PERFORMANCE TASK: The Candy Store

Approximately 1-2 Days

STANDARDS FOR MATHEMATICAL CONTENT

MCCK.OA.1 Represent addition and subtraction with objects, fingers, mental i drawings[1], sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

MCCK.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

MCCK.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).

MCCK.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

MCCK.OA.5 Fluently add and subtract within 5

STANDARDS FOR MATHEMATICAL PRACTICE

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

BACKGROUND KNOWLEDGE

In developing the meaning of addition and subtraction with whole numbers, students should also encounter the properties of operations, such as the commutativity and associativity of addition. Although some students discover and use properties of operations naturally, teachers can bring these properties to the forefront through class discussions (NCTM Principles and Standards, 2012).

ESSENTIAL QUESTIONS

- What happens when I decompose a quantity?
- How can I use different combinations of numbers to represent the same quantity?

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- How can I represent problems using objects, pictures, and numbers?
- Why is it important that I can build the number combinations for the number 5?
- How do you know when your answer makes sense?

MATERIALS

- *The Penny Pot* by Stuart Murphy
- Recording sheet and cut out candy (if needed)

GROUPING

whole/individual/small group task

TASK DESCRIPTION, DEVELOPMENT AND DISCUSSION

Begin by reading *Penny Pot* (or a similar book) to the class and introduce the task. In this task two sisters go to the candy store and their mother has given them a nickel to spend. The sisters spend the whole nickel and each of them buys a piece of candy. Students must determine all of the possible combinations of candy they could possibly buy. Be sure to discuss vocabulary and clarify any misconceptions students may have with the task.

Part I
Emma and Audrey went to the candy store and they had 1 nickel to spend between the two of them. If they spent the whole nickel and each got 1 item from the candy store, what are some of the items they could have bought?

FORMATIVE ASSESSMENT QUESTIONS

- Are there any more was to decompose the number 5? How do you know?
- Why did you decide to do it his way?
- Are you sure that you have found them all? Why do you think so? How do you know?
- Did you develop a shortcut to find your answers?
- Did you identify any patterns or rules? Explain!

DIFFERENTIATION

Extension

- As an extension to this activity the amount of money and/or candy purchased could be increased. In addition, students could find all of the possible combinations of candy that could be bought using the entire nickel. In this extension more than two items can be bought. Example: 5 suckers
  1 lollipop and 3 suckers
  2 lollipops and 1 sucker and 3 apples

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Some students may realize that they can have as many apples as they want and the amount of money spent does not change the total. The zero property can be discussed ONLY IF IT IS IDENTIFIED BY THE STUDENTS.

Intervention

- Allow students to work through the stages at a speed that is appropriate for their abilities. Some students may need additional experiences acting out problems, using manipulatives, or drawing pictures.
- Students can use cut out pictures of candy and physically place them in combination pairs that make 5.
- Students that have difficultly fixing a quantity to the candy can have cost of each item written on the picture.

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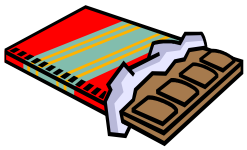
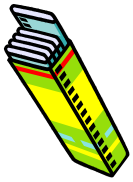
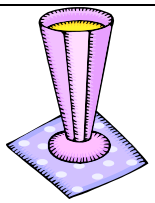
The Candy Store

Emma and Audrey went to the candy store and they had 1 nickel to spend between the two of them. If they spent the whole nickel and each got 1 item from the candy store, what are some of the items they could have bought?

					
2 cents Lollipop	4 cents Chocolate Bar	3 cents Gum	5 cents Milkshake	1 cent Sucker	Free Apple

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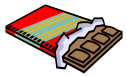
The Candy Store

Emma and Audrey went to the candy store and they had 2 nickels to spend between them. If they spent both nickels and each got only 1 item from the candy store, what are some of the items they could have bought?

										
Free Apple	**1 cent** sucker	**2 cents** lollipop	**3 cents** gum	**4 cents** Chocolate bar	**5 cents** milkshake	**6 cents** chips	**7 cents** pop	**8 cents** jellybeans	**9 cents** popcorn	**10 cents** Hotdog & pop

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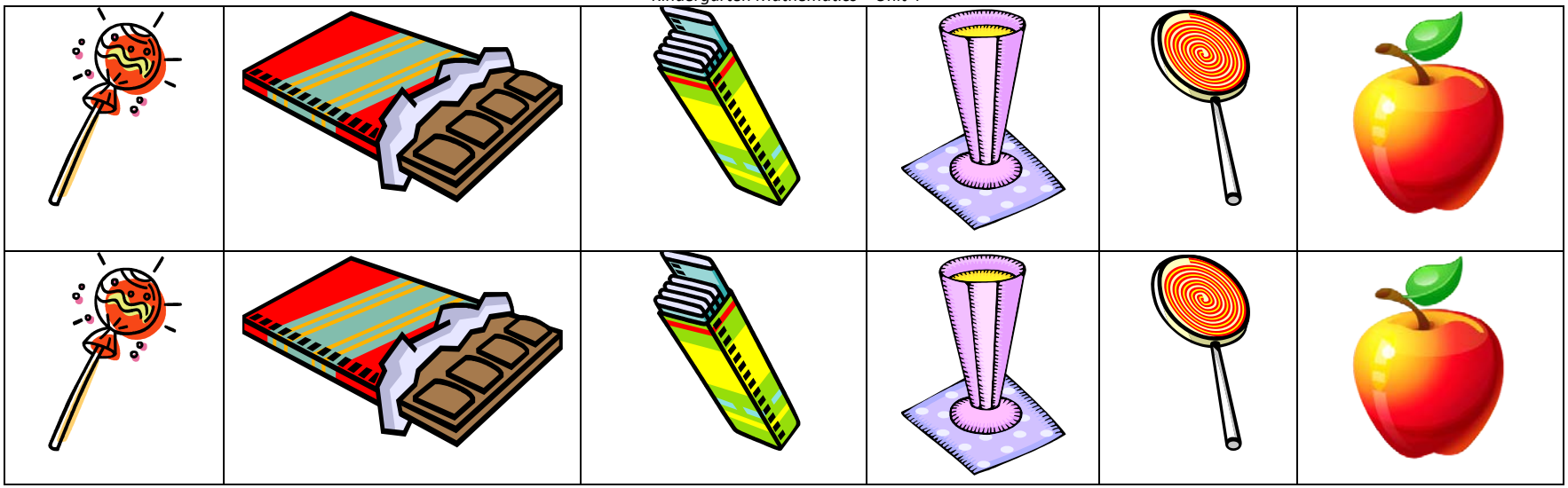
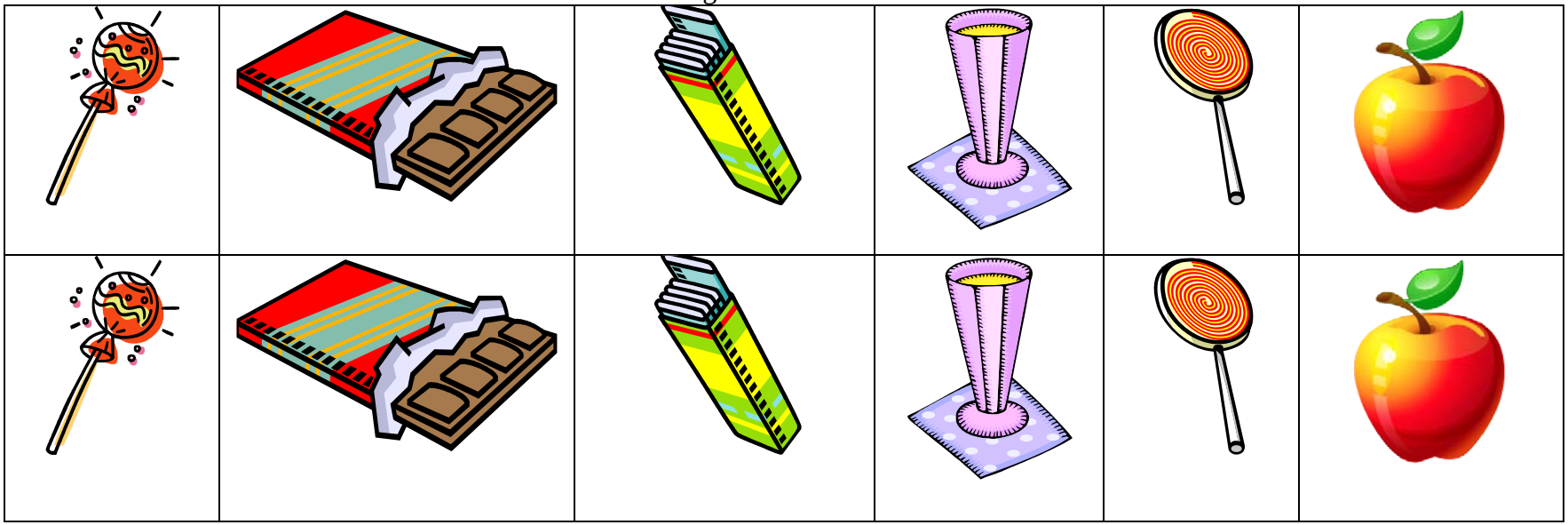


----------cut along line----------



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			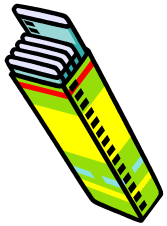	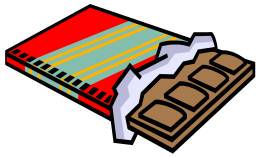	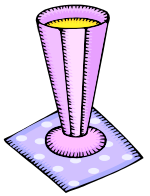
	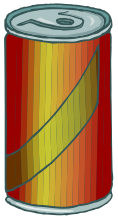			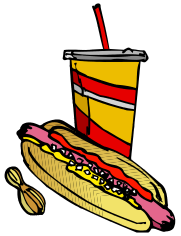	
			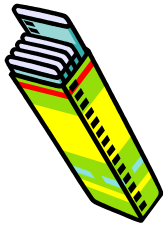	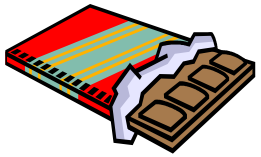	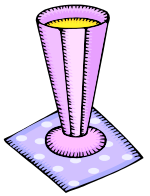
	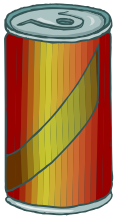			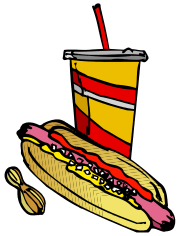	

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