

Core Content

Cluster Title: Add and subtract within twenty.
Standard 5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
MASTERY Patterns of Reasoning:
Conceptual: Students will understand counting on to solve addition problems. Students will understand counting backward to solve subtraction problems.
Procedural: Students can use the strategy of counting on to solve addition. Students can use the strategy of counting backward to solve subtraction problems.
Representational: Students can model counting on and counting back to solve sums and differences.

Supports for Teachers

Critical Background Knowledge
Conceptual: Students will have number sense. Students will know how to count to 20. Students will know how to count forward and backward.
Procedural: Student can recognize numerals 0-20. Student can demonstrate counting forward and backward using manipulatives.
Representational: Student can model counting forward and backward in math facts up to 20.

Academic Vocabulary and Notation	
counting forward, counting backward, numerals	
Instructional Strategies Used	Resources Used
<p>Teacher may begin instruction by modeling a guided practice for addition and subtraction problem. Then continue the guided practice by using students to relate counting to math problems. Next, allow the students to practice problems independently by counting strategies.</p> <p><u>Get on the Bus!</u> Line up chairs like seats on a bus. You can act as the bus driver and sit in the front. You can even use a hoop or a plate as the steering wheel. Then have a group of students get on the bus. Pretend to pick up 1, 2, or 3 more students. As the bus driver, ask the class to find out how many people are on the bus. "There were 5 students on the bus, and then 2 more students got on. How many students are on the bus now?" Have volunteers write a number sentence on the board. Continue with more examples and have other students take the driver's seat and create the story problem.</p> <p><u>Math Stories</u> Choose an addition number sentence, such as $8 + 2 = 10$. Then challenge your students to write or tell a story that describes the number sentence. You can provide a model, such as "Once upon a time there were 8 mice who lived in a forest. One day, 2 mice from the city came to visit. All the mice had a picnic together. The 10 mice had fun playing." Encourage your students to be creative. You may wish to have small groups or pairs create a story together and act it out in front of the class.</p>	<p>Barbieri McGrath, Barbara. <i>The M&M's Brand Chocolate Candies Counting Board Book</i>. Charlesbridge Publishing, 1997.</p> <p>Hutchings, Amy. <i>The Gummy Candy Counting Book (Read with Me Cartwheel Books (Scholastic Paperback))</i>. Cartwheel, 1997.</p> <p>Rhodes, Immacula. <i>Shoe Box Learning Centers: Counting: 30 Instant Centers with Reproducible Templates and Activities That Help Kids Practice Important Math Skills—Independently! (Shoe Box Learning Centers)</i>. Scholastic, Inc., 2005.</p> <p>Join Them Together/Take Them Away: http://www.learnnc.org/lp/pages/3649</p> <p>Counting Back and Counting On: http://illuminations.nctm.org/LessonDetail.aspx?ID=L35</p>

What's in the Bag?

Give small groups a lunch bag. Have one student put counters inside the bag and write the number on the front of the bag. Then have him/her present 0, 1, 2, or 3 additional counters. Have other students add to find the sum. The bag prevents students from counting each item one by one. Have group members work together to find the sum and use different strategies. You may want to provide number lines or hundred charts to help students add. Then have students swap roles until everyone has had a chance to put counters into the bag.

Snacking On 1, 2, or 3

Almost every meal is an opportunity to have fun with math. Provide a small group of healthful snacks such as raisins, grapes, pretzels, or nuts. Present a group of raisins to a child and have him/her count on 1, 2, or 3 raisins to find the total. Write the number sentence together. You may want to let a child write the number sentence in yogurt on a plate, then wipe it away with the counters and eat them all as a snack.

May I Have One More?

Form a group of treats or toys and count them together. Then ask a child, "May I have one more, please?" Have the child add to the group and count up by one. You can repeat the activity asking for two or three more. Then you can switch roles with the child.

Assessment Tasks Used	
<p>Skill-Based Task:</p> <p><i>Addition:</i> Example: Given number 8, count on to 11. 8, __, __, 11 (counting on using manipulatives, representations, etc.)</p> <p><i>Subtraction:</i> Example: Given number 11, count back to 8. 11, __, __, 8 (counting back using manipulatives, representations, etc.)</p>	<p>Problem Task: Refer to examples in the instructional samples and assess separately.</p>