

Make Change A Money Game



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Make Change: A Money Game

A Math Learning Center Publication

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Bridges Breakouts include units, games, and activities from Bridges in Mathematics first edition. To find others, visit www.mathlearningcenter.org.

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Make Change: A Money Game

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Blacklines

| | |
|-----------------------------|--------|
| Count & Compare Money Cards | MC.1–2 |
| More or Less Spinners | MC.3 |
| Make Change Record Sheet | MC.4 |
| Money Value Pieces | MC.5–7 |

Make Change A Money Game

This lesson and game are from Bridges in Mathematics First Edition Grade 3, Unit 6. In Bridges, this game is known as Work Place 6A Make Change.

Instruction

As a whole class, students play Make Change, a game in which they find the total value of collections of bills and coins (less than \$5) and then make change from \$5. After three rounds, they compute the total amount of change each player or team received and spin a more/less spinner to determine the winner. The game is then available to students to practice in pairs.

Overview

- 1 The teacher introduces Make Change.
- 2 Students play Make Change against the teacher.
- 3 Students play Make Change in pairs during Work Places.

Skills & Concepts

- ★ counting, adding, and subtracting money amounts up to \$5
- ★ making change from \$5
- ★ using decimal notation to show money amounts
- ★ adding and subtracting with and without regrouping using models and a variety of strategies

Materials for Two Players

- ★ 1 deck Money Cards (Blackline MC.1–2)
- ★ 1 More or Less Spinner (Blackline MC.3)
- ★ 2 Make Change Record Sheets (Blackline MC.4)
- ★ 2 sets of money value pieces (blacklines included; sets available for purchase from MLC) **or** devices with MLC's free Money Pieces app (www.mathlearningcenter.org/resources/apps/money-pieces)
- ★ clear spinner overlay

Instructional Considerations for Make Change

Finding the total value of a mixed group of coins and bills requires students to move among counting patterns of dollars, 25s, 10s, 5s, and 1s. Encourage students to group like coins and to start with the larger value first, then add up. Placing the smaller money value pieces on top of the dollar piece can also help students visualize values.

Because fluency depends on accurate practice, make sure that partners are double-checking each other's calculations. If they found more than one way to find the value of a collection of coins, ask them to consider which way is most efficient and why. You might also include calculators for addition practice and support.

You'll want to take a look at students' record sheets to see if they record the decimal notation correctly and communicate their strategies clearly.

Challenge options for making change from \$10 and \$20 are included at the end of the game instructions.

Introducing Make Change



EXPLORING MONEY

Introducing Make Change

Pass out a set of money value pieces (or have students use the free Money Pieces app) and 2 copies of the Make Change Record Sheet to each pair of students. Then, explain how to play Make Change:

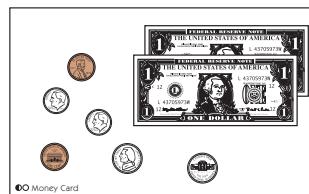
Teams will take turns drawing a card with a picture of bills and coins on it. They will find the total value of the money on each card and then make change from \$5 for each. Students will keep track of their team's change on their record sheets. After 3 rounds, students will add up the 3 collections of change for each player or team and spin the More or Less Spinner to decide whether the player or team with the most or least change wins.

Playing Make Change Teacher versus Students

Begin by drawing a card for yourself and asking students to determine how much the money is worth. Ask them to come to the projector or whiteboard to show their thinking using numbers, money value pieces, or the app. Then have a volunteer draw a card for the students, and ask them to determine the total value. Record both values on the whiteboard.



\$2.61



\$2.32

When students have found the total value of each card, ask them to determine how much change you and they would get from \$5. Encourage them to work in pairs with money value pieces, coins and bills, paper-and-pencil, and/or mental math strategies to compute the change. After some discussion, ask a few students to share their thinking with the class and record number sentences on the board to show how much change you each got. Remind them to record their team's change on their own record sheets.

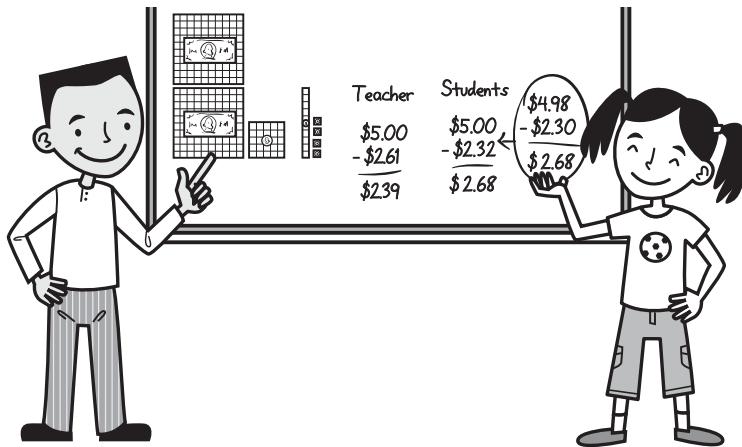
Omar I counted up from \$2.61 to \$5. Add 4 pennies and a nickel, and you have \$2.70. Now add a quarter and a nickel—that's 30 cents—to get to 3 dollars. Then add 2 more dollars. That's our change.

Yasmine You can trade the 2 nickels for a dime to make a minimal collection.

Omar Oh, right! So now I have 4 pennies, 1 dime, 1 quarter, and 2 dollars.

Yasmine That's \$2.39 in change.

Emma The change for \$2.32 is easy. We subtracted 2 cents from each number and made the problem simpler. \$4.98 minus \$2.30 equals \$2.68.



Repeat the process of drawing cards and making change two more times for a total of three rounds. Then ask students to compute the total amount of change you and they each received. In other words, they'll need to find the sum of the three collections of change for you and for them.

| | |
|--|---------------------|
| NAME <u>David</u> | DATE <u>March 6</u> |
| Make Change Record Sheet | |
| For each card you draw, record how you found the amount of change from \$5.00. After you have drawn 3 cards, find the total amount of change you received. | |
| Change from 1st card $\begin{array}{r} \$5.00 \\ - \$2.21 \\ \hline (\$2.79) \end{array}$ | |
| Change from 2nd card $\begin{array}{r} \$5.00 \\ - \$1.82 \\ \hline (\$3.18) \end{array}$ | |
| Change from 3rd card $\begin{array}{r} \$5.00 \\ - \$2.34 \\ \hline (\$2.66) \end{array}$ | |
| Total amount of change $\begin{array}{r} \$7 \\ + \$1.40 \\ + 23\text{¢} \\ \hline \$7 + 1.40 + 0.23 = \$8.63 \end{array}$ | |

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Ask students to share and discuss their strategies for finding both sums. Then have a volunteer spin the overhead More or Less Spinner to determine whether the person or team who received the most or the least change wins.

Let students know that Make Change will be a choice the next time they visit Work Places.

Make Change Work Place Instructions



WORK PLACES

Materials for Two Players

- ★ 1 deck Money Cards
- ★ More or Less Spinner
- ★ 2 Make Change Record Sheets
- ★ 2 sets of money value pieces **or** devices with MLC's free Money Pieces app
(www.mathlearningcenter.org/resources/apps/money-pieces)
- ★ clear spinner overlay

Instructions for Make Change

1. Choose a partner. Write your name and the date on your own record sheet. You and your partner each get your own money value pieces or use the Money Value Pieces app.
3. Set out one More or Less Spinner and get one deck of Money Cards. Shuffle the cards and put them in a stack face down.
4. Draw a card and have your partner do the same. Find the total value of the collection of bills and coins shown on your cards. Explain or show your thinking to your partner. Double-check each other's thinking.
5. Figure out how much change you would get from \$5.00. Show your thinking in the boxes on your record sheet. Check each other's work.

| | | | |
|---|-----------------------------------|------|----------------|
| NAME | <u>Stella</u> | DATE | <u>March 6</u> |
| Make Change Record Sheet | | | |
| For each card you draw, record how you found the amount of change from \$5.00. After you have drawn 3 cards, find the total amount of change you received. | | | |
| Change from 1st card | | | |
| \$5.00 | \$2.32 + \$0.08 = \$2.40 | | |
| - \$2.32 | \$2.40 + \$0.60 = \$3.00 | | |
| (<u>\$2.68</u>) | \$0.08 + \$0.60 + \$2.00 = \$2.68 | | |

6. Draw two more cards each. Add up the money on each card and make change from \$5.00. Show your thinking on your own record sheets and check each other's work.
7. After three turns, add up the total change you got back in all three turns. Record your work on your record sheet and share your thinking with your partner.
8. Spin the More or Less Spinner. If the spinner lands on *more*, the player who received the most change wins the game. If the spinner lands on *less*, the player who received less change wins the game.



CHALLENGE

Making Change from \$10

Invite students who are ready to make change from 10 or 20 dollars. If they really want a challenge, they could draw 2 cards, find the total value of the money shown on both cards, and then make change from \$10 or \$20.

Encourage students to use efficient landmark numbers and computation strategies. Continue to ask them to show their grouping and chunking strategies in the boxes provided on their record sheets.

Money Cards page 1 of 2



○○ Money Card



○○ Money Card



○○ Money Card



○○ Money Card



○○ Money Card



○○ Money Card



○○ Money Card



○○ Money Card

Money Cards page 2 of 2



○○ Money Card



○○ Money Card



○○ Money Card



○○ Money Card



○○ Money Card



○○ Money Card

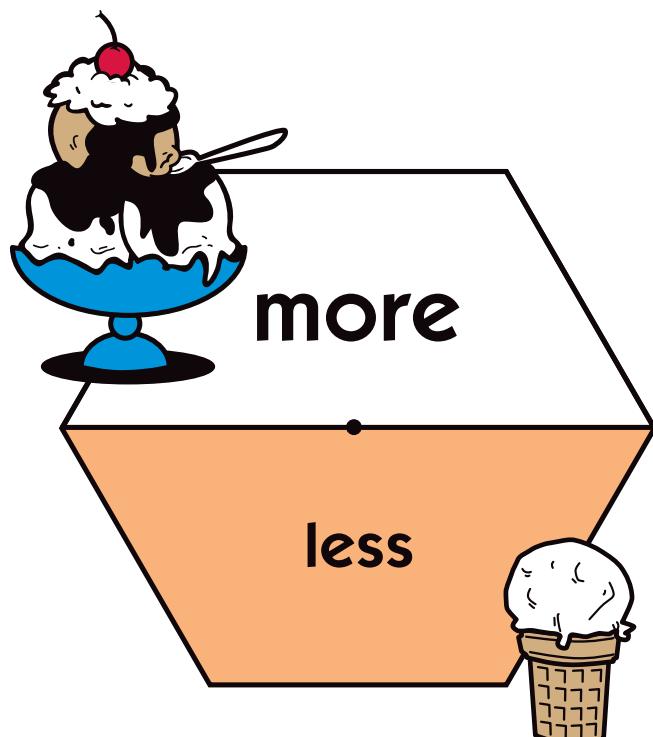


○○ Money Card



○○ Money Card

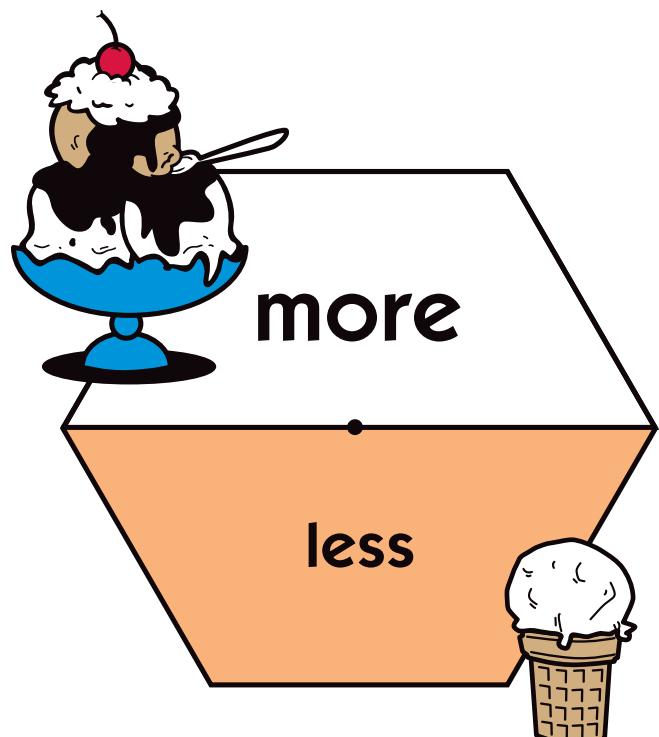
More or Less Spinner



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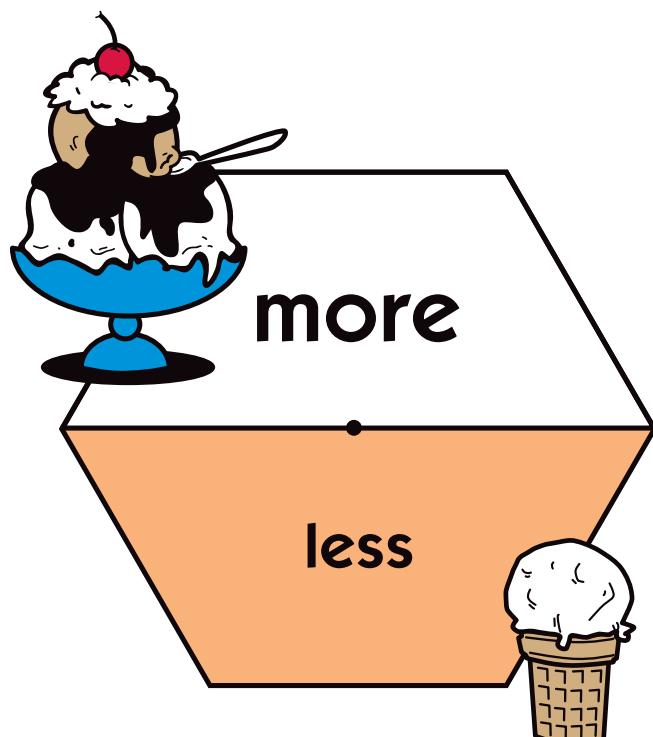
More or Less Spinner



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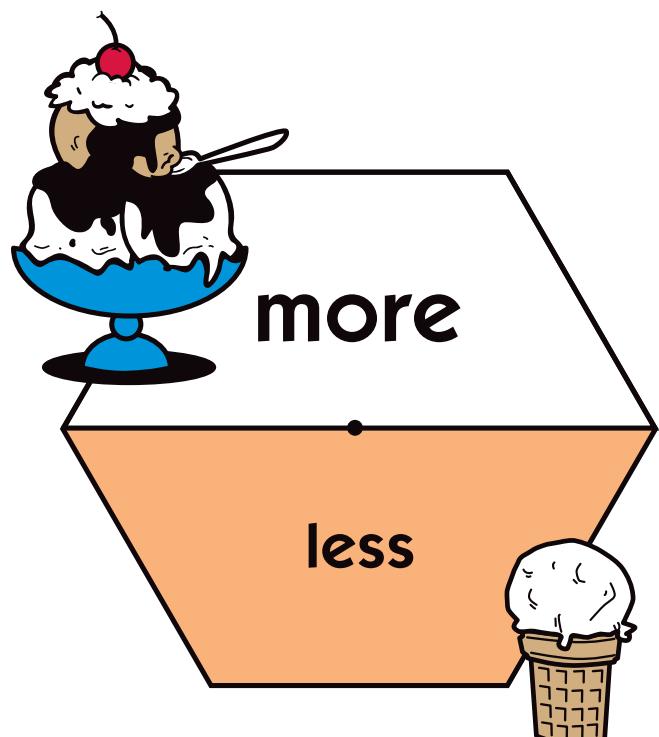
More or Less Spinner



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More or Less Spinner



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NAME _____ DATE _____

Make Change Record Sheet

For each card you draw, record how you found the amount of change from \$5.00. After you have drawn 3 cards, find the total amount of change you received.

Change from 1st card

Change from 2nd card

Change from 3rd card

Total amount of change

