

Race To a Dollar!

Reporting Category Measurement

Topic Identifying and determining coin values

Primary SOL 1.7 The student will

- a) identify the number of pennies equivalent to a nickel, a dime, and a quarter; and
- b) determine the value of a collection of pennies, nickels, and dimes whose total value is 100 cents or less.

Related SOL 1.1a, 1.2

Materials

- Pennies, nickels, dimes, quarters, dollar bills
- Number cubes

Vocabulary

penny, nickel, dime, quarter, cent, dollar, equivalent, equal to, value, change, bills

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Have students play a coin-value game in groups of two or three. Give each group one number cube, one dollar bill, and a coin bag containing a collection of pennies, nickels, dimes, and quarters whose value is 100 cents.
2. Each group puts its coin collection in the center of the play area. Players take turns rolling the number cube and collecting the number of pennies shown on the cube. All coins collected must be openly displayed in front of the player who holds them. After each turn, the player must state the total amount of money he/she has and the coins used to create the total.
3. When a player is able to make an exchange to get a coin of greater value (e.g., 5 pennies for a nickel, 2 nickels for a dime, 2 dimes and a nickel for a quarter, etc.), he/she must do so. If a player fails to make an exchange during his/her turn and is caught by the other players, the player loses a turn.
4. Play continues until a player has 4 quarters and exchanges them for the dollar bill.

Assessment

- **Questions**
 - “Should a player ever have 3 dimes (or 7 pennies or 3 nickels, etc.) at any time during the game? Why, or why not?”
 - “If you add 10 pennies more to your final score, how much money would you have? If you subtracted 5 pennies from your final score, how much would you have?”
- **Journal/Writing Prompts**
 - “Write about the game you played. Describe how much more money one player had at the end of the game than the other player or players had.”

- “Explain how this game helped you learn about counting and trading money. Describe another game you could create that involves counting and exchanging money.”
- **Other**
 - Circulate and observe students as they play. Make note of any student who seems to be struggling with the exchanges, as well as students who may be ready for more challenging amounts of money.

Extensions and Connections (for all students)

- Extend the game to amounts larger than one dollar, e.g., first to \$1.30.
- Modify the game by allowing each player to have only 10 turns. The player with the greatest amount of money after 10 turns wins.
- Reverse the game so that players start with a dollar bill, and the first player to “spend” all his/her money wins.
- Modify the game by allowing players to use more than one number cube.

Strategies for Differentiation

- Have students play “first to collect a quarter” and then build up to greater amounts.
- Have students use a teacher-created recording sheet to help them keep track of their money.
- Provide a chart that provides a list of coins and their equivalents, e.g., one penny = 1 cent.
- Provide an “exchange sheet” that lists money exchanges, e.g., a picture showing five pennies = one nickel, two nickels = one dime, etc.
- Provide a sentence frame such as, “I have _____. I made it with _____.”
- Provide a hundred chart that has a picture of a nickel on every multiple of 5, a dime on every multiple of 10, and a quarter on every multiple of 25 in order to provide visual cues for students.