

SCHOLASTIC
**Math
Place**

Grade 1

Ontario

Teacher's Guide

Number & Financial Literacy Teacher Sample

Ontario
2020
Mathematics
Edition



Lesson 6

Decomposing Quantities to 50 Using Money

GRADE 1
NUMBER &
FINANCIAL
LITERACY:
SAMPLE
LESSON

Math
Curriculum
Expectations

Financial Literacy

- **F1.1** identify the various Canadian coins up to 50¢ and coins and bills up to \$50, and compare their values

Number

- **B1.2** compose and decompose whole numbers up to and including 50, using a variety of tools and strategies, in various contexts
- **B1.5** count to 50 by 1s, 2s, 5s, and 10s, using a variety of tools and strategies

Possible Learning Goal

- Creates money amounts up to 50¢ in various ways

Teacher Look-Fors

Previous Experience with Concepts:

Students have had experiences with recognizing Canadian coins and knowing their names and values.

- Accurately represents money amounts to 50¢
- Understands the meaning of the cent (¢) sign
- Represents a money amount in more than one way, and justifies how the values of each representation are the same
- Connects the various representations by clearly showing and explaining equivalent values (e.g., one dime is the same value as two nickels)
- Counts money amounts using anchors of 5 and 10 (e.g., a nickel and two pennies is counted as 5, 6, 7; 11¢ is counted as 10, 11)
- Counts like coins by skip counting (e.g., four nickels as 5, 10, 15, 20)

Mathematical Processes:

Problem solving,
representing, reasoning
and proving,
communicating

About the Math

Money is a powerful tool for developing students' counting skills and their strategies for adding. For example, students learn to count on from various amounts when they are adding $5 + 3$ and count 5, 6, 7, 8.

Money allows students to decompose numbers in various ways. For example, students can decompose 25 into groups of 5 or 10 by representing the groups with nickels or dimes and counting accordingly.

Math Vocabulary:

penny, nickel, dime,
quarter, loonie, toonie,
cents, dollar, coins,
bills, value

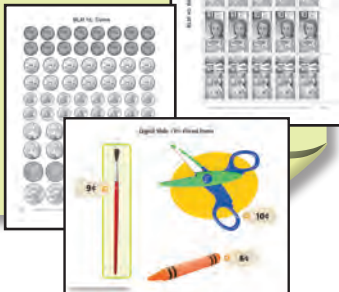
About the Lesson

In this lesson, students are challenged with making various money amounts by decomposing the total into various coins and then counting to confirm that their values are correct. As previously stated, the penny plays an important role in creating equivalent amounts, since its value forms the basis of our monetary system. It is recommended that students work with pennies, yet understand that the coins are no longer used in Canada. Once students have unitized with other coins, the penny can be phased out.

Materials:

Digital Slide 170:
Priced Items, BLM 41:
Coins and BLM 40: *Bills*
(or money manipulatives
with coins and bills), class
number line

Time: 45
minutes



Minds On (10 minutes)

- Show students Digital Slide 170, which shows items costing 6¢, 9¢, and 10¢. Discuss what the cent sign means. Focus on one item at a time and ask students how they could pay for each item using pennies, nickels, and dimes. Have students turn and talk to a partner. Share their various solutions as a class. Ask students how they can be sure that they found all possible combinations.

Working On It (20 minutes)

- Tell students that they are going to make some money amounts using pennies, nickels, and dimes. Challenge them to find more than one way.
- Students work independently or in pairs to find coin combinations for some of the following amounts: 11¢, 15¢, 26¢, 35¢, and 50¢. They can use coin manipulatives or pictures of coins (from BLM 41), and then record their solutions by either drawing the coins or cutting out paper coins.

Differentiation

- The assigned amounts can be differentiated to meet the needs of individual students.
- For students needing more of a challenge, they can create money amounts of their choice (e.g., they could make 45¢ in different ways).

Assessment Opportunities

Observations:

- Are students counting on when they make their money amounts?
- Do they find another way to represent the coins?
- Do they exchange coins for others as they work (e.g., replace 5 pennies with a nickel)?
- Do they use guess and check to create amounts, or are they intentional in the way they choose their coins?

Conversations: Pose some of the following prompts:

- How would you count this amount of money? How can you check that your counting is correct? Why did you start counting with that coin?
- Are there any exchanges that you could make with the coins? How does this change your counting?
- How is this way like the second way you found?

Consolidation (15 minutes – 5 minutes to meet with another pair and 10 minutes for class discussion)

- For the first 5 minutes, have student pairs meet with another pair to compare their solutions for one money amount.
- Meet as a class. Select solutions for some of the money amounts (e.g., focus on the amount that created the most confusion or generated the most combinations).
- Have students prove how the various combinations represent the same amount of money.
- Discuss the various ways of counting the collections of coins. Have students show their ways of counting using a number line or hundreds chart.
- Ask students how they can be sure that they have found all combinations.

Further Practice

- Repeat this lesson but have students decompose \$50 in different ways. For example, they can decompose \$25 as one \$20 bill and one \$5 bill, or as two \$10 bills, two toonies, and one loonie. Have them count or add the total using various strategies.
- **Independent Problem Solving in Math Journals:** Have students repeat the activity using other money amounts that you assign or they select. For example, if students have successfully mastered money amounts to 20¢, challenge them to find all of the combinations for 25¢.

Materials:

BLM 41: Coins and
BLM 40: Bills or
money manipulatives
(loonies, toonies, and
bills)



Teaching Tip

Integrate the math talk moves (see page 7) throughout Math Talks to maximize student participation and active listening.

Math Talk:

Math Focus: Composing money amounts up to \$50 in various ways using dollar coins and bills

Let's Talk

Students can use loonies, toonies, and bills from BLM 41 and BLM 40 or money manipulatives to help them solve the problem anytime throughout the session. Select the prompts that best meet the needs of your students.

- Have students sit in a circle and show them three \$5 bills. *How much money is there, and how do you know?* (e.g., There is \$15. We can count it 5, 10, 15.) *What exchanges could you make for other coins or bills? Turn and talk to your partner.* (e.g., We could exchange one \$5 bill for one \$10 bill because both ways equal \$10.) *Put your thumb up if you agree. Who found another exchange?* (e.g., You could exchange a \$5 bill for two loonies and one loonie.) *Why does that work?* (e.g., Both ways equal \$15.)
- Make \$30 out of one \$20 bill and two \$5 bills, but cover up the \$5 bills so they can only see the \$20 bill. *I have \$30 altogether. What coins or bills do you think might be hidden and why do you think so? Turn and talk to your partner.* (e.g., We think there is a \$10 bill hidden, because $20 + 10$ equals 30.) *How would you count that?* (e.g., 20, 30) *Put your thumb up if you found this way. Did anyone find another way?* (e.g., There can be two \$5 bills.) *How would you count that?* (skip count by 5s) *Are there any other ways? How do you know?* Show students the hidden bills. This is what was *hidden*, but your other solution also could have been possible.
- Make \$23 out of \$10 bills and three loonies, but only show one \$10 bill and one loonie. *I have \$23 here, but some of the coins or bills are hidden. What might be hidden? Turn and talk to your partner. First, how much money do you see and how can you count it?* (e.g., There is \$11, because $10 + 1 = 11$.) *Do you think any loonies could be hidden? Why?* (e.g., Yes, because two more loonies would make 13.) *Could there be a \$5 bill hidden? Why?* (e.g., Yes, that would make \$15 in bills, plus a loonie is \$16.) *Could a \$20 bill be hidden? Why?* (e.g., No, that would make too much money.) *What do you think is hidden?* Discuss the various ways, create them with dollar coins and bills, and have students count them. Show the hidden money. *You had good possible solutions, but these are the coins and bills that were hidden.*

Partner Investigation

- Students can take turns making amounts of money up to \$50, covering up some of the coins and bills, and having the other person figure out what may be hidden.

Follow-Up Talk

- Discuss any new strategies they may have found for figuring out the hidden coins and bills.

Digital Slide 170: Priced Items



BLM 41: Coins



BLM 40: Bills

