

2.MD Visiting the Arcade

Alignments to Content Standards: 2.MD.C.8

Task

Amy went to the arcade. At the arcade, people can buy tokens to use for the games.

- a. Amy paid \$5 to get some tokens. Show two different ways she could have paid using some bills and some coins.
- b. Amy finished playing games. She has 4 tokens left over. Can she use these at the grocery store to buy some food? Why or why not?
- c. The arcade trades tokens for 15 cents. How much money could Amy trade for her 4 tokens? Can she use these at the grocery store to buy some food? Why or why not?

IM Commentary

Cluster 2.MD.C indicates that students should be able to "work with time and money." When students are studying money, it is good for them to think about what counts as money and what does not. The purpose of this task is to introduce students to the characteristics of money in a financial literacy sense as well as to solve problems involving money. Money must be:

- Stable in value - the value of money should be constant over long periods of time.
- Generally accepted - whatever is used as money must be accepted by everyone.
- Durable - it must be able to withstand the wear and tear of many people using it.
- Divisible - it must be easily divided into small parts so people can make purchases at any price.
- Portable - it must be easy to carry.

The tokens in this task can not be used at a grocery store, so they are not generally accepted and therefore are not considered money. The bills and coins Amy uses at the arcade are divisible, as shown by having the student show how to make \$5 in two different ways.

Depending on how comfortable students are with the value of different coins, they may benefit from having play money to help them count out and think about different combinations of coins and bills that make \$5.

This task focuses on a Big Idea of Financial Literacy- The Properties of Money. It is part of a set collaboratively developed with *Money as You Learn*, an initiative of the President's Advisory Council on Financial Capability. Integrating essential financial literacy concepts into the teaching of the Common Core State Standards can strengthen teaching of the Common Core and expose students to knowledge and skills they need to become financially capable young adults. A mapping of essential personal finance concepts and skills against the Common Core State Standards as well as additional tasks and texts will be available at <http://www.moneyasyoulearn.org>.

Edit this solution

Solution

a. Here is one solution:

4 dollars and 4 Quarters will work:

$$25\text{¢} + 25\text{¢} + 25\text{¢} + 25\text{¢} = 100\text{¢}$$

$$100\text{¢} = \$1$$

$$\$4 + \$1 = \$5$$

Here is another:

2 dollars, 8 quarters, 5 dimes, 9 nickels, 5 pennies

4 quarters makes one dollar, so 8 quarters makes 2 dollars.

5 dimes is 5 tens: $10\text{¢} + 10\text{¢} + 10\text{¢} + 10\text{¢} + 10\text{¢} = 50\text{¢}$

9 nickels is 9 fives: $5\text{¢} + 5\text{¢} + 5\text{¢} + 5\text{¢} + 5\text{¢} + 5\text{¢} + 5\text{¢} + 5\text{¢} + 5\text{¢} = 45\text{¢}$

5 pennies is 5¢

$45\text{¢} + 5\text{¢} = 50\text{¢}$

$50\text{¢} + 50\text{¢} = 100\text{¢} = \1

$\$2 + \$2 + \$1 = \5

b. Amy cannot use the leftover tokens at the grocery store because they will not accept them.

c. If Amy has 4 leftover tokens, she could exchange them for 60¢.

$15\text{¢} + 15\text{¢} + 15\text{¢} + 15\text{¢} = 60\text{¢}$

In principle, Amy could use this money to buy something at the grocery store because grocery stores accept money. Of course, \$0.60 won't buy much at the store these days.



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