

## More or Less

### Purpose

Students will round numbers up to 10,000 to the nearest ten, hundred, and thousand and compare the rounded numbers to the original numbers using the symbols  $<$ ,  $>$ , and  $=$ .

### Materials

*For the teacher:* chalkboard, chalk, copy of Black Line Master (BLM) *Rounding Rules/Inequality Mnemonics*

*For each pair of students:* prepared number cards, copy of BLM *Comparing Numbers*

### Activity

#### A. Pre-Activity Preparation

Write various numbers between 500 and 10,000 on index cards.

- Include several pairs of numbers in each deck that will round to the same number to the nearest ten, hundred, or thousand.
- Include some numbers in each deck that are already evenly rounded (e.g., 6,000).
- Prepare enough cards so that each pair of students has a deck of 20 cards.

#### B. Introduction

1. Write a three-digit number on the chalkboard (e.g., 537).
2. Ask student volunteers to round the number to the nearest ten and hundred, and write the rounded numbers on the chalkboard. Have volunteers explain the answers.
3. Tell students that they will be rounding numbers up to 10,000 in the same manner. Tell them that they may be asked to round to the nearest ten, hundred, or thousand. Explain that they will be comparing the numbers after they have been rounded and learning symbols to use when comparing numbers.

#### C. Class Activity

1. Write a four-digit number on the chalkboard (e.g., 1549).
2. Demonstrate how to round it to the nearest ten, hundred, or thousand, and discuss which digit determines the ten, hundred, or thousand to which the number is rounded.
3. Review the rules of rounding on the BLM *Rounding Rules/Inequality Mnemonics*.

(continued)

EXTENDING  
THE



ACTIVITY

Have students use mental math to add numbers rounded to the nearest thousand. Have students exchange with a partner four-digit numbers that they have written to round and do mental arithmetic. Instruct partners to check answers.

MEETING  
INDIVIDUAL



NEEDS

Work with students having difficulty with rounding on an individual basis. Use the BLM Rounding Rules. Have students circle the digit to be rounded. Have students underline the digit to its right and use the rounding rules to determine the correct solution. Suggest writing the phrases "is less than" and "is greater than" for students who have difficulty distinguishing " $>$ " and " $<$ " symbols.

**Standards Links**  
4.1.1, 4.2.12, 4.7.6

## Activity (continued)

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4. Practice rounding five or six four-digit numbers by tens, hundreds, and thousands. Write the rounded numbers to the right of the original numbers and leave room to put a symbol later. Include one number that is already rounded.
5. Introduce the symbols “<” and “>” by writing them on the chalkboard along with the “=” symbol. Explain that these symbols are used to compare numbers.
6. Review the meaning of the “=” symbol, and explain that the “<” and “>” are used to compare numbers that are NOT equal.
7. Tell students that the “<” symbol means *less than* and the “>” symbol means *greater than*. Use one of the mnemonics methods on the BLM *Rounding Rules/Inequality Mnemonics* to teach the meanings of the symbols.
8. Have students compare the rounded numbers to their original numbers by using the “<,” “>,” and “=” symbols.

### D. Partner Activity


1. Divide the class into groups of two. Hand each group a deck of the prepared number cards.
2. Have one student in each group draw two cards, then fill out the BLM *Comparing Numbers* using those two numbers.
3. Continue the activity by having students switch roles and repeat until all of the cards have been drawn.


## Questions for Review


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### Basic Concepts and Processes

During the Partner Activity, discuss the following questions with students to gauge their understanding of the Standard Indicators:


 Write a number sentence using the *less than* or *greater than* symbol.

 How did you decide which symbol to use?

 Round this number [*indicate a four-digit number*] to the nearest thousand.

 Which number did you look at to decide how you would round the number?

 Why did you round it [*up or down*]?

 Write a four-digit number that would not change after being rounded to the nearest ten.

# Rounding Rules

- A. Identify the digit to be rounded.
- B. Look at the digit to its right.
- C. If the digit to the right is 5 or more, increase the digit to be rounded.
- D. If the digit to the right is less than 5, the digit to be rounded stays the same.
- E. Replace any digit to the right of the rounded digit with zeros.

# Inequality Mnemonics

- A. Relate the symbols to the open mouths of alligators, drawing in the rest of the alligator's face and body, if desired. Tell students that the alligator is very hungry and always wants to eat the larger number.
- B. Relate the symbols to arrows and tell them that the arrow always points to the smaller number.
- C. Have students put two dots next to the larger number (between the two numbers) and one dot next to the smaller number (between the two numbers). Instruct students to finish drawing the symbol by joining the dots. See below:  
$$1436 : \cdot 560$$
- D. Tell students that the symbols "began" as the "=" symbol, but since the numbers were not equal, the symbol got "smaller" closer to the smaller number and "larger" closer to the larger number.

# Rounding Rules/Inequality Mnemonics

## Teacher Directions

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Share with students the rules and mnemonics as described in the activity.

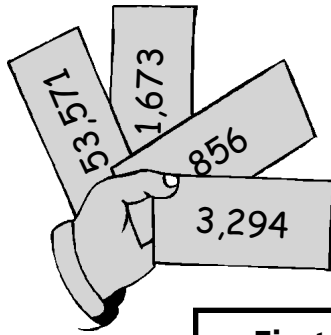
## Answer Key

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Not applicable.

Name: \_\_\_\_\_

Name: \_\_\_\_\_



# Comparing Numbers

Fill in the table below for every two cards that are drawn. Round numbers to the nearest thousand.

	First Number	First Number Rounded	Compare the Rounded Numbers Below Using $<$ , $>$ , or $=$	Second Number Rounded	Second Number
First Draw					
Second Draw					
Third Draw					
Fourth Draw					
Fifth Draw					
Sixth Draw					
Seventh Draw					
Eighth Draw					
Ninth Draw					
Tenth Draw					

# Comparing Numbers

## Teacher Directions

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Distribute one copy of the BLM *Comparing Numbers* to each pair of students. Have students fill in the table using the numbers on the cards they draw, and clarify that the comparisons should be made on the numbers after they have been rounded.

## Answer Key

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Answers will vary.