

## UNIT 2 – ADDITION AS “ADDING TO” AND SUBTRACTION AS “TAKING FROM”

<p><b>Established Goals:</b> Standards</p> <p><b><u>Counting &amp; Cardinality</u></b> <b>K.CC.1</b> Count to 30 by ones and tens.</p> <p><b>K.CC.2</b> Count forward beginning from any given number up to 50 -- instead of having to begin at one.</p> <p><b>K.CC.3</b> Count and represent with a written numeral a number of objects to 10 Write numerals from zero to 10.</p> <p><b><u>Operations &amp; Algebraic Thinking</u></b></p> <p><b>K.OA.2</b> Use objects or drawings to represent and solve addition and subtraction word problems (within 10)</p> <p><b>K.OA.5</b> Fluently add within 5.</p> <p><b>K.MD.3</b> Classify and sort objects into given categories and count the objects in each category (up to 10 objects).</p> <p><b><u>Mathematical Practice Standards</u></b></p>	<b>Transfer</b>	
	<p><i>Students will be able to:</i></p> <p>Use a variety of strategies to correctly identify how many are in a set, and model number stories.</p> <p>Use patterns or structure to classify objects and understand the numerical relationship between the classified objects.</p>	
	<b>Meaning</b>	
	ENDURING UNDERSTANDING	ESSENTIAL QUESTIONS
	<p>Number stories have key words to help them know whether to add or subtract.</p> <p>Objects can be sorted using different attributes.</p> <p>You don't have to start at one when counting; you can count forward starting at any number.</p>	<p>What is the best way to organize objects to count them?</p> <p>What tools work for me to help me count objects?</p> <p>How can we sort?</p> <p>How can you count the number of objects?</p> <p>How can you solve a number story?</p>
	<b>Acquisition</b>	
	KNOWLEDGE	SKILLS
	<i>Students will know how to...</i>	<i>Students will be skilled at...</i>

<p><b>Construct viable arguments and critique the reasoning of others.</b></p> <p><b>Model with mathematics.</b></p> <p><b>Attend to precision.</b></p> <p><b>Look for and express regularity in repeated reasoning.</b></p>	<ul style="list-style-type: none"> <li>•Verbally count to 30 by ones and tens.</li> <li>•How to write numbers 0 to 10.</li> <li>•Identify a written number up to 10 and create the corresponding set.</li> <li>•Drawings and objects can be used to solve a number story (within 10).</li> <li>•Adding means putting together or drawing more objects and making more.</li> <li>•Subtracting means taking away objects or crossing out drawings and making less.</li> <li>•Objects can be sorted by a specific attribute. (color, size, shape, ect. )</li> <li>•Quantities can be combined or taken apart.</li> </ul>	<ul style="list-style-type: none"> <li>•Demonstrate that they can count from any given number other than one.</li> <li>•Use strategies to solve number stories. (objects, drawing a picture)</li> <li>•Sort a group of objects by one attribute.</li> <li>•Create a set from a written number.</li> <li>•Write numbers 0 to 10.</li> </ul>
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Vocabulary	Instruction and Pacing (suggested order to teach)	
ten frame, altogether, left, hundreds chart, counting forward, attribute, sort, does not belong, same, different	<b>Comparing and Ordering Numbers 1-10</b>	<b>2 Weeks</b>
	<b>Understanding Addition</b>	<b>1 ½ Weeks</b>
	<b>Understanding Subtraction</b>	<b>1 ½ Weeks</b>
	<b>Sorting &amp; Classifying Objects</b>	<b>1 Week</b>
	<b>Counting &amp; Cardinality (Count to 30 by ones &amp; tens)</b>	<b>Entire Unit</b>
	<b>Benchmark Testing &amp; Reteaching</b>	<b>2 Weeks</b>
Common Misconceptions	Proper Conceptions	
Students lose track of what they are counting	Mark or separate items being counted	
Students have difficulty identifying the correct numeral after counting a set	Continually say and write numbers 1-5 when counting objects	
The same number can look different depending on the manipulative	Larger or smaller manipulatives can show the same amount	
Students recite and count going beyond the actual number	Count and recite out loud one object at a time	

Zero means nothing	Zero is an empty set
Students do not match each item to determine which set has fewer	Draw lines to match items in different sets
Children do not recognize the correct number order	Use number lines and ten frames to show order of numbers
Students don't understand that a number tells how many	Counting objects in order tells how many and is a number name
Sorting – students mix up items if they don't recognize shapes or colors	Like shapes and colors have same attributes
Students have difficulty identifying same and different	Same is alike. Different are not alike
Students have difficulty choosing the object that belongs in the group	Objects in the group must be alike in some way
Add & Sub. – Students miscount counters in ten frames	Each object in the ten frame is equal to one
Add & Sub - Students reverse numbers when writing them in Add/Sub equations	Count first part of the group then write the number. Count second part of group.....
Add & Sub – Students forget which number stands for which color or manipulative	Break down each group of the part/part equation

### Resources

Common Core Standards, New Jersey Model Curriculum  
 Envisions Math Program Suggested Topics  
 Topic 4 Comparing Numbers 1-10  
 Topic 7 Understanding Addition  
 Topic 8 Understanding Subtraction  
 Topic 13 – Sorting, Classifying, Counting (Selected Lessons)  
 MANIPULATIVES GRAPHIC ORGANIZERS FOR UNIT 2 – Two-Sided Counters, Teddy Bear Counters, Unifix Cubes, Various Pattern Blocks for Sorting,  
 Ten Frames & Math Communicator/Smart Pal Templates  
<http://illuminations.nctm.org>  
<https://www.illustrativemathematics.org> <https://gradelevelmath.wikispaces.com/Kindergarten+Home>

#### **Additional Resources for ELL Learners**

<http://www.teach-this.com/esl-games/counting-games>  
<http://www.njctl.org/courses/math/kindergarten-math/daily-routines/>  
<http://www.njctl.org/courses/math/kindergarten-math/counting-and-cardinality/>  
<http://www.state.nj.us/education/modelcurriculum/math/ellscaffolding/ku2.pdf>

**Math site for parents and Math from different countries** <http://www.aamatematicas.com/>

### Differentiation and Accommodations

Provide graphic organizers  
 Provide additional examples and opportunities for additional problems for repetition  
 Provide tutoring opportunities  
 Provide retesting opportunities after remediation (up to teacher and district discretion)  
 Teach for mastery not test  
 Teaching concepts in different modalities  
 Adjust pace and homework assignments

**ELL Modifications**

- Allow students to count in their native language.
- Read picture books for counting and addition/subtraction to build vocabulary.
  - <http://www.the-best-childrens-books.org/teaching-addition.html>
  - <http://www.scholastic.com/teachers/top-teaching/2012/11/teaching-math-picture-books-part-1>
- Provide students with a variety of materials of various textures to increase tactile learning while counting.
- Allow students to act out word problems, moving around room as necessary.
- Use math manipulatives to solve all math problems (two color counters, teddy bear counters, etc.)
- After repeated experience with manipulatives, use “5 Friends” for students to reference for ways to make five.
  - <https://www.pinterest.com/pin/532128512198728991/>
- Children should move objects in a set as they recite the counting sequence.

Utilize Envision Spanish Version/Interactive Path and Printable

<b>21<sup>st</sup> Century Skills</b>	Critical Thinking, Creative Thinking, Collaborating, Communicating, and Technology Literacy
<b>Instructional Strategies</b>	<p>Fairfield Township School recognizes the importance of the varying methodologies that may be successfully employed by teachers within the classroom and, as a result, identifies a wide variety of possible instructional strategies that may be used effectively to support student achievement. These may include, but not be limited to, strategies that fall into categories identified by the Framework for Teaching by Charlotte Danielson:</p> <ul style="list-style-type: none"> <li>• Communicating with students</li> <li>• Using questioning and discussion techniques</li> <li>• Engaging students in learning</li> <li>• Using assessment in instruction</li> <li>• Demonstrating Flexibility and Responsiveness</li> </ul>
<b>Interdisciplinary Connections</b>	ELA, Science, and Technology

### Performance Task

Your task is to go shopping for your family. Your job is to get fruits and vegetables, you can't get more than 10 fruits and vegetables altogether. Your challenge is to sort the fruits and vegetables and write how many are in each group. Then you will draw a number story for your friend to solve using your fruits and vegetables.

(Note: If you are unsure of whether it's a fruit or vegetable please ask the teacher.)

#### Rubric

3- The student did not get more than 10 fruits and vegetables; the student sorted them and was able to explain how they sorted them. They correctly wrote the number for each group. They also were able to draw a number story. (5 tasks)

2- Was able to complete 3 or 4 of the tasks correctly.

1-Was able to complete 1 or 2 of the tasks correctly.

0-Didn't even attempt.

## ASSESSMENTS

#### Suggested Formative Assessment

Problem of the Day

Lesson Quizzes

Exit Ticket

Anecdotal Records (Topic Observation Checklist)

Suggested Summative Assessment - Grade Level developed Unit/Envisions Topic Tests/ Ed Connect Tests/ State Unit Benchmark/Performance Task