

Just in Time Quick Check

Standard of Learning 1.NS.1

Strand: Number and Number Sense

Standard of Learning 1.NS.1

The student will utilize flexible counting strategies to determine and describe quantities up to 120.

Students will demonstrate the following Knowledge and Skills:

- a) Count forward orally by ones from 0 to 120 starting at any number between 0 and 120.
- b) Count backward orally by ones when given any number between 1 and 30.
- c) Represent forward counting patterns when counting by groups of 5 and groups of 10 up to 120 using a variety of tools (e.g., objects, coins, 120 chart).
- d) Represent forward counting patterns when counting by groups of 2 up to at least 30 using a variety of tools (e.g., beaded number strings, number paths [a prelude to number lines], 120 chart).
- e) Group a collection of up to 120 objects into tens and ones, and count to determine the total (e.g., 5 groups of ten and 6 ones is equal to 56 total objects).
- f) Identify a penny, nickel, and dime by their attributes and describe the number of pennies equivalent to a nickel and a dime.
- g) Count by ones, fives, or tens to determine the value of a collection of like coins (pennies, nickels, or dimes), whose total value is 100 cents or less.

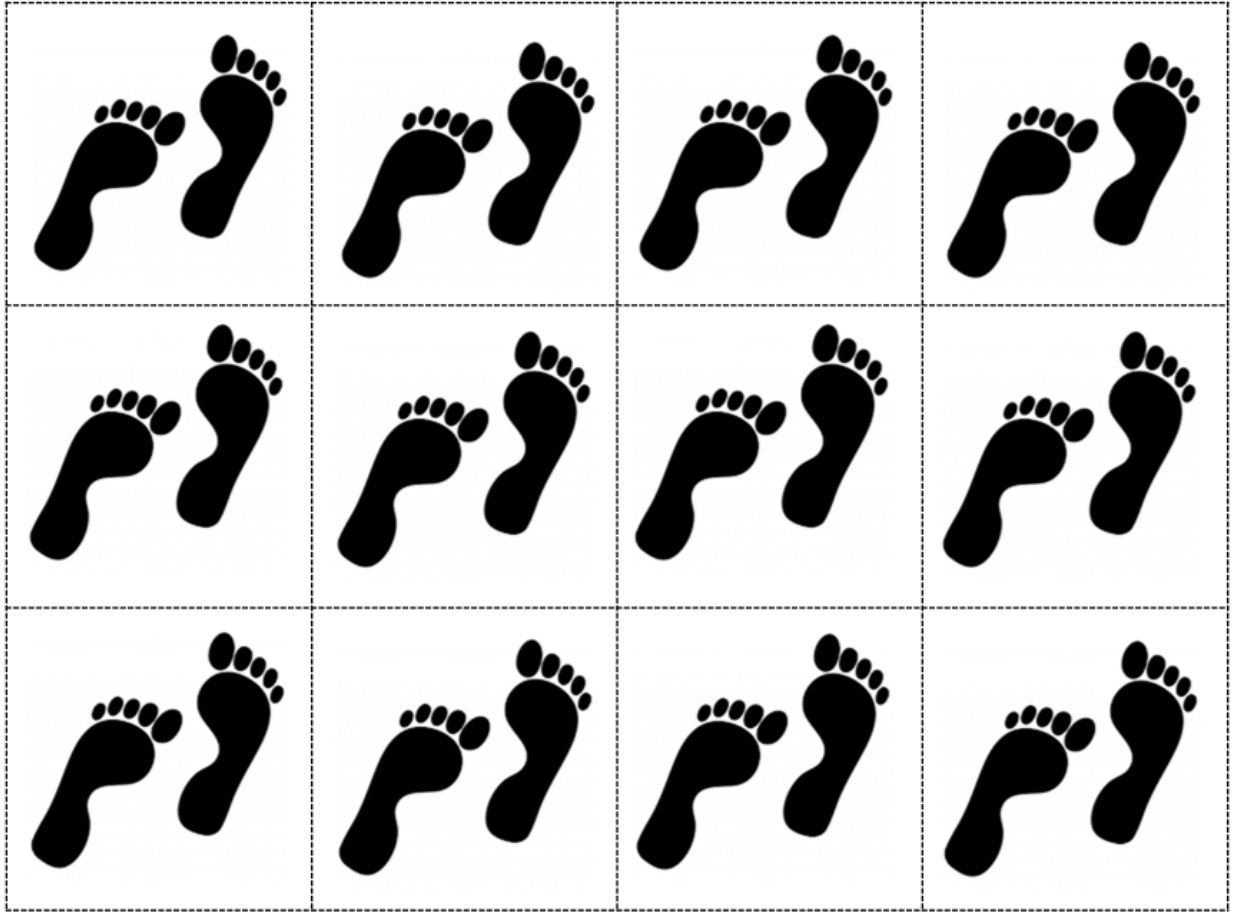
Just in Time Quick Check

Just in Time Quick Check Teacher Notes

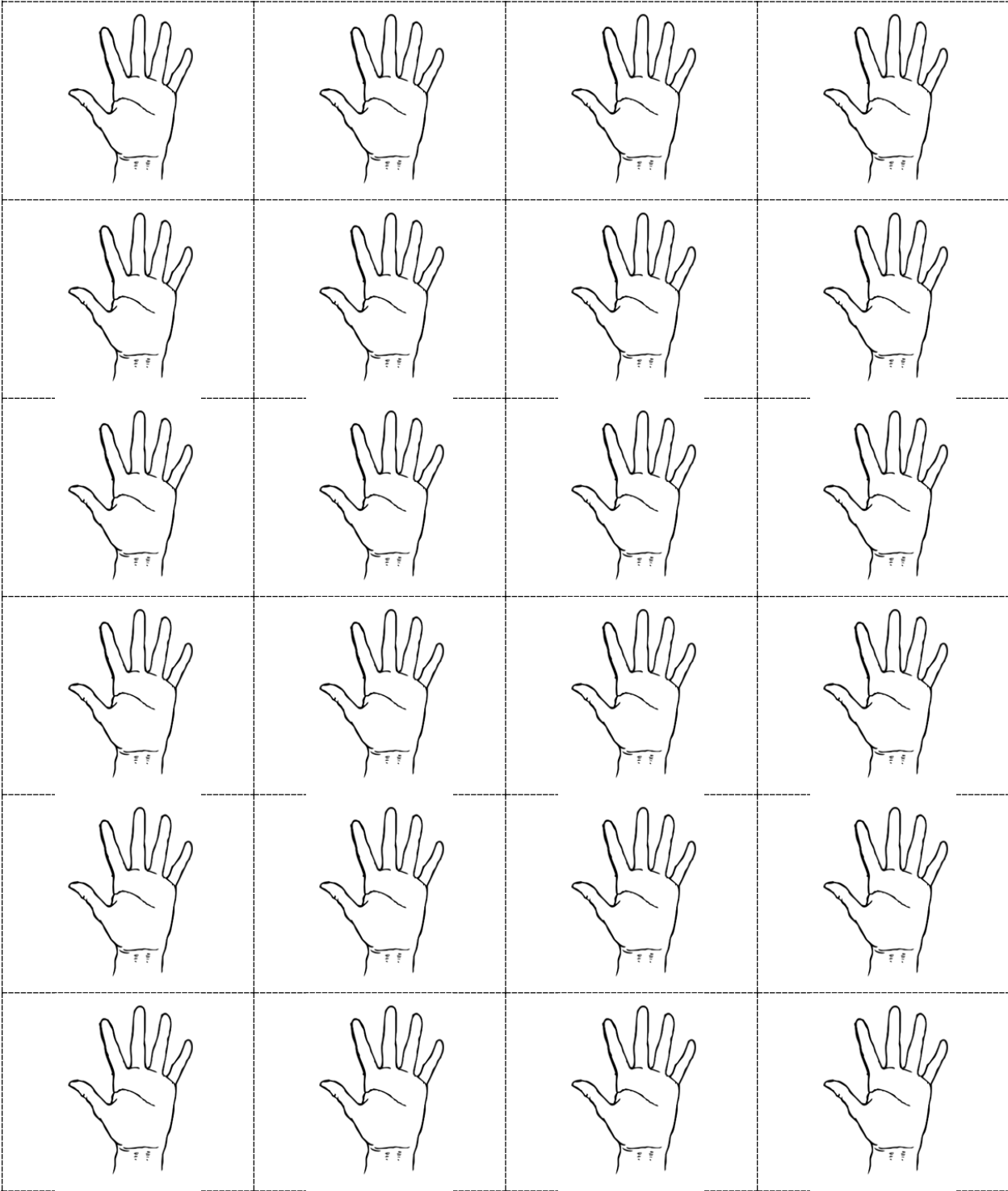
Supporting and Prerequisite SOL: K.NS.1, K.NS.2, 1.NS.2

Just in Time Quick Check 1.NS.1: Student Interview

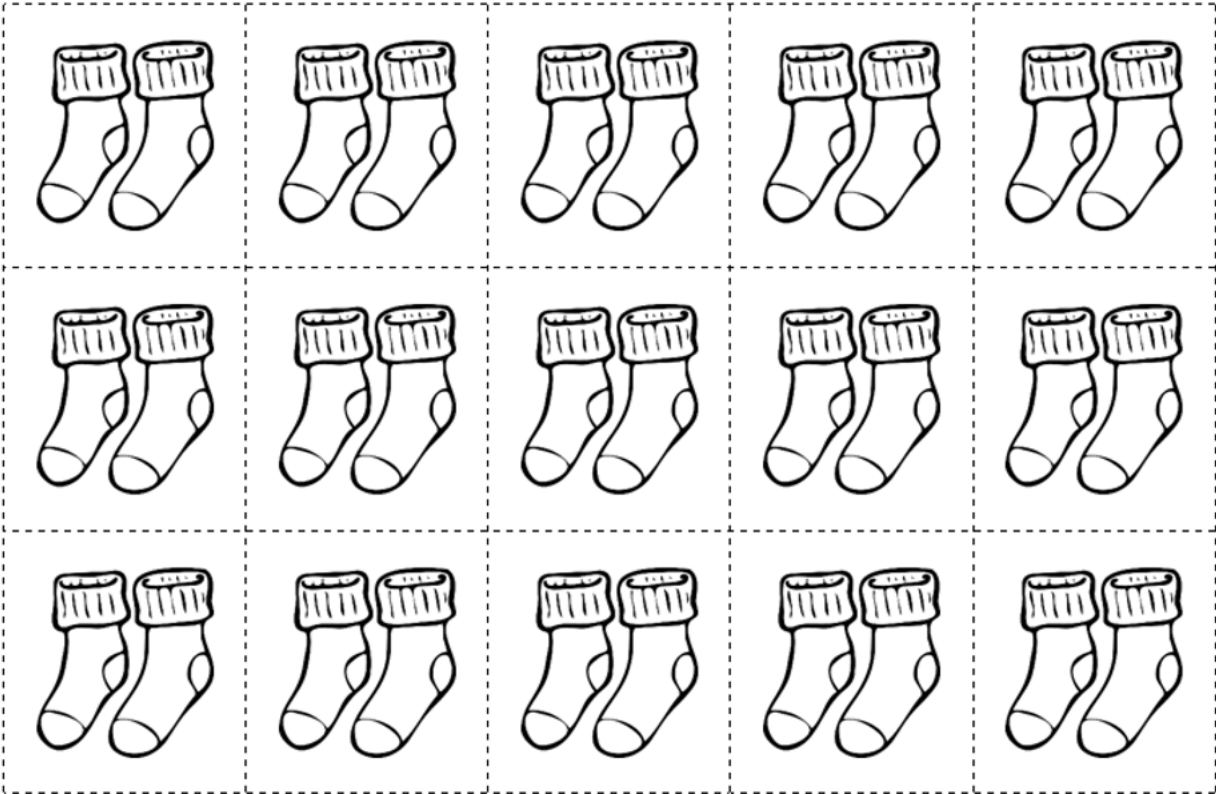
Cards for counting toes – Task 1



Cards for counting fingers – Task 2



Cards for counting socks – Task 3



Teacher Note: For this interview, you will need 74 cubes, the three sets of counting cards on pages 2-4 (toes, hands, socks), and a collection of real coins (at least 15 pennies, at least 12 nickels, at least 8 dimes).

1. Ask the student to count, starting at 0. Stop the student at their first error. Record the highest number the student can count to accurately or stop the student at 120.

The student can count to: _____

2. Ask the student to count:
 - a) Starting at 34. Stop the student at 51.

Student Response:

- b) Starting at 88. Stop the student at 103.

Student Response:

3. Ask the student to count back from 30.

If the student cannot count back from 30, ask them to count back from 20.

If the student cannot count back from 20, ask them to count back from 15.

4. Say: Use the picture cards to count the toes for me. Please count by tens.

The student could accurately count to _____

5. Say: Use the picture cards to count the fingers for me. Please count by fives.

The student could accurately count to _____

6. Say: Use the picture cards to count the socks for me. Please count by twos.

The student could accurately count to _____

7. Give the student a pile of 74 cubes. Ask the student to group them into sets of tens and ones. Ask the student to tell you how many cubes there are.
 - a) If student correctly creates 7 piles of ten and 1 pile of four, go to #8.
 - b) If student incorrectly groups the piles, give the student 32 cubes and ask the student to group them into sets of tens and ones. Ask the student to tell you how many cubes there are.

Student Response:

Give the student the collection of pennies, nickels, and dimes for #8 - #10.

8. Can you sort these coins by color for me? Explain how you sorted these.

Student Response:

9. Can you sort these coins by size for me? Explain how you sorted these.

Student Response:

10. Can you name the different coins that we have in our collection?

Student Response:

Give the student one nickel, one dime, and a set of 15 pennies for #11 - #12.

11. Say: Can you show me the nickel? Now can you count the number of pennies that are equivalent or equal to the value of a nickel?

Student Response:

12. Say: Can you show me the dime? Now can you count the number of pennies that are equivalent or equal to the value of a dime?

Student Response:

13. Provide students with a collection of 12 nickels. Have students count the coins to determine the total amount. Ask: How much money do you have?

Student Response:

14. Provide students with a collection of 8 dimes. Have students count the coins to determine the total amount. Ask: How much money do you have?

Student Response:

1.NS.1 Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

1. Ask the student to count, starting at 0. Stop the student at their first error. Record the highest number the student can count to accurately or stop the student at 120.

There are several common errors or misconceptions students may demonstrate when completing this task. Students may stop at the highest number they know (e.g., 10 or 20). This may happen because they struggle to cross over a decade (e.g., going from 29 to 30, or going from 59 to 60). Students may not understand the progression of the decades (twenty, thirty, forty, etc.). It is also common for students to stop when they reach 100. If this happens, prompt students to continue by asking, "Can you continue counting? What number comes after 100?" If students are unable to do so, this may indicate that students can cross the century but are not sure how counting continues beyond 100. When these errors occur, students need additional practice counting over the decades, tailored to their needs. For students who are unable to accurately count to 100, it may be helpful to provide practice counting with the following counting benchmarks employed: 30, 50, 80, 100, 110, 120. Students will benefit from counting practice with the teacher and other students to provide greater exposure to the verbal patterns of counting.

2. Ask the student to count:
 - a) Starting at 34. Stop the student at 51.
 - b) Starting at 88. Stop the student at 103.

Students may have difficulty counting when starting from a number other than 0 or 1. For example, students may count, "34, 30, 31, 32, 33,..." and revert to the beginning of the previous decade or they may count, "34, 40, 41, 42..." Students may also have difficulty crossing from 99 to 100 and then counting beyond 100. Activities such as "count arounds," where students gather in a circle and start counting from different numbers may be helpful. Students can also roll two number cubes and begin counting from the number created (e.g., if a 4 and 1 are rolled, the student would begin counting from 41).

3. Ask the student to count back from 30.

If the student cannot count back from 30, ask them to count back from 20.

If the student cannot count back from 20, ask them to count back from 15.

When counting back, students often omit zero. If this occurs, students need more practice with counting back and including zero every time. It may be helpful for students to use counters and/or pictures that correlate with their counting.

For students who struggle to count backwards, provide a set of 30 counters and together, as you take one of the counters away, say the numbers that indicate the quantity that remains. It may be necessary to begin with a set of 10 counters, then progress to 20 counters, and then progress to 30 counters.

When completing this task, if students cannot count back from 30, start with where the student is (counting back from the benchmarks listed in the task -- 15, 20, and then 30 as the student is ready).

4. Say: Use the picture cards to count the toes for me. Please count by tens.

General notes on skip counting: Students may count each picture by ones (each toe, foot, finger, hand, or sock). They may need additional experience using skip counting to count groups of things. It is important to make skip counting meaningful by counting sets so that students begin to see counting by groups as a shortcut for counting by ones.

If students are unable to skip count, additional opportunities to count concrete objects by groups are needed. Following ample practice with concrete items, students may be ready to move on to pictorial representations and more abstract representations (e.g., a hundred board with the appropriate columns highlighted), allowing students to explore the visual pattern of the numbers they are counting.

When counting the number of toes in the pictures by 10, students may have difficulty counting beyond 100. Concrete objects, such as towers of 10, full ten frames, or bead strings can support counting by tens. Quantities should progress in size as students become more adept at skip counting. Suggested benchmarks for skip counting by tens are: 30, 60, 100, and 120.

5. Say: Use the picture cards to count the fingers for me. Please count by fives.

See the teacher notes for #4 for general notes about skip counting. Some students may have difficulty counting the number of fingers in the pictures by 5, especially beyond 100. Concrete objects such as full five frames, tally marks, hand cards (sample provided), or bead strings will help support skip counting by fives. Suggested benchmarks for skip counting by fives are: 25, 50, 100, and 120.

6. Say: Use the picture cards to count the socks for me. Please count by twos.

See the teacher notes for #4 for general notes about skip counting. Some students may have difficulty counting by 2s. Concrete objects such as pairs of shoes, wings, eyes on birds, arms, hands, legs, or feet on people, or bead strings will help support skip counting by twos. Suggested benchmarks for skip counting by twos are: 10, 20, and 30.

7. Give the student a pile of 74 cubes. Ask the student to group them into sets of tens and ones. Ask the student to tell you how many cubes there are.
- a) If student correctly creates 7 piles of ten and 1 pile of four, go to #8.
 - b) If student incorrectly groups the piles, give the student 32 cubes and ask the student to group them into sets of tens and ones. Ask the student to tell you how many cubes there are.

Students may miscount the pile of cubes by counting a cube more than once or skipping a cube altogether. These errors may demonstrate that students do not have strong one-to-one correspondence. If this is the case, students would benefit from additional counting activities that emphasize moving and/or organizing objects as they are counted.

Students may also not know how to place the cubes into groups of tens and ones. They do not yet recognize that 74 is composed of seven tens and four ones and are unable to reorganize the cubes into tens and ones. Developing a deep understanding of the base-ten system takes time.

Some students may be able to create 7 piles of ten and 1 pile of four but are unable to state that this means there are 74 cubes. These students need additional opportunities to distinguish between the number of groups and the value of each group (e.g., 7 piles of ten represent 70 cubes) as they work to develop an understanding of place value. Activities that include counting groups of objects (e.g., pumpkin seeds, cubes in a bag, two-sided counters) and placing them into piles of tens, building trains of ten, and/or using ten-frames will help students begin to see the relationship between the counted number and the number of groups and leftovers.

Give the student the collection of pennies, nickels, and dimes for #8 - #10.

8. Can you sort these coins by color for me? Explain how you sorted these.

Students may sort coins by size or type of coin and may need to be reminded to sort only by color. Students who are unable to sort coins by color may need additional experience exploring and describing the coins by color, a review of colors, and/or how other items (e.g., blocks) can be sorted by colors.

9. Can you sort these coins by size for me? Explain how you sorted these.

Some students may make errors when sorting the coins by size. For example, they may think that the penny and the dime are the same size. While these coins are very close in size, they do vary slightly in size. Students who only sort the coins into two categories of size would benefit from further opportunities to explore specific characteristics of each coin (e.g., texture of outside edge of coin). It may also be beneficial for students to only compare two coins at a time determining which is larger in size: a nickel or a penny, a penny or a dime.

10. Can you name the different coins that we have in our collection?

Some students may confuse the nickel and dime as they are the same color. These students may need more opportunities to explore the various characteristics of each coin (e.g., the face of the coin or the edge of the coin) to determine the difference. If students are unable to name each coin or confuse the coins, additional practice matching the name of the coin to a picture of the coin would be beneficial. It may be helpful to create anchor charts or display word wall cards that students can reference as they become more comfortable distinguishing between pennies, nickels, and dimes.

Give the student one nickel, one dime, and a set of 15 pennies for #11 - #12.

11. Say: Can you show me the nickel? Now can you count the number of pennies that are equivalent or equal to the value of a nickel?

Some students may confuse the value of the dime and nickel, thinking that the dime is worth less than the nickel due to its size. If students struggle with counting pennies equal to each coin, it may be helpful to provide them with a counting tool (e.g., number chart, number path, five frame) so they can show one-to-one correspondence for the correct value of the nickel. Students need time and lots of experience with naming, comparing, and counting coins. Additionally, it is important to use real coins as often as possible.

12. Say: Can you show me the dime? Now can you count the number of pennies that are equivalent or equal to the value of a dime?

Some students may confuse the value of the dime and nickel, thinking that the dime is worth less than the nickel due to its size. If students struggle with counting pennies equal to each coin, it may be helpful to provide them with a counting tool (e.g., number chart, number path, ten frame) so they can show one-to-one correspondence for the correct value of the dime. Students need time and lots of experience with naming, comparing, and counting coins. Additionally, it is important to use real coins as often as possible.

13. Provide students with a collection of 12 nickels. Have students count the coins to determine the total amount. Ask: How much money do you have?

Some students may not recall the value of a nickel and may count the nickel as one. These students will need additional opportunities to work with coins to identify the coins and their values.

If students are having difficulty counting by fives, they will need additional opportunities to practice counting by fives using concrete materials (e.g., hands, five frames, number of sides on a pentagon). Students need opportunities to count by fives to recognize that counting by fives is a more efficient way of counting large quantities than by counting by ones. Some students may benefit from using five frames or a 100 chart to place a nickel on each number) when counting by fives to better

understand the number pattern created when counting nickels. Additionally, an activity such as the one described below may be helpful.

- i) The student rolls a number cube and adds that many nickels to their pile (e.g., if they roll a 4, they would add four nickels to their pile).
- ii) The student determines the total value of their pile (e.g., 5, 10, 15, 20 cents).
- iii) The student rolls a number cube again and adds that many more nickels to their pile (e.g., if they roll a 2, they would now have six nickels in their pile).
- iv) The student determines the total value of their pile (e.g., 5, 10, 15, 20, 25, 30 cents).
- v) Repeat these steps until the amount reaches \$1.00.

14. Provide students with a collection of 8 dimes. Have students count the coins to determine the total amount. Ask: How much money do you have?

Some students may not recall the value of a dime and may count the dime as one. These students will need additional opportunities to explore the coins and to develop an understanding of their values.

If students are having difficulty counting by tens, they will need additional practice to understand the patterns used. Counting around the room is an activity that can help to develop this skill. Students can count by how many fingers (10) they have. Students begin to recognize that counting by tens is a more efficient way of counting large quantities than counting by ones, or even fives. Some students may benefit from using a 100 chart to place a dime on each number when counting by tens to better understand the number pattern created when counting dimes. Additionally, an activity such as the one described below may be helpful.

- i) The student rolls a number cube and adds that many dimes to their pile (e.g., if they roll a 5, they would add five dimes to their pile).
- ii) The student determines the total value of their pile (e.g., 10, 20, 30, 40, 50 cents).
- iii) The student rolls a number cube again and adds that many more nickels to their pile (e.g., if they roll a 3, they would now have eight dimes in their pile).
- iv) The student determines the total value of their pile (e.g., 10, 20, 30, 40, 50, 60, 70, 80 cents).
- v) Repeat these steps until the amount reaches \$1.00.