

Penny-wise: Counting change



GRADE
5

In this lesson, students will learn how to round prices without the use of the penny and practice giving and receiving change. This lesson works well as a primer for the lesson, *The classroom store*.



Subject

Mathematics

Suggested timing

40 minutes

Financial literacy objectives

At the end of this lesson, students will:

- identify forms of money,
- make simple financial decisions for amounts up to \$1,000 and
- conduct simulated purchases for amounts up to \$1,000.

Curriculum expectations

Mathematics, grades 1-8 (2005)
Mathematics

Number sense and numeration

Round decimals to the nearest tenth, in problems arising from real-life situations.

Assessment

Collect: Appendix B & Appendix D
Use: Rubric (Appendix E)

What you need

- One set of play-money for each pair of students (Appendix A). One set includes:
 - Two \$10.00 bills
 - Two \$5.00 bills
 - Two toonies
 - Two loonies
 - Five quarters
 - Three dimes
 - Three nickels
- Student copies of Counting change: student worksheet (Appendix B)
- Student copies of Practice making change (Appendix D)

Minds on

Brainstorm

Ask students to take out one sheet of blank paper and something to write with. Tell students that on the count of 3, you will give them 60 seconds to name as many Canadian coins and bills that are still in circulation as they can and write it on the paper on their desk (complete list: nickel, dime, quarter, loonie, toonie, \$5 bill, \$10 bill, \$20 bill, \$50 bill, \$100 bill).

Minds on (cont'd)

Once 60 seconds is over (to signal this you can flick the light switch on and off), ask for a volunteer to be the note-taker for the class and have this student come up to the board. Give students the opportunity to share their currency list (ask each student to share one currency so that as many students as possible can participate). As students share their answers, have the note-taker record them on the board.

Ask students if they know what change the Government of Canada made to Canadian coins in 2013. After discussing the phasing out of the penny, ask the note-taker to erase “penny” off the board if it was included in the list that the class generated.

Action

Ask students, “When we are talking about money, what does ‘change’ mean?”. After discussing responses, explain that change is the money you get back when you make a purchase. When you buy something, you will often give the merchant more money than the amount due because you do not have exact coins and bills. The money you get back from the merchant is the extra that was paid – change (you may want to illustrate this with an example).

Explain that now that we do not use the penny, this means that when we buy something and we are paying with cash, we have to round the total that we owe to the nearest nickel (5 cents).

Guided practice

Distribute Counting change: student worksheet (Appendix B) to the class.

Recreate the table in question 1 on a chalkboard, make a transparency or project it onto an interactive whiteboard. Read out the scenario at the top of Appendix B as a class and fill in the table and answer question 2 together using the steps of scaffolding: ‘I do, you watch’, ‘I do, you help’, ‘You do, I help’, ‘You do, I watch’.

Divide the class into pairs and distribute one set of play money to each pair. Work on questions 3 and 4 together as a class (continue scaffolding by working on the first 2 examples together, and allowing pairs to work on the next 3 on their own). Invite pairs to share their answers with the class.

Activity: Making change

After completing the worksheet, announce to students that they will practice giving change with their partner.

Distribute one copy of Practice making change (Appendix D) to each pair. Explain to students that now, the price of the video game has to be between \$11.80 and \$11.89 (write these numbers on the board).

Ask students to choose which partner will start off as the buyer and which will start as the seller. The seller will determine the price of the video game and how much change is owed. The buyer will determine the amount of money that is owed to the seller (after rounding to the nearest nickel) and the amount they will pay with their play money. Ask students to record their transactions in Appendix D.

Encourage students to use the play money and pass it back and forth. After four rounds, ask partners to swap roles and practice for another four rounds.

Observe each pair for assessment (Appendix E).

Consolidation/ debrief

Have students submit Appendices B and C for assessment (see: Making change: Rubric, Appendix E)

Whole-class discussion

Ask critical questions to engage students in further reflection and understanding of the concepts:

- What were some strategies you used when you were practicing with your partner (e.g. counting forwards versus counting backwards, strategies that worked versus strategies that didn't work)?
- What did you find challenging to do? Why was it challenging?
- How is what you learned helpful for when you go shopping with a parent or guardian?

If you are proceeding with The classroom store lesson the next day, ask students to bring to class pictures of 5 items from magazines or catalogues that they want to sell during tomorrow's classroom store activity.

Penny-wise: Counting change

Play money



Play money (cont'd)



Penny-wise: Counting change

Counting change: Student worksheet

A new video game that you have been waiting for is now in stock at the electronics store! You know the price will be between \$11.50 and \$11.59.

1. **What amount of money will you owe for each of these prices?** Practice rounding to the nearest nickel!

Cost of a video game		
Price of the Game	Round up or round down?	What you owe
\$11.50	No Rounding	\$11.50
\$11.51		
\$11.52		
\$11.53		
\$11.54		
\$11.55		
\$11.56		
\$11.57		
\$11.58		
\$11.59		

2. When you get to the store, you see that the price for the game is \$11.54. **How much will you pay for the game? Did you have to round up or round down to the nearest nickel?**

Penny-wise: Counting change





Counting change: Student worksheet (cont'd)

3. You look in your duct tape wallet and find the following coins and bills:

- Two \$10.00 bills
- Two \$5.00 bills
- Two toonies
- Two loonies
- Five quarters
- Three dimes
- Three nickels

Show 5 different ways that you can pay for the video game using the money in your wallet. In the boxes below, draw the bills and coins that you would use and write the total money you give to the merchant. The first example is done for you. (Remember, the cost of the game is \$11.54.)

1.

Total: \$11.75

2.

Total:

3.

Total:

4.

Total:

5.

Total:



Counting change: Student worksheet (cont'd)

4. **How much change can you expect to receive when you pay for the video game?** Show the change you will receive for each of the 5 examples from question 3 by drawing the bills and coins.

1.

Change:

2.

Change:

3.

Change:

4.

Change:

5.

Change:

Penny-wise: Counting change

Counting change: Teacher resource

A new video game that you have been waiting for is now in stock at the electronics store! You know the price will be between \$11.50 and \$11.59

1. **What amount of money will you owe for each of these prices?** Practice rounding to the nearest nickel!

Cost of a video game		
Price of the game	Round up or round down?	What you owe
\$11.50	No rounding	\$11.50
\$11.51	Round down	\$11.50
\$11.52	Round down	\$11.50
\$11.53	Round up	\$11.55
\$11.54	Round up	\$11.55
\$11.55	No rounding	\$11.55
\$11.56	Round down	\$11.55
\$11.57	Round down	\$11.55
\$11.58	Round up	\$11.60
\$11.59	Round up	\$11.60

2. When you get to the store, you see that the price for the game is \$11.54. **How much will you pay for the game? Did you have to round up or round down to the nearest nickel?**

I will owe \$11.55. I had to round up to the nearest nickel.



Penny-wise: Counting change

Practice making change

Round 1

Buyer's name: _____

Seller's name: _____

Price: _____

Amount you owe: _____

Amount paid: _____

Change: _____

Price: _____

Amount you owe: _____

Amount paid: _____

Change: _____

Price: _____

Amount you owe: _____

Amount paid: _____

Change: _____

Price: _____

Amount you owe: _____

Amount paid: _____

Change: _____

Round 2

Buyer's name: _____

Seller's name: _____

Price: _____

Amount you owe: _____

Amount paid: _____

Change: _____

Price: _____

Amount you owe: _____

Amount paid: _____

Change: _____

Price: _____

Amount you owe: _____

Amount paid: _____

Change: _____

Price: _____

Amount you owe: _____

Amount paid: _____

Change: _____



Penny-wise: Counting change

Practice making change: Rubric

Student name: _____

Category	Level 1	Level 2	Level 3	Level 4
Knowledge and understanding				
Understanding of rounding to the nearest nickel.	Demonstrates limited understanding of concepts.	Demonstrates some understanding of concepts.	Demonstrates considerable understanding of concepts.	Demonstrates thorough understanding of concepts.
Communication				
Communication with peers to practice rounding and making change.	Communicates with peers with limited effectiveness.	Communicates with peers with some effectiveness.	Communicates with peers with considerable effectiveness.	Communicates with peers with a high degree of effectiveness.
Application				
Applies knowledge and skills of rounding to retail setting.	Applies knowledge and skills in familiar contexts with limited effectiveness.	Applies knowledge and skills in familiar contexts with some effectiveness.	Applies knowledge and skills in familiar contexts with considerable effectiveness.	Applies knowledge and skills in familiar contexts with a high degree of effectiveness.

Comments: _____

Mark: _____ Parent initial: _____