How Do I Make Change for a Dollar?

Subject: Math
Grade Level: K - 5th grade
Summary: Students will apply mathematics strategies of counting, adding, and subtracting decimal amounts to create change for a dollar.

BIG QUESTION

How do I make change for one dollar?

TIMING

45 minutes

LEARNING OBJECTIVES

- Students will apply mathematics strategies of counting, adding, and subtracting decimal amounts to create change for a dollar.
- Students will be introduced to the economics of making change when shopping.

MATERIALS

- Coins for making change (one set per pair of students)
- U.S. Mint website to project images of coins (link: https://www.usmint.gov/learn/coins-and-medals/circulating-coins)
- A sheet listing 6 purchasing scenarios to act out (one per pair)
- A worksheet listing 3 scenarios to work out independently with space to write out math sentences (one per student)

PROCEDURE

Lesson Steps

1. After introducing the students to the value of all currently circulating U.S. coins (including cents, nickels, dimes, quarters, half dollars and dollar coins), explain that the students will be exploring how to make change for a dollar.
2. Explain that there are different ways to make change: either subtract the cost from the amount given or count up from the cost until they reach the amount given. Today you will be counting up.
3. Ask one student to be the shopper and one to be the clerk to model the activity for the class. Explain that the shopper wants to purchase one pencil which costs 25 cents. Have the shopper give the clerk 1 dollar, and the clerk count aloud how much change to give back (have the clerk start at 25 cents and count out 50 cents, 75 cents, 1 dollar, giving back three quarters). Ask other students to be shopper and clerk and model another simulation for the class. Repeat until students grasp this concept.
4. Provide the students with a sheet listing 6 different scenarios to act out in pairs.
5. Once the students seem comfortable with making change, provide each student with 3 more scenarios to work out independently. Provide manipulatives to help the students visualize their work. Then have the students write out number sentences to show how they solved each problem.

ASSESSMENT

- Observe group interactions for comprehension of the lesson objectives.
- Assess each student's worksheet of math sentences for comprehension of the lesson objectives.

DIFFERENTIATE

Have advanced students write and solve their own scenarios and use larger money amounts.

STANDARDS

Common Core Standards

CCSS.Math.Content.2.OA.B.2

Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers.

National Standards

Discipline: Mathematics **Domain**: K-2 Number and Operations **Cluster**: Compute fluently and make reasonable estimates. **Grade(s)**: Grades K–2 **Standards**: In K through grade 2 all students should

- develop and use strategies for whole-number computations, with a focus on addition and subtraction.
- develop fluency with basic number combinations for addition and subtraction; and
- use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators.

Discipline: Mathematics **Domain**: K-2 Number and Operations **Cluster**: Understand meanings of operations and how they relate to one another. **Grade(s)**: Grades K–2 **Standards**: In K through grade 2 all students should

- understand various meanings of addition and subtraction of whole numbers and the relationship between the two operations.
- understand the effects of adding and subtracting whole numbers; and
- understand situations that entail multiplication and division, such as equal groupings of objects and sharing equally.

Discipline: Mathematics **Domain**: K-2 Number and Operations **Cluster**: Understand numbers, ways of representing numbers, relationships among numbers, and number systems. **Grade(s)**: Grades K–2 **Standards**: In K through grade 2 all students should

- count with understanding and recognize "how many" in sets of objects.
- use multiple models to develop initial understandings of place value and the base-ten number system.
- develop understanding of the relative position and magnitude of whole numbers and of ordinal and cardinal numbers and their connections.
- develop a sense of whole numbers and represent and use them in flexible ways, including relating, composing, and decomposing numbers.
- connect number words and numerals to the quantities they represent, using various physical models and representations; and
- understand and represent commonly used fractions, such as 1/4, 1/3, and 1/2.

Group Scenarios

One student will be the clerk and one student will be the shopper.

Scenario 1:

A shopper wants to purchase a lollipop for $0.30. The shopper pays with a dollar bill. How much change will the clerk give?

Scenario 2:

A ruler costs $0.80. A shopper wants to purchase one and pays with $1.00. How much change will the clerk give?

Scenario 3:

A shopper buys 2 pencils and an eraser for $0.98. The shopper pays $1.00. How much change will the clerk give?

Scenario 4:

An apple costs three quarters. The shopper buys one using $1.00. How much change will the clerk give?

Scenario 5:

A shopper buys 3 peppermints for a total of $0.65 and pays with $1.00. How much change will the clerk give?

Scenario 6:

An iced tea costs $0.99. How much change will the clerk give if the shopper pays with $1.00?

Individual Scenarios

1. You pay for a birthday card with $1.00. The card costs $0.85. How much change will you receive?

2. A small book of stickers costs $0.78. How much change will you receive if you pay with $1.00?

3. A bouncy ball costs $0.55. You pay with $1.00. How much change will you receive?

Group Scenario Answers:

1. $0.70; 2. $0.20; 3. $0.02; 4. $0.25; 5. $0.35; 6. $0.10

Individual Scenario Answers:

1. $0.15; $0.22; $0.45