Add and subtract within 20.</li> <li>•Understand the meaning of the equal sign, and determine if equations involving addition are true or false.</li> </ul>	Equation/number sentence, true, false	<ul style="list-style-type: none"> <li>•Misinterpreting the meaning of the equal sign. Believe the equal sign means the answer is the number directly to the right of equal sign. Students may say that <math>4+1=5+2</math> is true because they know 5 is the answer to <math>4+1</math>.</li> </ul>	<p><b>OnCore</b> Lesson 42 Student pages 47 &amp; 48</p> <p><b>Investigations Snap-ins</b> Unit 6 1.8A &amp; 2.6A Student pages C43 –C54 Unit 8 C72, C74</p>
<b>Suggested Learning Practices</b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
<p>Teachers will guide students to understand the meaning of the equal sign by having them determine if equations involving addition or subtraction are true or false. Teachers will use both Oncore Lesson 42 and the Investigations Snap-ins for Unit 6 to construct their lessons. This concept will lead to students solving equations with unknowns. The equal sign should be read as “is the same as”.</p>		<p>Students will understand the meaning of the equal sign as they practice determining if addition or subtraction equations are true or false. Students often have difficulty with this concept because up until now they thought the equal sign meant “total”. In this unit, students will read the equal sign as “is the same as”. Understanding of this concept will help when solving equations with unknown.</p>	

# Grade 1

# Unit Overview

# Mathematics

Unit 2.2	<b>Working with Place Value to Understand Addition and Subtraction</b>	Lesson 1 of 5	Days1-5
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
<b>NBT.5</b> Given a two-digit number, mentally find 10 more or less than the number, without having to count; explain your reasoning.	Identify numbers that are 10 more or 10 less than a given number.	<b>SMP3</b> Construct viable arguments and critique the reasoning of others.	_When counting by tens, how do you know what number comes before or after a given number? _How can you identify numbers that are 10 less or 10 more than a number?
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
_Identify the tens digit and ones digit in a two-digit number. _Place value understanding of tens and ones.	more less	Adding one more or less to the ones digit instead of the tens.	<b>OnCore</b> Lesson 67 Student pages 133 & 134 <b>K-5 Math Resources</b> , see link below for; Add & Subtract Ten on the Number Line, What Number is..? & Ten More <a href="http://www.k-5mathteachingresources.com/1stgrade-number-activities.html">http://www.k-5mathteachingresources.com/1stgrade-number-activities.html</a>
<b>Suggested Learning Practices</b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will guide students to identify numbers that are 10 more or 10 less than a given number and be able to explain their reasoning. Teachers will use OnCore Lesson 67 along with additional mental math games/activities. Teachers may use the K-5 Math Resources; Add & subtract Ten on the Number Line, What Number is...? And Ten More.		Students will be able to identify numbers that are 10 more or 10 less than a given number. Most importantly they will be able to explain how they reasoning using place value understanding. Students will practice using OnCore student pages 131 & 134 along with additional resources determined by the teacher.	

# Grade 1

# Unit Overview

# Mathematics

<b>Unit: 2.2</b>	<b>Title: Working With Place Value to Understand Addition and Subtraction</b>	<b>Lesson 2 of 5</b>	<b>Days 6-15</b>
<b><i>Lesson Focus</i></b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
<p><b>1.OA.6</b> Add and subtract within 20, <i>demonstrating fluency for addition and subtraction within 10.</i> ...</p>	<p>Build fluency with addition and subtraction within 10.</p>	<p><b>SMP1</b> Make sense of problems and persevere in solving them. <b>SMP6</b> Attend to precision.</p>	<p>What are some addition facts you find easy to add? Why? What are some subtraction facts you find easy to subtract? Why?</p>
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
<p>Add and subtract within 10 using different strategies. Write addition and subtraction sentences.</p>	<p>Add Subtract Equals</p>	<p>Moving to the vertical form for addition and subtraction may cause some confusion.</p>	<p><b>OnCore</b> Lesson 25 &amp; 26 Student pages 49 – 52 <b>K-5 Math Resources</b> Sums of Ten Make 10 Squares Subtract from Ten</p>
<b><i>Suggested Learning Practices</i></b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
<p>Teachers will guide students to demonstrate that they are now fluent with addition and subtraction within 10. They may use the materials from OnCore and the activities from K-5 Math Resources to formatively assess their students. Teachers may also want to assess their students orally or with written summative assessments to determine just how fluent each student is and which facts they may need additional help on to be fluent within 10 by the end of the year.</p>		<p>Students will demonstrate their fluency with addition and subtraction within 10 through their work with the OnCore student pages, the K-5 Math Resource activities, oral assessments by the teacher or with written summative assessments. Students that do not demonstrate fluency at this point in the year will need additional intervention practice to insure their fluency within 10 by the end of first grade.</p>	

Unit: 2.2	Title: Working With Place Value to Understand Addition and Subtraction		Lesson 3 of 5	Days 16-20
<b>Lesson Focus</b>				
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>	
<p><b>1.OA.3</b> Apply properties of operations as strategies to add and subtract. Examples: If <math>8 + 3 = 11</math>, then <math>3 + 8 = 11</math>. (Known by the Commutative Property of Addition). <del>Associative Property for Addition</del>. See Q4 Unit 4.2. Students need not use formal names for these properties.)</p>	<p>Understand and apply the Commutative Property and Additive Identity Property (<math>5 + 0 = 5</math>) as a strategy to solve an addition problem. Recognize that the Commutative Property does not work for subtraction.</p>	<p><b>SMP1</b> Make sense of problems and persevere in solving them.  <b>SMP3</b> Construct viable arguments and critique the reasoning of others.  <b>SMP8</b> Look for and express regularity in repeated reasoning.</p>	<p>How is <math>2 + 3</math> related to <math>3 + 2</math>? (For example.)  Is it true that <math>2 - 3 = 3 - 2</math>? Why or why not?  What happens if you change the order of the addends when you add?  What happens to a number when you add zero to it? Or subtract zero from it?</p>	
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>	
<p>Understands how to write an addition sentence.  Understand the relationship between addition and subtraction.</p>	<p>Order  Properties  Add  Subtract  Addends</p>	<p>Thinks that the commutative property works for subtraction and gives the same answer for <math>2 - 3</math> as <math>3 - 2</math>.</p>	<p><b>OnCore</b> Lesson 16 – 18 Student pages 31 – 36  <b>K-5 Math Resources</b>  <a href="#">Turn Around Trains</a>  <a href="#">Turn Around Dominoes</a></p>	
<b>Suggested Learning Practices</b>				
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>		
<p>Teachers will guide student to understand and apply the Commutative Property (<math>5 + 3 = 3 + 5</math>) and the Additive Identity Property (<math>5 + 0 = 5</math>) as a strategy to add and subtract. Teachers may use this name informally, but students need not use these formal names. They will help students to understand that the commutative property does not work for subtraction but the identity property does. Teachers may use the OnCore Lessons 16 – 18, the K-5 Math Resources to help prepare students for this standard.</p>		<p>Students will understand and apply the Commutative Property and the Additive Identity Property as a strategy to add and subtract. They will not be required to use the formal names for these properties but to understand how and when they work. Students will understand that the Commutative Property does not work for subtraction (see misconceptions) but the identity property does (<math>5 - 0 = 5</math>). They may practice this concept with the OnCore student pages or the K-5 math Resources.</p>		

Unit: 2.2	Title: Working With Place Value to Understand Addition and Subtraction		Lesson 4 of 5	Days 21-25
<b>Lesson Focus</b>				
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>	
<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>	<ul style="list-style-type: none"> <li>•Recall addition facts to subtract within 20.</li> <li>•Relationship between addition and subtraction.</li> </ul>	<p><b>SMP1</b> Make sense of problems and persevere in solving them.</p> <p><b>SMP2</b> Reason abstractly and quantitatively.</p>	<p>How can you use addition to help you find the answer to a subtraction fact?</p>	
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>	
<p>Know all the ways to model and put together numbers within 10.</p> <p>Add within 20.</p>		<ul style="list-style-type: none"> <li>•Misunderstanding the relationship between addition and subtraction.</li> <li>•Understanding what is the whole.</li> </ul>	<p><b>OnCore Lesson 21 &amp; 22</b> Student pages 41 – 44</p> <p><b>Investigations</b> Heads &amp; Tails Unit 3#14, Unit 4#8, Unit 5#18, Unit 7 #22, 23 Unit8#4 Unit9#4Unit9#1 Unit 3 INV 3 SAB pgs #28&amp; 30 Additional +/- problems: Unit 6#34, 39 – 41 Unit 7 #13,14</p>	
<b>Suggested Learning Practices</b>				
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>		
<p>Teachers will guide students to understand subtraction as an unknown-addend problem and the relationship between addition and subtraction using OnCore Lessons 21 &amp; 22. They will help student understand that they can solve a subtraction problem by adding up. Using the Heads &amp; Tails practice pages (or any of the additional practice pages) have students think about what they need to add to get to the total instead of subtracting. Teachers will continue to help students understand the parts of a part/part/model.</p>		<p>Students will guide understand the relationship between subtraction and addition (understand subtraction as an unknown-addend problem). They will practice solving what they may consider a subtraction problem by adding up to find the total instead (Heads &amp; Tails problem pages). Students will continue working to understand what part is the whole in a part/part/whole model. They will use various practice pages from Investigations.</p>		

# Grade 1

# Unit Overview

# Mathematics

Unit: 2.2	Title: Working With Place Value to Understand Addition and Subtraction		Lesson 5 of 5	Days 26-30
<b>Lesson Focus</b>				
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>	
<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>Solve addition problems with involving three whole numbers whose sum is less than or equal to 20. Use objects, drawings or equations with symbols for the unknown number to represent the addition problem.</p>	<p><b>SMP1</b> Make sense of problems and persevere in solving them. <b>SMP4</b> Model with mathematics.</p>	<p>What strategies do you use to add three numbers? How do you solve addition word problems by using objects and/or drawing pictures? How would you represent this problem using an equation with a symbol for the unknown number?</p>	
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>	
<p><b>1.OA.1</b> Solve word problems with addition of two whole numbers...</p>		<p>Not recognizing they can use the Commutative and Associative Property to help with the addition of the three whole numbers.</p>	<p><b>OnCore</b> Lesson 15 Student pages 29 &amp; 30. <b>K-5 Math Resources</b> Word Problems with 3 Addends Three Letter Addends</p>	
<b>Suggested Learning Practices</b>				
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>		
<p>Teachers will guide students to solve addition problems involving three whole numbers whose sum is less than or equal to 20. They will encourage them to use objects, drawings and most importantly equations with a symbol for the unknown number to represent the addition problem. Teachers will use Oncore Lesson 15 and the K-5 Math Resource activities in their instruction.</p>		<p>Students will solve addition problems involving three whole numbers whose sum is less than or equal to 20. They will be encouraged to use objects, drawings and most importantly equations with a symbol for the unknown number to represent the addition problem. Students will use Oncore student pages and the K-5 Math Resource activities in their learning.</p>		

# Grade 1

# Unit Overview

# Mathematics

<b>Unit: 3.1</b>	<b>Title: Geometry</b>	<b>Lesson 1 of 4</b>	<b>Days: 1-5</b>
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
1.G.1: Distinguish between defining attributes (open or closed, 3 sided) versus non defining attributes (color, orientation, overall size)	-Describe attributes of 2-D shapes. -Use defining attributes to sort 2-D shapes	SMP3 Construct viable arguments and critique the reasoning of others. SMP4 Model with mathematics. SMP5 Use appropriate tools strategically	1.What attributes can you use to define 2-D shapes? 2.How can you use attributes to sort 2-D shapes?
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
-Recognize straight sides and vertices. -Understand how to sort items that are alike in one way.	<input type="checkbox"/> Circle, square, triangle, rectangle, trapezoid, hexagon <input type="checkbox"/> Sides, vertices	-Not recognizing the attributes. -Difficulty with defining vs non-defining attributes.	-OnCore Lessons 88 & 89 Student pages 175 – 178 -Investigations Unit 2 INV 2 Describing & Sorting Shapes -K-5 Math Resources Activity: Polygon Sort IXL Geometry Link: <a href="http://www.ixl.com/math/grade-1/J1 Identify 2-D shape">http://www.ixl.com/math/grade-1/J1 Identify 2-D shape</a> -You Tube Videos on 2-D shapes
<b>Suggested Learning Practices</b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will guide students to understand and describe the defining attributes of 2-D shapes. They will to help students to distinguish between defining and non-defining attributes. Teachers will use OnCore lessons 88&89, Investigations Unit 2 INV 2, and Polygon Sort to guide students to use the attributes to sort 2-D shapes. If Students may practice using the computers (in school or at home) with the IXL lesson Identify 2-D Shapes.		Students will be able to describe the attributes of 2-D shapes. They will understand the difference between defining and non-defining attributes, which will help them, to sort the shapes into categories. Students will practice sorting 2-D shapes using OnCore, Investigations and the K-5 Math Resource. The IXL link “Identify 2-D Shapes” may be utilized in the classroom or at home. Students will watch the You Tube video on 2-D shapes.	

Unit: 3.1	Title: Geometry	Lesson 2 of 4	Days: 6-10
<b><i>Lesson Focus</i></b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
1.G.2 Compose 2-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) to create a composite shape, and compose new shapes from the composite shape (decompose).4 4 Formal shape names not needed.	-Use pattern block shapes and geoboards to compose or decompose new 2-d shapes. -Compose a new shape by combining 2-D shapes. -Decompose combined shapes back into pattern block shapes..	<b>SMP3</b> Construct viable arguments and critique the reasoning of others. <b>SMP4</b> Model with mathematics. <b>SMP5</b> Use appropriate tools strategically.	1.How can you put 2-D shapes together to make a new 2-D shape? 2.How can you find shapes in other shapes? 3.What shapes are needed to make a trapezoid, etc?
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
Identify the attributes of plane shapes (2-D).	-Composite means “composed of” other shapes -Decompose means to break down a composite shape into smaller shapes. -Pattern blocks	Not being able to recognize the shapes inside another shape because they may be in an unfamiliar orientation.	- <b>OnCore</b> Lessons 93 – 97 Student pages 185 – 194 - <b>Investigation</b> Unit 2 INV 1 Composing & Decomposing 2-D Shapes -K-5 Math Resource Activities: Pattern Block Triangles□ Fold a Square□ Cover a Hexagon
<b><i>Suggested Learning Practices</i></b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will guide students to compose 2-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter circles) to create a composite shape (composite meaning a shape composed of other shapes). Teachers will also model for students how to compose new shapes from composite shapes (decompose a shape into smaller shapes). They may model the lesson using pattern blocks, OnCore Lessons 93 - 97, Investigations Unit 2 INV 1 or the K-5 Math Resource Activities.		Students will compose 2- dimensional shapes to create a composite shape (a shape composed of other shapes) and compose new shapes from composite shapes (decompose a shape into smaller shapes). They will practice composing and decomposing composite shapes using OnCore, Investigations, and K-5 Math Resource Activities. Students may utilize pattern blocks and geoboards to develop their understanding.	

Unit:3.1	Title: Geometry	Lesson 3 of 4	Days: 11-15
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
1.G.1: Distinguish between defining attributes (open or closed, 3 sided) versus non defining attributes (color, orientation, overall size)	-Identify and describe 3-D shapes according to their defining attributes. -Identify 2-D shapes on 3-D shapes	-SMP3 Construct viable arguments and critique the reasoning of others. -SMP4 Model with mathematics. -SMP5 Use appropriate tools strategically.	1.How can you identify and describe a 3-d shape? 2.What 2-D shapes do you see on flat surfaces of this 3-d shape? 3.How are these shapes alike and different? 4.How do you know this shape is a square, rectangle, etc
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
-Identify, describe, and differentiate between 2-D shapes. -Understand what is meant by a flat surface.	Sphere, cone, cylinder, cube, rectangular prism flat surface, curved surface 2-dimensional (2-D) 3-dimensional (3-D)	-Concepts like “ a square is a rectangle”  -Defining attributes vs. non-defining	<b>OnCore</b> Lesson 86 & 87 Student pages 171 – 174 <b>Investigations</b> Unit 7 INV 1 Session 1-1 thru 1-5 IXL Geometry Link: <a href="http://www.ixl.com/math/grade-1">http://www.ixl.com/math/grade-1</a> J2 Identify 3-D shapes J3 Geometry of everyday objects You Tube Video on 3-D shapes
<b>Suggested Learning Practices</b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will guide students identify and describe 3-d shapes according to their defining attributes. They will help students to identify the 2-D shapes that can be seen on the flat surfaces of a 3-D shape by having objects shaped like a sphere, cone, cylinder, cube and rectangular prisms available for the students to hold and look at. Teachers will use OnCore Lesson 86 & 87, Investigations Unit 7 Investigation 1 (Sessions 1-1 thru 1-5) and when possible have students use the IXL activities on the computer. These activities could be used whole class by using a projector or at home as a		Students will identify and describe 3-D shapes according to their defining attributes. They will be able to explain how these shapes are alike and different. They will feel comfortable enough with their understanding of the attributes to critique the reasoning of others. Students will learn to identify the 2-D shapes that make up the flat surfaces of the 3-dimensional shapes. They will practice these concepts using OnCore student pages, additional worksheets provided by the teacher and if time may try the IXL Geometry activities on the computers in school or at home as a homework assignment.	

# Grade 1

# Unit Overview

# Mathematics

homework assignment. Building and drawing of these shapes will appear later in the year.		Building and drawing of these shapes will appear later in the year.	
<b>Unit 3.1</b>	<b>Title: Geometry</b>	<b>Lesson 4 of 4</b>	<b>Days: 16-20</b>
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	<ul style="list-style-type: none"> <li>-Partition circles and rectangles into two equal shares (parts) and describe the shares using the words halves and the phrase “half of”.</li> <li>- Partition circles and rectangles into four equal shares (parts) and describe the shares using fourths or quarters and the phrases “fourth of” and “quarter of”.</li> <li>-Identify equal and unequal parts/shares.</li> <li>-Begin to understand what is meant by the whole and describe the whole as two of or four of the shares. (In later grades this would be the same as <math>2/2</math> and <math>4/4</math>).</li> <li>-Understand that decomposing into more equal shares(fourths instead of halves) creates smaller parts.</li> </ul>	<ul style="list-style-type: none"> <li><b>SMP2</b> Reason abstractly and quantitatively.</li> <li><b>SMP4</b> Model with mathematics.</li> <li><b>SMP7</b> Look for and make use of structure.</li> </ul>	<ol style="list-style-type: none"> <li>1.How can you partition a circle into two or four equal shares (parts)?</li> <li>2.How can you partition a rectangle into two or four equal shares (parts)?</li> <li>3.How can you identify equal and unequal shares (parts) of a circle or rectangle?</li> <li>4.How do you describe a whole circle with 2 (or 4) equal parts?</li> <li>5.How do you describe a whole rectangle with 2 (or 4) equal parts?</li> <li>6.When you decompose a shape into more equal shares are the shares larger or smaller?</li> </ol>
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
<ul style="list-style-type: none"> <li>-Understand the concept of same size, equal shares (parts) and halves.</li> <li>-Identify circles and rectangles.</li> </ul>	<ul style="list-style-type: none"> <li>Equal shares, equal parts</li> <li>Unequal shares, unequal parts</li> <li>Halves, fourths, quarters</li> <li>Half of, fourth of, quarter of whole</li> </ul>	<ul style="list-style-type: none"> <li>-Understanding whole.</li> <li>-Fourths of a whole are smaller than halves of a whole.</li> </ul>	<ul style="list-style-type: none"> <li>-<b>OnCore</b> Lesson 98 - 100 Student pages 195 – 200</li> <li>-<b>Investigations</b> Snap-ins Halves Unit 5 3A.1, 3A.2 C22-25, 29-33</li> <li>Unit 6 student page C42</li> <li>-<b>Investigations</b> Snap-ins Fourths</li> </ul>

			Unit 5 3A.3 student pages C34-39 3A.4 Assessment: Halves & Fourths -K-5 Math Resources Fraction Pictures Make a Fraction Pizza <input type="checkbox"/>
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### ***Suggested Learning Practices***

<b>9. Instruction Practices (What are the teachers doing)</b>	<b>10. Learning Practices (What are the students doing)</b>
<p>Teachers will guide students to partition circles and rectangles into two shares (parts) and describe the shares using the words halves and the phrase “half of”. They will also guide students to partition circles and rectangles into four shares (parts) and describe the shares using fourths or quarters and the phrases “fourth of” and “quarter of”. Teachers will help students identify equal and unequal shares and to begin to understand the meaning of the whole as all 2 or 4 parts of the shares. In later grades, this would be written as <math>\frac{2}{2}</math> or <math>\frac{4}{4}</math>. They will help students understand that when decomposing into more equal shares (fourths instead of halves) this creates smaller parts. The teachers will use the OnCore lessons 98 -100 and the Investigations Snap-ins as part of their instruction. If time is available, they may use the K-5 Math Resource activities.</p>	<p>Students will partition circles and rectangles into two shares (parts) and describe the shares using the words halves and the phrase “half of”. They will then partition circles and rectangles into four shares and describe the shares using the words fourths and quarters and the phrases “fourth of” and “quarter of”. They will identify equal and unequal shares when looking at a picture and begin to understand the meaning of whole. Students will understand that when you decompose into more equal shares (fourths instead of halves) this creates smaller parts. Students will practice using OnCore and Investigations snap-in student pages and if time allows the K-5 math Resource activities.</p>

<b>Unit: 3.2</b>	<b>Title: Data, Measurement and Time</b>	<b>Lesson 1 of 4</b>	<b>Days: 1-7</b>
<b><i>Lesson Focus</i></b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	-Organize, represent, and interpret data with up to two (then three) categories. -Read and make pictograph, bar graph or tally chart. -Ask and answer questions about the data represented in each of these graphs.	<b>SMP3</b> Construct viable arguments and critique the reasoning of others. <b>SMP4</b> Model with mathematics. <b>SMP5</b> Use appropriate tools strategically.	1.What do the pictures in a pictograph show? 2.Why is a key important? 3.How do you read a bar graph to find the number that a bar shows? 4.How does a bar graph help you compare information? 5.How do you count the tallies on a tally chart?
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
-Understand one-to-one correspondence. -Understand comparison terms; longer, longest, shorter, shortest	Pictograph Bar graph Tally chart Key	-Not reading the key first. -Not understanding the question being asked.	<b>OnCore</b> Lessons 79 – 85 Student pages 157 – 170 <b>Investigation Snap-in</b> Unit 4 Session 3.4A (replaces INV 3)
<b><i>Suggested Learning Practices</i></b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will guide students to organize, represent, and interpret data with up to three categories. They will begin with examples that use two categories and build up to three categories. (Most student pages have both 2 and 3 category examples.) Teachers will help students read pictographs, bar graphs, and tally charts by asking questions about the data represented. They will provide opportunities for students to make pictographs, bar graphs and tally charts with up to three categories as well. Teachers will stress the importance of a key for pictographs. Teachers may find they need more than 5 times for this lesson.		Students will organize, represent, and interpret data with up to three categories. They will read and make pictographs, bar graphs and tally charts. Students will ask and answer questions about the data represented in each of these graphs. They will understand and use a key when constructing a pictograph, though they may find most of their examples will have each picture standing for 1 thing they need to be aware that this is not always the case so that the key is one of the first things they read when answering questions about the data. Students will practice using OnCore lessons and Investigations Snap-In materials.	

Unit 3.2	Title: Data, Measurement and Time	Lesson 2 of 4	Days: 8-11
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
1.MD.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.	-Order three objects by length. -Indirectly compare the length of two objects by using a third objects. -Using the transitive principle (if, and then) to measure indirectly. For example, If a string is longer than a straw, and the straw is longer than the pencil, then you know the string is longer than the pencil.	<b>SMP5</b> Use appropriate tools strategically. <b>SMP6</b> Attend to precision.	1.How can you use a third object to compare two objects? 2.How can you compare lengths of three objects to put them in order? 3.How do you order three objects by length?
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
Understand the concept of long(er) and short(er).	Order Longest, shortest	Not lining the same edge of all three objects up at the same starting point. See the OnCore Lesson 70 & 71 example.	- <b>OnCore</b> Lesson 70 & 71 Student pages 139 – 142 - <b>K-5 Math Resources</b> Which is Longest? Scoop and Order
<b>Suggested Learning Practices</b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will guide students to indirectly compare the length of two objects by using a third object; order three objects by length using the terms shortest and longest. Teachers will help students to line the three objects up at the same starting point (a common misconception) to correctly determine which object is longest/shortest (OnCore Lesson 70 & 71). They will help students understand how to use the transitive principle (without using the name). For example, if a string is longer than a straw, and the straw is longer than the pencil, then they should understand that the string must be longer than the pencil without having to measure them.		Students will order three objects by length (using student pages 139 – 142). These practice pages will help students understand that the objects need to be lined up at the same starting point to correctly view their lengths. They will learn to indirectly compare the length of two objects by using a third objects. Students will use the transitive property without having to be familiar with the term. They will recognize that if a string is longer than a straw, and the straw is longer than a pencil, then the string must be longer than the pencil without having to measure it.	

<b>Unit: 3.2</b>	<b>Title: Data, Measurement and Time</b>	<b>Lesson 3 of 4</b>	<b>Days: 12-15</b>
<b><i>Lesson Focus</i></b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
1.MD.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a <b>whole number</b> of length units with no gaps or overlaps.	-Express the length of an object using nonstandard whole number length units. -Understand that the length measurement of an object is the number of same-size whole length units that span it with no gaps or overlaps. -Solve measurement problems using act it out. -Some students may notice that the smaller the measuring unit the more units it takes to measure the length of the object.	<b>SMP5</b> Use appropriate tools strategically.  <b>SMP6</b> Attend to precision.	1.How can you measure the length of this object? 2.How many cubes (paper clips, etc) long is this object? 3.Why is it important not to leave a gap between your measuring units or overlap the measuring unit when measuring the length of something? 4.How can this be true? My stick measures 10 paper clips long, but only 2 pencils long.
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
-Understand the concept of length and measurement. -Understand how to use nonstandard units of measurement.	Length Longer shorter	Difficulty understanding that the length of the object does not change because measurements will differ depending on what measurement unit is being used.	<b>OnCore</b> 72 – 74 Student pages 143 – 148 <b>Investigations</b> Unit 5 Investigations 1 & 2; focusing more on the concepts in INV 2.
<b><i>Suggested Learning Practices</i></b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will guide students to express the length of an object with nonstandard whole number length units. They will model measuring with squares, paper clips, etc. and show students what it means to give an answer that is “about 5” for an object that may be just a little longer than 5 paper clips and that the square/paper clips must not overlap or have a gap between them. The Oncore examples only show pictures that measure exactly. Teachers will help students observe that the smaller unit of measurement will result in the greater number of units counted/measured.		Students will express the length of an object using nonstandard whole number length unit. They will understand that some of the objects they measure will not measure exactly “5 paper clips”, but that they answers will be about 5. They will understand that when measuring with nonstandard units, the units cannot overlap or have gaps between them to be as precise as possible. Some students will understand that the smaller the unit of measurement, the greater the number of units measured/counted.	

Unit: 3.2	Title: Data, Measurement and Time	Lesson 4 of 4	Days: 16-22
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
<p>1.MD.3 Tell and write time in hours and half hours using analog and digital clocks.</p> <p>1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks.</p>	<p>-Tell and write time to the hour using an analog clock.</p> <p>-Tell and write time to the hour using a digital clock.</p> <p>-Tell time to the hour on an analog clock with only the hour hand shown.</p> <p>-Tell and write time in hours and half-hours using analog and digital clocks.</p> <p>-Understand the function of the “big” hand and the “small” hand on an analog clock.</p> <p>-Distinguish between the hour and half hour on a clock that only has an hour hand.</p> <p>-Read the time on an analog clock and write it in digital time.</p>	<p><b>SMP7</b> Look for and make use of Structure</p> <p><b>SMP4</b> Model with mathematics.</p>	<p>1.What do the hands on the analog clock represent?</p> <p>2.What do the numbers and symbols on a digital clock represent?</p> <p>3.How do you tell time to the hour on a clock that has only an hour hand?</p> <p>4.How do you tell time to the half hour on a clock that has only an hour hand?</p> <p>5.How are the minute hand and hour hand different for time to the hour and time to the half hour?</p> <p>6.What time does this (give example) clock read?</p>
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
<p>-Read the numerals 1 – 12.</p> <p>-Count by 5.</p> <p>-Tell time to the hour on a clock with only an hour hand.</p>	<p>Digital clock</p> <p>Analog clock</p> <p>Hour hand</p> <p>Minute hand</p> <p>O'clock</p> <p>Hour</p> <p>Half-hour</p> <p>(1 – 12) thirty</p> <p>half past</p>	<p>-Incorrect use of the hands on the clock. Using the minute hand (longer) to name the hour.</p> <p>-Misreading the small hand and large hand on an analog clock.</p>	<p><b>OnCore</b> Lesson 75</p> <p>Student pages 149 &amp; 150</p> <p><b>Investigations</b> Snap-ins</p> <p>Unit 5 Session 1.5A</p> <p>Student pages C16 – C21</p> <p>Create additional time worksheets with analog clocks to the hour using:</p> <p>www.math-aids.com</p> <p>Digital clock , Analog clock</p> <p>Judy Clocks for students to</p>

# Grade 1

# Unit Overview

# Mathematics

			practice telling time with. <b>OnCore</b> Lesson 76 & 77 Student pages 151 -154 <b>Investigations</b> Snap-ins Unit 5 3A.1 C16 – 28 Unit 6 C53, Unit 8 C73 www.math-aids.com 4 clock worksheets You Tube Videos on telling time
<b><i>Suggested Learning Practices</i></b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will guide students to tell and write time to the hour using analog and digital clocks. They will help them understand what the symbols (hands and : ) on these clocks represent. Teachers may use OnCore Lesson 75, the Investigations Snap-ins, or create their own clock worksheets using the www.math-aides.com website. Most importantly they will supply the students with samples of both analog and digital clock.		Students will tell time to the hour using analog and digital clocks. They will understand that when telling time to the exact hour you only need to read the hour (little) hand. Students will practice telling and writing the time using pages provided by the teacher. But most importantly, they will be able to tell the time (to the hour) using actual samples of an analog and digital clock. They will also watch quick You Tube Videos/songs on Telling Time.	

Unit 4.1	Working with Unknown Equations	Lesson 1 of 1	Days 1-15
<b>Lesson Focus</b>			
1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Questions
<p>1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers</p> <p>. For example, determine the unknown number that makes the equation true in each of the equations <math>8 + \square = 11</math>, <math>5 = \square - 3</math>, <math>6 + 6 = \square</math>.</p>	<p>Identify how many are left when you subtract 0 from a number.</p> <p>When you subtract a number from itself, the difference is zero.</p> <p>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>).</p> <p>Use related facts to determine the unknown whole number.</p> <p>Use a related addition fact to help solve a subtraction problem and visa versa.</p>	<p>SMP6 Attend to Precision.</p> <p>SMP5 Use appropriate tools strategically.</p>	<p>What happens when you subtract 0 from a number?</p> <p>If the answer is 0, what could your subtraction problem be?</p> <p>How can you use a related addition fact to help you find the missing number of a subtraction problem?</p> <p>How can you use a related subtraction fact to help you find the missing number of an addition problem?</p>
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Teaching Materials
<p>Recognize the value of 0 as having no quantity.</p> <p>Understand the Commutative Property of Addition. <math>\square</math></p>	<p>Unknown number and symbol</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. <math>\square</math></p>	<p>OnCore Lessons 44 – 46 Student pages 87 – 92</p> <p>Triangle Fact Family Cards</p> <p>K-5 Math Resources Find the Missing Number</p>

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

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.

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

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.

Unit 4.2	Working with Place Value – to Understand 2-digit Addition and Subtraction	Lesson 1 of 2	Days 16-30
<b>Lesson Focus</b>			
1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Questions
<p><b>1.NBT.4</b> Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p>	<p>Add within 100, including Add a 2-digit number and a 1-digit number. Add a 2-digit number and a multiple of 10. Use concrete models (hundreds charts, linking cubes), drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes compose a ten. Relate a strategy to a written method.</p>	<p><b>SMP5</b> Use appropriate tools strategically. <b>SMP7</b> Look for and make use of structure. <b>SMP8</b> Look for and express regularity in repeated reasoning.</p>	<p>What strategies/methods can you use to add a two-digit number and a one-digit number? Explain your thinking. What place value strategy will help you add a 2-digit number and a multiple of 10? How can you use a hundreds chart to count on (or back) by ones and tens? How does compose a ten help you add a two-digit number and a one-digit number?</p>
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Teaching Materials
<p>Understand that 10 ones are equal to 1 ten. Use concrete models to add one-digit numbers. Find a missing number to make 10. Understand how to represent two-digit numbers as tens and ones.</p>	<p>Multiple (of tens) Compose (a ten)</p>	<p>Regrouping, place value, and misaligning of the addition problem.</p>	<p><b>Oncore</b> Lesson 62 – 64, 66 Student pages 121 – 128, 131 - 132 <b>Investigations Snap-In</b> Unit 8, Session 4A.3 pg.C83 –C86 <b>K-5 Math Resources</b> <i>Adding 2 Digit and One Digit Numbers</i> <i>Addition Split (2 digit + multiple of 10)</i> <b>www.math-aids.com</b> <i>Domino/TenFrame Addition</i></p>

<b><i>Suggested Learning Practices</i></b>	
<p><b>9. Instruction Practices (What are the teachers doing)</b></p> <p>Teachers will guide students to add within 100, including adding a 2-digit number with a 1-digit number and adding a 2-digit number and a multiple of 10. They will encourage students to use concrete models, drawings and strategies based on place value, properties of operations and the relationship between addition and subtraction. Teachers will help students to understand that when adding two-digit numbers, you add tens to tens, ones and ones and sometimes need to compose a ten (For example, <math>35 + 7</math>, <math>7 + 5 = 12</math> or one ten and two more) . They will help students to move from using base ten blocks to writing the equation. Teachers may use the <i>Domino/TenFrame Addition</i> or the <i>Multiples of 10</i> worksheets. If needed, they could print out additional pages like this from the <a href="http://www.math-aids.com">www.math-aids.com</a> site.</p> <p><b><i>*Please note that when looking for materials to match this standard I found pages that were incorrect. Be careful that the 2-digit plus 2-digits must have a sum within 100, and one of the addends must be a multiple of 10.</i></b></p>	<p><b>10. Learning Practices (What are the students doing)</b></p> <p>Students will add within 100. They will add a 2-digit number and a 1-digit number and a 2-digit number and a multiple of 10. Students will use concrete models, drawings and strategies based on place value, properties of operations, and the relationship between addition and subtraction. They will understand that when adding two-digit numbers you add tens to tens, ones to ones and sometimes need to compose a ten from the amount of ones they have. This is best seen using place value blocks (Lesson 64). They will move from drawing pictures to writing equations. Students will practice this standard using OnCore, Investigations snap-ins, and any additional resources provided by the teacher.</p>

Unit 4.2	Working with Place Value to Understand 2-digit Addition and Subtraction	Lesson 2 of 2	Days 31-45
<b>Lesson Focus</b>			
<b>1. Standards Addressed</b>	<b>2. Content to be Learned</b>	<b>3. Mathematical Practices</b>	<b>4. Essential Questions</b>
<b>1.NBT.6</b> Subtract multiples of 10 in the range 10 – 90 from multiples of 10 in the range 10 - 90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	Subtract multiples of 10 from multiples of 10 (both in the range 10 – 90) . Use concrete models or drawing and strategies based on place value, properties of operations, and the relationship between addition and subtraction. _Understand how to relate a strategy to a written method and explain the reasoning used.	<b>SMP5</b> Use appropriate tools strategically. <b>SMP7</b> Look for and make use of structure. <b>SMP8</b> Look for and express regularity in repeated reasoning.	What strategies/methods can you use to subtract multiples of 10 from multiples of 10 (both in the range of 10 – 90)? Explain your thinking. How can you use a place value model to show subtraction of tens?
<b>5. Prerequisite Knowledge</b>	<b>6. Essential Vocabulary</b>	<b>7. Possible Misconceptions</b>	<b>8. Teaching Materials</b>
Understand how to draw models to show subtraction.		Knowing to subtract the smallest number from the largest number.	<b>OnCore</b> Lesson 68 Student pages 135 – 136 <b>Investigations Snap-In</b> Unit 8, Session 4A.3 pg.C83 –C86 <b>K- 5 Math Resources</b> <i>Subtraction Split</i> (subtract multiple of ten from a 2-digit)
<b>Suggested Learning Practices</b>			
<b>9. Instruction Practices (What are the teachers doing)</b>		<b>10. Learning Practices (What are the students doing)</b>	
Teachers will guide students to subtract multiples of 10 from multiples of 10 (both in the range 10 – 90). They will encourage students to use different strategies, with an emphasis on place value. Teachers will help students relate their strategy or picture as a written equation and explain what they did. They will use OnCore Lesson 68, Investigations Snap-in Unit 8 Session 4a.3 and K-5 Math Resources.		Students will subtract multiples of 10 from multiples of 10 (both in the range 10 – 90). They will use different strategies, focusing on the use of place value. Students will explain their strategy and write equations that represent how they solved the problem. They will practice using OnCore and Investigations student pages along with the Subtraction Split activity.	