Counting Coin Collections

Strand: Measurement and Geometry

Topic: Determine the value of a collection of like coins whose total is 100 cents or less

Primary SOL: 1.8 The student will determine the value of a collection of like coins (pennies, nickels, or dimes) whose total value is 100 cents or less.

Related SOL: 1.1

Materials

- Plastic coins (pennies, nickels, and dimes)
- 50 charts
- Handful of Coins Recording Sheet (attached)

Vocabulary

amount, cents, collection, coins, count, dime, nickel, penny, value

Student/Teacher Actions: What should students be doing? What should teachers be doing?

1. Begin the lesson by identifying and reviewing the penny, nickel, and dime with students. Have students brainstorm characteristics of each and discuss the value of each coin and how you count a set of pennies (by ones), a set of nickels (by fives), and a set of dimes (by tens). Record student ideas on chart paper/board so they can refer to it.

2. Explain to students that they will practice counting a collection of like coins with the class or as a small group. Display a 50 chart for students to see. Tell students that you will practice counting pennies using the 50 chart. Say: *"What's the value of one penny?" "Two pennies?" "Count aloud as each coin is placed on the number chart."* Review that when counting a collection of pennies, you count by ones.

3. Next, explain to students that you will practice counting dimes. Say: *"What's the value of one dime?" "Two dimes?" "Count aloud as each dime is placed on the 50 chart."* (The teacher will place each dime on the counting by tens numbers.) *"What counting pattern did you use?"*

4. Then the teacher begins again with nickels, and says: *"What's the value of one nickel?" "Two nickels?" "Count aloud as each nickel is placed on the 50 chart." "When we use nickels, what counting pattern did we use?"*

5. Introduce the activity, A Handful of Coins, to students. Explain that they will reach into a bowl/container of pennies, nickels, and dimes and grab a handful of coins.

6. Next, students will sort their coins by type, placing all of the pennies in a group, all of the nickels in a group, and all of the dimes in a group.

7. Students will record the number of pennies, nickels, and dimes that they have on the recording sheet. They will tell how many of each coin they have and what the value of them is.

8. Students will work with a partner to determine whether they counted the amounts correctly.

9. Gather students together to discuss student strategies for counting collections of like coins.

Assessment

- **Questions**
    - I have 20¢ in my pocket. I have only nickels in my pocket. How many nickels do I have?
    - How many dimes are in 70¢? How many nickels? What do you notice about how many dimes it takes to make 70¢ and how many nickels it takes to make the same amount?

- **Journal/writing prompts**
    - Brian has nine dimes. He wants to buy a piece of candy for 85¢. Does he have enough money? How do you know?
    - Jessica has five nickels. She wants to buy ice cream for 25¢. Will she have enough money? How do you know?

- **Other Assessments**
    - Show different ways to make 40 cents using pennies. Now make 40 cents using nickels. Repeat using dimes. What do you notice about how many pennies it takes to make 40 cents in comparison to how many nickels and how many dimes?
    - Show students an amount such as 85¢. Have them make that amount using plastic coins. Observe how students approach the problem. Are they counting out pennies one at a time or using nickels to count by fives? Do they use different types of coins to make this amount?

Extensions and Connections (for all students)

- Use a 100 chart to count by ones, fives, and tens to 100 instead of a 50 chart.

- Students could group pennies and nickels together to figure out the value of those two groups of coins. They could group pennies and dimes together to find the total value. Discuss the student strategies for counting the coins.

- Students need many opportunities to count coins. Additional activities that could be introduced and then placed in stations include:
    - **Coin Match:** Use cards with values on them as well as cards with groups of coins that match the amounts. Have students flip two cards over and try to match the value with the picture of the coins.
    - **Coin Bags:** Have pre-made bags (labeled A, B, C, etc.) with collections of like coins in each bag. Some bags should have just pennies, some with just nickels, and some with just dimes. Have students count each bag of coins and record the values for each bag in his/her mathematics journal. For example, bag A = _____ cents.

- **Coupons:** Have precut coupons laminated with a variety of amounts. Have students pull a coupon from an envelope/bag and make that amount using plastic coins.

Strategies for Differentiation

- Use a 50 chart or 100 chart for students who may need visual support for skip counting by ones, fives, and tens as they count collections of like coins. The fives and tens can be highlighted to provide even more support.
- Some students may need more time identifying the types of coins and how to skip count by ones, fives, and tens.
- For students who struggle, use only pennies, nickels, or dimes within one sitting.
- For students with fine-motor difficulties, use larger, thicker coin models or a computer application for digital manipulation of coins.

Note: The following pages are intended for classroom use for students as a visual aid to learning.

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50 Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

50 Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

A Handful of Coins

Pennies										
Nickels										
Dimes										

I have _____ pennies. The value of them is _____ ¢.

I have _____ nickels. The value of them is _____ ¢.

I have _____ dimes. The value of them is _____ ¢.