

# LESSON 5

## Objective

Compare 3-digit numbers.

## Common Core State Standards

- **2.NBT.4** Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.

## Number and Operations in Base Ten

# Comparing Three-Digit Numbers

Comparing quantities helps children develop number sense, and the ability to compare is essential in problem solving. Children need opportunities to connect quantities with the numerals that represent them. Hands-on learning experiences, such as using Base Ten Blocks, provide these opportunities and help children gain proficiency in comparing, both visually and mentally. Applying the symbols  $>$ ,  $<$ , and  $=$  allows children to practice using symbols to represent mathematical ideas.

**Try It!** Perform the Try It! activity on the next page.

## Talk About It

Discuss the Try It! activity.

- Write the numbers 748 and 673 on the board. **Ask:** *Where do I look first to find out which number is greater? Which number is greater? How can you tell?*
- Write the numbers 561 and 556 on the board. **Say:** *These numbers have the same number in the hundreds place.* **Ask:** *Where should I look to find out which number is greater?*
- Write  $561 > 556$ . **Ask:** *Can you write another statement about these numbers using the  $<$  sign?*

## Solve It

With children, reread the problem. Have children write the numbers for each boy's pile of blocks and complete the number sentence. Then have children write a sentence comparing the two numbers.

## More Ideas

For other ways to teach comparing three-digit numbers—

- Have pairs use a spinner to spin 3 numbers, and have each child create a three-digit number using the 3 numbers spun. Have children use the numbers they created and write two number sentences using  $<$  or  $>$ . Children can use Base Ten Blocks to model and check the answers to their sentences.
- Have children pick 3 digits out of a bag. Have one child make the greatest number and the other child make the least number that can be made from the three digits. Then have pairs use  $>$  or  $<$  to write two sentences comparing the numbers. Children can use Base Ten Blocks to model and check the answers to their sentences.

## Formative Assessment

Have children try the following problem.

Which number makes this true?

\_\_\_\_\_  $<$  407

- A. 704   B. 470   C. 401

## Try It! 20 minutes | Pairs

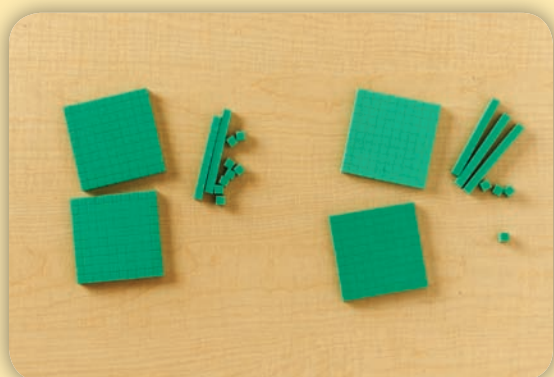
Here is a problem about comparing three-digit numbers.

Ali and Jafar each have a pile of Base Ten Blocks. Ali says his blocks make a greater number than Jafar's blocks. Jafar says his blocks make a greater number. Ali has 8 units, 2 flats, and 2 rods. Jafar has 4 units, 2 flats, and 3 rods. Use Ali's and Jafar's numbers to make this number sentence true:  $\underline{\quad} > \underline{\quad}$ .

Introduce the problem. Then have children do the activity to solve the problem. Distribute Base Ten Blocks, charts, index cards, and pencils to children.

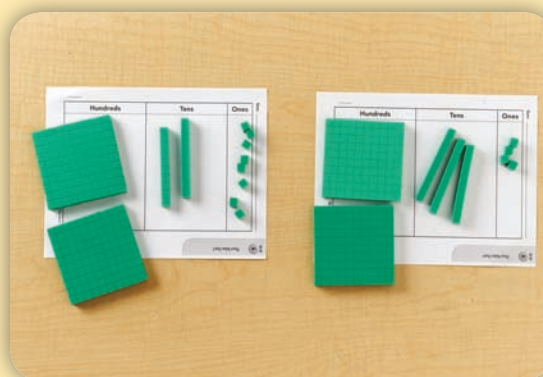
### Materials

- Base Ten Blocks (10 flats, 10 rods, and 20 units per pair)
- Place-Value Chart (BLM 6; 2 per pair)
- index cards (2 per pair)
- pencils (2 per pair)



**1. Say:** Let's make the two piles of blocks first.

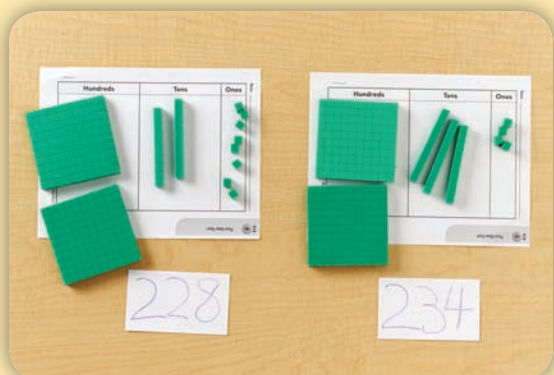
**Ask:** How many flats does each boy have? How many rods? How many units? Have one child be Jafar and the other be Ali. Have each child build his or her pile of blocks.



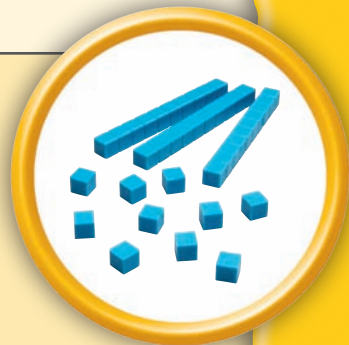
**2.** Have each child place his or her blocks on a chart to model the number the blocks represent. **Say:** Let's compare the numbers. Elicit that the hundreds place is compared first because it is the greatest. Explain that since the models have the same number of hundreds, the comparison has to move to the tens.

### Look Out!

Watch for children who aren't comparing each place value correctly. Make sure they are looking at each value position separately to make a valid comparison. Some pairs might benefit from putting the place-value charts one under the other and lining up the columns to make a better comparison.

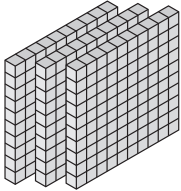
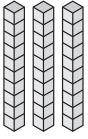



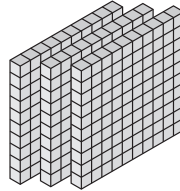
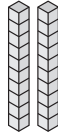

**3. Ask:** Which number has more tens? Which number is greater? Write  $\underline{\quad} > \underline{\quad}$  on the board. **Say:** Use the numbers to make this number sentence true. Discuss the meanings of  $>$  and  $<$ , have each child write his or her number on an index card, and have pairs complete the number sentence.



**Use Base Ten Blocks. Build each number. Compare the numbers. Write the numbers with  $<$  or  $>$  between them.** (Check students' work.)

1.

Hundreds	Tens	Ones
		

Hundreds	Tens	Ones
		

332

 $>$ 

323

**Build each number. Draw the models. Write the numbers with  $<$  or  $>$  between them.**

2. 235      330

Hundreds	Tens	Ones

Hundreds	Tens	Ones

235

 $<$ 

330

**Write  $<$  or  $>$  between the numbers.**

3. 636  $<$  6634. 178  $>$  175

## Answer Key

**Challenge!** Rosa has 5 flats, 7 rods, and 4 units on her desk. Irene says her blocks show the same number, but Irene has 5 flats and 6 rods. How many units would Irene have to have to equal Rosa's blocks? Draw the models of Rosa's and Irene's blocks. Write a sentence to explain.

Challenge: Irene would have to have 14 units.

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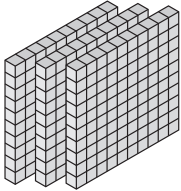
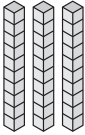

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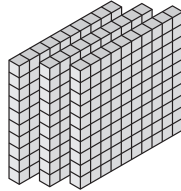


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**Use Base Ten Blocks. Build each number. Compare the numbers. Write the numbers with  $<$  or  $>$  between them.**

1.

Hundreds	Tens	Ones
		

Hundreds	Tens	Ones
		

\_\_\_\_\_

**Build each number. Draw the models. Write the numbers with  $<$  or  $>$  between them.**

2. 235      330

Hundreds	Tens	Ones

Hundreds	Tens	Ones

\_\_\_\_\_

**Write  $<$  or  $>$  between the numbers.**

3. 636 \_\_\_\_\_ 663

4. 178 \_\_\_\_\_ 175

Name \_\_\_\_\_

**Challenge!** Rosa has 5 flats, 7 rods, and 4 units on her desk. Irene says her blocks show the same number, but Irene has 5 flats and 6 rods. How many units would Irene have to have to equal Rosa's blocks? Draw the models of Rosa's and Irene's blocks. Write a sentence to explain.

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Name \_\_\_\_\_

Ones	Tens	Hundreds