Math: Unit 15 Using Addition and Subtraction Strategies April 7-11, 2014

(2 out of a 2 Week Duration)

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| **Content Objective:** * [1.OA.1](https://www.dropbox.com/s/kxbm4lsxiz97hsj/1.OA.1%20Unwrapped%20document.docx?dl=1). 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. (See Table 1.)
* [1.OA.2](https://www.dropbox.com/s/112io7ld3773hk2/1.OA.2%20Unwrapped%20document.docx?dl=1). 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.
* [1.OA.3](https://www.dropbox.com/s/90f3mcj7v5emfml/1.OA.3%20Unwrapped%20document.docx?dl=1). Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*
* [1.OA.4](https://www.dropbox.com/s/42z1xo17h7d96j0/1.OA.4%20Unwrapped%20document.docx?dl=1). Understand subtraction as an unknown-addend problem. *For ex, subtract 10 – 8 by finding a number that makes 10 when added to 8.*
* [1.OA.6](https://www.dropbox.com/s/pnt8ag31qhl7xek/1.OA.6%20Unwrapped%20document.docx?dl=1). Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).
* [1.OA.8](https://www.dropbox.com/s/59bppjad4rfdf88/1.OA.8%20Unwrapped%20document.docx?dl=1). Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations: 8 + ? = 11, 5 =*  *– 3, 6 + 6 =* *.*
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| **WARM UP: (problem of the day, etc) 10-15 MIN.**TW guide students to complete calendar activities: (using complete sentences) day of the week, month of the year, discuss specials of the day, sing songs about the days of the week and months of the year, quick images, counting incorporating tallies and/or graphs |
| **COMPUTATIONAL FLUENCY PRACTICE/Discussions: 10-15 MIN.*** Skip counting by 2s, 5s, and 10s forwards and backwards
* Number of the Day – Students discuss number patterns explaining using complete sentences how problem of the day was solved
* **Number Talks (Combinations 6-10, fact fluency 1-10)**

Unit 15 Review, Week 2, Days 1-5 |

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| **Materials Needed:** story problems, manipulatives ( base ten, cubes, number line, hundred chart), Final Performance Assessment |

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|  **Anchor Chart** | **Focus:**  **Solving Addition and Subtraction Problems** |
| **Background for the Teacher*** This unit is to **solidify** students’ flexibility in solving addition and subtraction problems.
	+ The students will use conversation and analysis to become adept at choosing an appropriate strategy given the numbers involved in a problem.
	+ Strategies should include:
		- Doubles
		- Fact Families/Part-Part-Whole
		- Making 10
		- Commutative Property
		- Associative Property
	+ The students should be exposed to tasks/situations that cause them to study patterns and relationships among numbers, to be able to see which property of operations would be helpful, and that subtraction is the inverse of addition.
	+ The students must work at solving all types of addition and subtraction problems (i.e. result unknown, change unknown, start unknown) and problems involving 3 addends.

**Background vocabulary to be used by the teacher:**

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| **CONTENT:*** Represent and solve problems involving addition up to 20.
* Understand the relationship of addition and subtraction (fact families).
* Problem Situations

 Understand & apply the properties of operations* Work with addition equations

Fluency | **SKILLS:*** Solve addition word problems
* Use the relationship between addition and subtraction to solve equations
* Demonstrate fluency of addition.
* Represent the problem
* Apply properties of operations
* Understand the meaning of the equal sign
* Determine if equations are true or false
* “Counting Back”, “Making ten”, “Counting On”

Decomposing a number leading to ten |

**Vocabulary:** * Multiple Addends
* Strategy
* Equal
* Addition
* Subtraction
* Commutative property
* Associative property
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| **Mathematical Practices:****MP1: Make sense and preserve****MP2:Abstract/quantitative reasoning**MP 3: Construct argumentsMP 4: Model with math MP 5: Use appropriate tools MP 6: Attend to precision MP 7: Make use of structure MP8: Regularity/repeated reasoning |

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| **Children’s Related Literature:**Mission Addition By Loreen Leedy[Mall Mania](http://www.mathstart.net/books/level_2/detail.php?level_id=2&book_id=4)**Read Aloud Task Cards:**[OneDuckStuck](http://www.k-5mathteachingresources.com/support-files/oneduckstuck.pdf)[The Very Hungry Caterpillar](http://www.k-5mathteachingresources.com/support-files/theveryhungrycaterpillar.pdf) [TheVeryHungryCaterpillar](https://drive.google.com/file/d/0B1ioaFyLE8GsSU1jQTVrZUMtMVU/edit?usp=sharing)[OneHunter](http://www.k-5mathteachingresources.com/support-files/onehunter.pdf)[Rooster'sOfftoSeetheWorld](http://www.k-5mathteachingresources.com/support-files/roostersofftoseetheworld.pdf)[Two of Everything](http://www.k-5mathteachingresources.com/support-files/twoofeverything.pdf) |
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| **Middle (Investigating/Exploring):****Monday -Thursday: Choose addition and subtraction story problems from “Start Unknown and Change Unknown"****Summary:** The students will use the associative property to help them solve addition problems with 3 addends. For example, when solving the problem 8 + 2 + 7 = \_\_, the students should combine the 8 and the 2 to make 10 and add the 7. The students will work towards finding the most efficient way to solve the problem.Students should use various representations (drawings, manipulatives,tally marks, etc.) to show their understanding. The teacher will explicitlymodel how to solve problems using many different representations.He/She will ensure that students have many opportunities to discuss andexplain how they solved the addition problems.\*Students should **NOT** be completing drill worksheets that focus on solving equations on their own(i.e.4 + 7 + 3 =\_). The teacher will incorporate number sentences throughout instruction. Students will also be responsible for creating and writing number sentences. When the student uses number sentences on their own, they should also include a representation (drawing, tally marks, explanation, etc.)1. The teacher states word problem to students. Using manipulatives, the teacher will guide students as they work through solving together. The teacher **models** think aloud strategies and how to create visual representations for word problems.
	1. He/She can use whiteboards, document cameras, or chart paper to demonstrate think alouds.
	2. Students will begin to use the same techniques to explain their thought process as they work through addition problems.
	3. Teacher may use think aloud stems such as the following:
		1. What am I trying to solve?
		2. I am trying to figure out...
		3. The important information is... (and at times: THIS information isn't important)
		4. What strategy will I use to solve the problem? The strategy I will use is..
		5. I am going to think aloud each step of this strategy: First... next... and finally...
		6. Does this answer make sense if I read the problem over again?
2. Students are given multiple practice opportunities with manipulatives to apply the modeled strategies and discuss with their peers. Teacher provides support.
	1. As students become more proficient with the skills and explaining their thinking, teacher will reduce support as needed.
	2. Students should collaborate with table teams solving problems and discussing solutions. They can make use of work mats and manipulatives to help them solve the problems successfully.
	3. Extension: Students can make up their own stories to solve with their peers.

**RichProblems:** ~The total of three numbers is ten. What might the three numbers be? (Lilburn and Ciurak, Investigations, Tasks and Rubrics to Teach and Assess Math, p 30)* ~Emily tossed three six-sided dice and made a total of twelve. What number of dots might have been on each dice? (Lilburn and Ciurak, Investigations, Tasks and Rubrics to Teach and Assess Math,p 30)
* ~How many different ways can you get a total of thirteen when you toss three six-sided dices? Record each way. (Lilburn and Ciurak, Investigations, Tasks and Rubrics to Teach and Assess Math,p 30)
* ~Number Strings- Adapted from Minilessons for Math Practice (Bresser and holtzman, 2006)Record a number string on the board for students to solve (ex. 5 + 2 + 5)
* Jackson’s mom got him some new clothes. She bought him some shorts, shirts, and underwear. If she brought home 18 things, what combination of clothes could Jackson’s mom have purchased?
* Austin’s mom is making chocolate chip pancakes for Austin and his two friends. She wants to put 6 chocolate chips on each child’s pancake. How many chocolate chips will Austin’s mom need?
* Joanna, Elisa, and Margaret found a leprechaun! The leprechaun gave the girls 24 pieces of gold to share. How many pieces of gold will each child get?
* Jamal likes to ride his bike. On Tuesday her rode around the block 4 times. Wednesday her went around 7 times. Friday he rode around the block 6 times. How many times did Jamal go around the block this week?
* I am thinking of three numbers. These three numbers added together equal 18. What could my three numbers be?
1. Allow a minute or so for students to solve the problem.
2. Elicit answers and strategies from a few volunteers and record students' strategies on the board.
3. Using a new number string, repeat steps 1-3, this time asking students to share their strategy with a partner before you lead a class discussion.

**KeyQuestions:**What strategy did you use?* Can you find any familiar number combinations?
* Can you find any combinations that make ten in the number string?
* Can you find any doubles in the number string?

Rich Question? + ? + ? = 13. What might the missing numbers be?**Friday:** (Administer Final Performance Assessment) | **Student Engagement Strategies**TPSManipulativesPartnersWriting |

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| **Level 5: Distinguished Command** | **Level 4: Strong** **Command** | **Level 3: Moderate** **Command** | **Level 2: Partial****Command** |
| Student can come up with **3 ways** to spend the tickets on 2 items so that it equals 20 or below.Students find three items to buy, that equals 20 or less. | Students can come up with 2 ways to spend the tickets on 2 items so that it equals 20 or below.**Student finds three items to buy, that equals 20 or less.** | **Students can come up with only 1 way to spend the tickets on 2 items so that it equals 20 or below.**Student finds three items to buy, but they equal more than 20. | Students comes up with ways to spend his tickets on 2 items, but they equal more than 20.Student finds three items to buy, but they equal more than 20. |

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| **End (Summary): (ex. Exit ticket, quick write)**Show a number 6-20. Ask students to give you 3 addends that equal a sum of 6-20 | Student Engagement:T-P-S, Whole group response, partners, independent Work |

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| 4 Hour ELD Weekly Lesson Plan | **Week of Lesson:**  | April 7-11, 2014 |
| Time of Daily Lesson: | 9:25-10:05 | Grade Level: | 1st Grade |
| **ELPS (English Language Proficiency Standard):** | [ ]  **I** |  **[x]  Il**  | [ ]  **III** | [ ]  **IV** | **[ ]  V** |  |
| **Proficiency Level:** | **[ ] PE** | **[ ] E** | **[x]  B** | **[x]  I** |  |  |
| **Time****Allocation: 30 min.**  | **Oral English Conversation** |
| **ELP Standard(s)/Performance Indicator(s):** **Student Friendly Language Objective:** | **II-LS-1-HI-5: responding to social conversations by rephrasing and repeating information, asking questions, and expressing one’s thoughts****II-LS-2-HI-2: independently reciting familiar rhymes, songs, chants and text with accurate pronunciation, prosody, voice projection and expression** |
| **VOCABULARY*** Multiple Addends
* Strategy
* Equal
* Addition
* Subtraction
* Commutative property
* Associative property
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| **Materials:** | -Vocabulary picturesThe Addends and the Sum Singalong<http://www.youtube.com/watch?v=Q7t6BPaytxI> |
| LESSON DELIVERY |
| **Monday:**  | TW review vocabulary words using pictures/TPR. SW echo respond to definition and TPR. *use sentence stem; The word \_\_\_\_\_ means\_\_\_*TW use the vocabulary word in an academic sentence.SW echo respond to the sentence.SW use the word in a complete sentence. *use sentence stem; This word is \_\_\_\_\_\_ I have heard it or seen it at \_\_\_. Another way I can use this words in a sentence is \_\_\_\_\_.* TW use inside/outside circle to share the sentences multiple times. |
|  **Tuesday:** | TW review vocabulary words using pictures/TPR. SW echo respond to definition and TPR. *use sentence stem; The word \_\_\_\_\_ means\_\_\_*TW use the vocabulary word in an academic sentence.SW echo respond to the sentence.SW use the word in a complete sentence. *use sentence stem; This word is \_\_\_\_\_\_ I have heard it or seen it at \_\_\_. Another way I can use this words in a sentence is \_\_\_\_\_.* TW use inside/outside circle to share the sentences multiple times. |
| **Wednesday:**  | TW review vocabulary words using pictures/TPR. SW echo respond to definition and TPR. *use sentence stem; The word \_\_\_\_\_ means\_\_\_*TW use the vocabulary word in an academic sentence.SW echo respond to the sentence.TW show video to teach songSW sing the song using correct pronunciation TW ask “what is your favorite part of the song?’SW respond using “My favorite part is \_\_\_. I like it because \_\_\_\_. |
|  **Thursday:**  | TW review vocabulary words using pictures/TPR. SW echo respond to definition and TPR. *use sentence stem; The word \_\_\_\_\_ means\_\_\_*TW use the vocabulary word in an academic sentence.SW echo respond to the sentence.TW show video to teach songSW sing the song using correct pronunciation TW ask “what is your favorite part of the song?’SW respond using “My favorite part is \_\_\_. I like it because \_\_\_\_. |
| **Friday:**  | GRADING DAY |

Content Objective:

[1.OA.1](https://www.dropbox.com/s/kxbm4lsxiz97hsj/1.OA.1%20Unwrapped%20document.docx?dl=1). 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.

*I can use strategies to solve addition and subtraction word problems.*

[1.OA.2](https://www.dropbox.com/s/112io7ld3773hk2/1.OA.2%20Unwrapped%20document.docx?dl=1). 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.

*I can solve word problems by adding 3 whole numbers.*

[1.OA.3](https://www.dropbox.com/s/90f3mcj7v5emfml/1.OA.3%20Unwrapped%20document.docx?dl=1). Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*

*I can use the commutative property of addition.*

 *I can use the associative property of addition.*

**1.NBT.4** 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.

*I can use manipulatives and pictures to help me solve problems within 100.*

*I can use math strategies to help me solve problems within 100.*

[**1.NBT.6**](https://www.dropbox.com/s/w0wj1q7xa6u6sqv/1.NBT.6%20Unwrapped%20document.docx?dl=1)**.** 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.

*I can subtract multiples of 10 under 100 and explain what I did.*

*1.OA.8. Determine* the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations: *8 + ? = 11, 5 =*  *– 3, 6 + 6 =* *.*

*I can tell the missing number in an addition or subtraction problem.*