








# Rounding Decimals

## Math Focus Points

- ◆ Rounding decimals to the nearest one, tenth, and hundredth

Today's Plan		Materials
<b>1</b> ACTIVITY <b>Rounding Decimals</b>	   	<ul style="list-style-type: none"> <li>• <i>Student Activity Book</i>, p. 23A or <b>C64, Rounding Decimals</b> Make copies. (as needed)</li> <li>• <b>M12, Hundredths Grids</b> Make copies. (1 per student)</li> <li>• T63 </li> </ul>
<b>2</b> DISCUSSION <b>Rounding a 9 Up</b>	 	<ul style="list-style-type: none"> <li>• <i>Student Activity Book</i>, p. 23A or C64 (completed)</li> </ul>
<b>3</b> SESSION FOLLOW-UP <b>Daily Practice</b>		<ul style="list-style-type: none"> <li>• <i>Student Activity Book</i>, p. 23B or <b>C65, Practice with Rounding</b> Make copies. (as needed)</li> <li>• <i>Student Math Handbook</i>, p. 57</li> </ul>

## Ten-Minute Math

**Practicing Place Value** Write 689,738 on the board and have students practice saying it. Ask students to write the number in expanded form using exponents.

$(6 \times 10^5 + 8 \times 10^4 + 9 \times 10^3 + 7 \times 10^2 + 3 \times 10 + 8)$  Ask students:

- What is 200 more than 689,738? What is 4,000 more? What is 300,000 more?

Ask students how to write the new sums and record them on the board. Then have them compare each sum with 689,738. Ask students:

- Which places have the same digits?
- Which do not? Why?

If time remains, pose additional similar problems with the numbers 8,951 and 35,625.

## 1

## ACTIVITY

## Rounding Decimals



45 MIN



CLASS

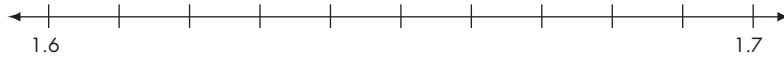


PAIRS



INDIVIDUALS

On the board, draw a number line from 1.6 to 1.7 divided into 10 equal parts.

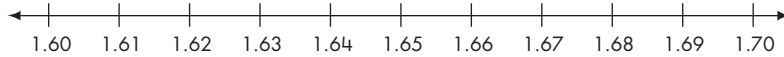


Who can explain where to place 1.68 on the number line?

**Students might say:**

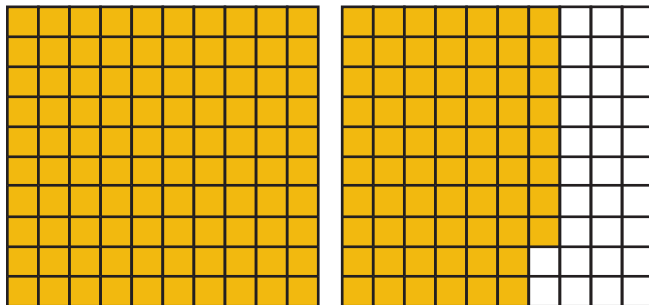


“I know 1.6 is the same as 1.60, and 1.7 is the same as 1.70. Then you can label the number line between 1.60 and 1.70: 1.61, 1.62, 1.63, and keep going. Then you’ll see where to mark 1.68.”



By looking at the number line, you can see that 1.68 is closer to 1.7 than to 1.6. We say that 1.68 rounded to the nearest tenth is 1.7. When you round a number, you get another number that can be used to tell about how big the original number is. You can also use place value to round decimals. It’s similar to rounding whole numbers.

Distribute copies of Hundredths Grids (M12). Have students turn the page sideways and shade in 1.68. Ask a volunteer to do the same on the transparency (T63).



The grid on the left is fully shaded, so that’s 1. Now look at the grid on the right. How many tenths are shaded? Look at the column that is only partially shaded. Is that another tenth? Is it close to another tenth? How do you know?

**Students might say:**

“You can see that it isn’t a full tenth. It’s close to a full tenth.”



“It’s only 8 hundredths. You need 10 hundredths to make another tenth, so it’s almost another tenth.”

You can get that same information by looking at the digits.

Write 1.68 on the board.

What does the digit in the tenths place mean? Which digit tells you how many hundredths there are? How does that help you decide if this number is closer to 1.6 or to 1.7?

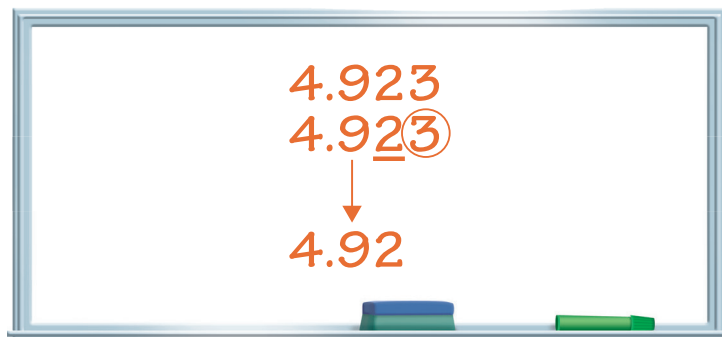
As students respond, underline the 6 and circle the 8.

The 6 is in the rounding place and the 8 is the digit to the right of the rounding place. The digit to the right of the rounding place tells us to round up or round down.

Be sure students understand that since there are more than 5 hundredths, this number is closer to 1.7 than to 1.6. Point out that by agreement, if there were 5 hundredths, the number would still round to 1.7.

Next ask students to round 4.923 to the nearest hundredth. Highlight these steps as you work through this example.

- Underline the rounding place.
- Circle the digit to the right.
- If the circled digit is 5 or greater, increase the underlined digit.
- If the circled digit is less than 5, leave the underlined digit as it is.
- Drop the digits to the right of the underlined digit.



Have students work with a partner to round 7.91 to the nearest whole number. Discuss students' solutions, answer their questions, and have them complete *Student Activity Book* page 23A or C64.

**ONGOING ASSESSMENT: Observing Students at Work**



Students round decimals to the nearest one, tenth, and hundredth.

- **Can students round decimals to the nearest one, tenth, and hundredth?** Do they remember to round up for “halfway” numbers? Do they know what to do if they need to round a 9 up?

**DIFFERENTIATION: Supporting the Range of Learners**



**Intervention**

Some students might need to review rounding whole numbers. Emphasize that the procedure is similar. However, instead of dropping digits in the last step, the digits in whole numbers are rewritten as zeros.

**Extension**

Students who need an additional challenge can be given problems like the following:

*A number with 3 digits after the decimal point is rounded to 4.8 when rounded to the nearest tenth. What is the smallest this number could be? (4.750) What is the largest this number could be? (4.849)*

Name \_\_\_\_\_ Date \_\_\_\_\_

**Decimals on Grids and Number Lines**

**Rounding Decimals**

Round each number to the nearest tenth.

1. 3.52 \_\_\_\_\_ 2. 0.389 \_\_\_\_\_ 3. 1.45 \_\_\_\_\_  
 4. 2.97 \_\_\_\_\_ 5. 0.81 \_\_\_\_\_ 6. 4.352 \_\_\_\_\_

Round each number to the nearest hundredth.

7. 0.773 \_\_\_\_\_ 8. 1.208 \_\_\_\_\_ 9. 3.614 \_\_\_\_\_  
 10. 6.492 \_\_\_\_\_ 11. 2.500 \_\_\_\_\_ 12. 6.715 \_\_\_\_\_

Round each number to the nearest one.

13. 5.8 \_\_\_\_\_ 14. 3.718 \_\_\_\_\_ 15. 23.52 \_\_\_\_\_  
 16. 0.75 \_\_\_\_\_ 17. 2.078 \_\_\_\_\_ 18. 19.941 \_\_\_\_\_

19. The masses of four puppies are shown at the right. Round each mass to the nearest tenth.

Peppy	0.480 kilogram
Brownie	1.451 kilograms
Snap	2.963 kilograms
Lotly	1.770 kilograms

Peppy      Brownie      Snap      Lotly

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 Session 1.5A      Unit 6      23A

▲ **Student Activity Book, Unit 6, p. 23A; Resource Masters, C64**



Name \_\_\_\_\_ Date \_\_\_\_\_

Decimals on Grids and Number Lines Daily Practice

### Practice with Rounding

**NOTE:** Students round to the nearest one, tenth, and hundredth.

- Circle the numbers that round to 4 when they are rounded to the nearest one.  
4.703   4.28   3.6   4.5   3.29   4.09
- Circle the numbers that round to 5.1 when they are rounded to the nearest tenth.  
4.97   5.172   5.116   5.084   5.15   5.05
- Circle the numbers that round to 0.80 when they are rounded to the nearest hundredth.  
0.805   0.803   8.021   0.796   0.806   0.792
- The times for four 100-meter runners are shown at the right. Round each time to the nearest tenth.
 

Joshua	11.48 seconds
Martin	11.62 seconds
Nora	11.97 seconds
Alicia	12.02 seconds

Joshua   Martin   Nora   Alicia

23B Unit 6   Session 1.5A

▲ Student Activity Book, Unit 6, p. 23B; Resource Masters, C65

## 2 DISCUSSION Rounding a 9 Up

### Math Focus Points for Discussion

◆ Rounding decimals to the nearest one, tenth, and hundredth  
Have students share their solutions to Problem 4 on *Student Activity Book* page 23A or C64. Ask them what made this problem different from most of the others.

#### Students might say:



“I got 3.0. I had to think harder about this one. The 7 in the hundredths place told me to round the 9 up. But that’s a 10, and you can’t write 2 digits for the tenths place. Then I realized that I should write just a 0 in the tenths place, and move the 1 over to the ones place, making the 2 a 3.”

Are there any other problems like that on *Student Activity Book* page 23A or C64? (Problems 18 and 19.) How did you solve Problem 18?

Ask a volunteer to explain how he or she solved Problem 18.

## 3 SESSION FOLLOW-UP Daily Practice



**Daily Practice:** For reinforcement of this unit’s content, have students complete *Student Activity Book* page 23B or C65.



**Student Math Handbook:** Students and families may use *Student Math Handbook* page 57 for reference and review. See page 148 in the back of Unit 6.

# Rounding Decimals

Round each number to the nearest tenth.

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6. 4.352 \_\_\_\_\_

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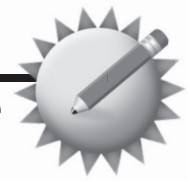
17. 2.078 \_\_\_\_\_

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Peppy      Brownie      Snap      Lotty

Peppy	0.480 kilogram
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# Practice with Rounding

**NOTE** Students round to the nearest one, tenth, and hundredth.

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