

Objective

Compare two-digit numbers using the symbols $>$ and $<$.

Common Core State Standards

- **1.NBT.3** Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

Number and Operations in Base Ten

Comparing Two-Digit Numbers

The ability to compare is essential for problem solving. As children compare quantities, they develop logical reasoning as well as number sense. Children need opportunities to connect quantities with the numerals that represent them. Hands-on learning experiences provide these opportunities and help children gain proficiency in comparing, both visually and mentally. Moreover, employing the symbols for greater than ($>$) and less than ($<$) 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.

- **Say:** I have two numbers: 22 and 33. **Ask:** Where do I look first to find out which number is larger?
- **Say:** I have 32 and 33. They have the same number in the tens column. **Ask:** Where should I look to find out which number is larger?

Solve It

With children, reread the problem. Ask children to write the number sentences about the number of stickers, one using $>$ and one using $<$. Then have children write or draw how they can remember which sign is the greater than sign and which is the less than sign.

More Ideas

For other ways to teach about comparing numbers—

- Have two children play a game using Base Ten Blocks and a sheet of paper with a line drawn down the middle. Give children two numbers, such as 58 and 43. Have them use blocks to show one number on one side of the line and the other number on the other side. Then have children work together to decide which symbol ($>$ or $<$) should be placed between the numbers.
- Write number sentences with greater than or less than symbols on the board (for example, $86 > 64$). Challenge children to model both numbers with Base Ten Blocks and write a sentence to tell why the number sentence is true. (The number sentence is true because 86 has two more tens and two more ones than 64.)

Formative Assessment

Have children try the following problem.

Ray read 32 books last year. Pat read 38 books last year. Circle the sentence that shows how the numbers of books compare.

- A. $32 < 38$ B. $32 > 38$ C. $32 < 64$

Try It! 20 minutes | Pairs

Here is a problem about comparing numbers.

Jan and Michelle are best friends who like to collect stickers. Jan has 53 stickers in her collection and Michelle has 62. Who has more stickers, Jan or Michelle? How can you show who has more stickers?

Introduce the problem. Then have children do the activity to solve the problem.

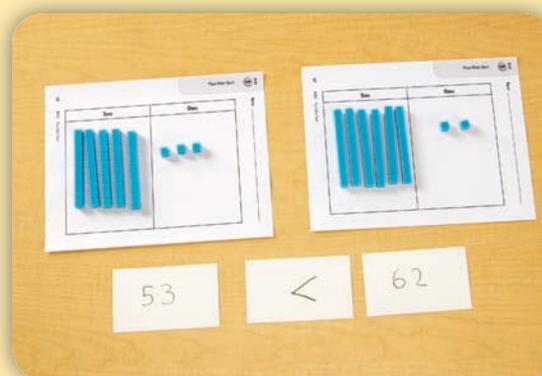
Give Base Ten Blocks, the Place-Value Chart (BLM 3), index cards, and pencils to pairs. Display a place-value chart for modeling.

Materials

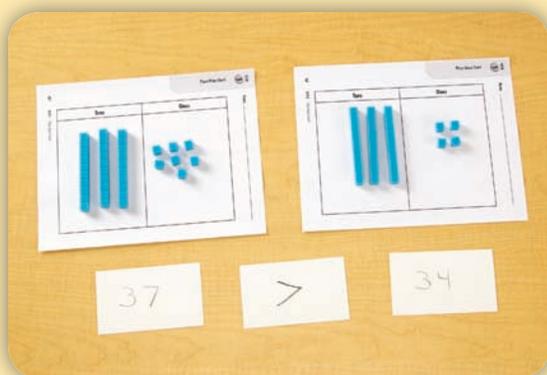
- Base Ten Blocks (11 rods and 11 units per pair)
- Place-Value Chart (BLM 3; 2 per pair)
- index cards (6 per pair)
- pencils (2 per pair)



1. Have one child in each pair use the blocks to show 53 on a place-value chart. Have the other child show 62. Then have children write the numbers on index cards and place them below the corresponding charts. **Ask:** Which number has more tens? Which is the larger number? Make sure children understand that we first look at the tens to find the larger number.



2. Display greater than (>) and less than (<) symbols, and explain what they mean. Write the numbers 53 and 62 on the board or overhead, leaving room for the correct symbol. **Ask:** If we compare 53 to 62, which symbol should we place between the two numbers? Is 53 greater than or less than 62? **Say:** Draw the symbol on a card and place it between the numbers.



3. Have children repeat steps 1 and 2 with 37 and 34. **Say:** I see that the tens columns for both numbers are the same. **Ask:** What do we do now? Guide children to compare the ones. Have children insert the correct symbol.

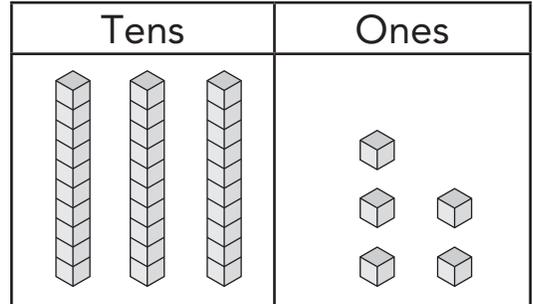
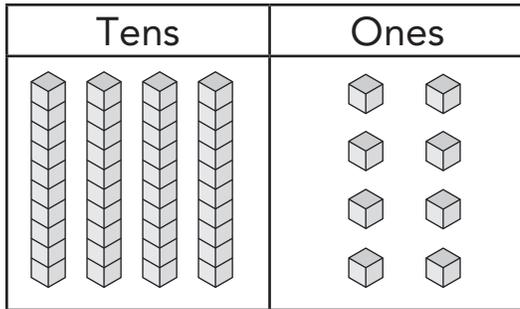
Look Out!

Children might confuse the > and < symbols. You might draw a simple outline of a baby bird with its beak wide open in the form of a <. Say that the symbol is like the little bird that always has its hungry mouth open to eat the greater number. Also, some children might make an incorrect exchange of tens when using blocks, for example, having $62 = 5$ rods and 12 units. Encourage these children to continue to exchange units for rods until they have 9 or fewer units.

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

(Check students' work.)

1.



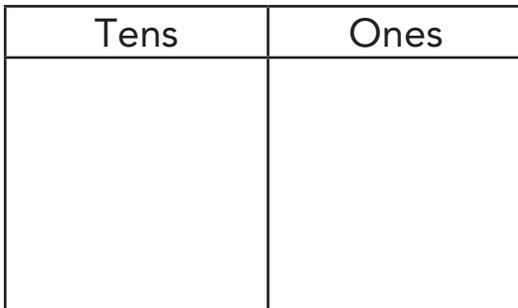
48

>

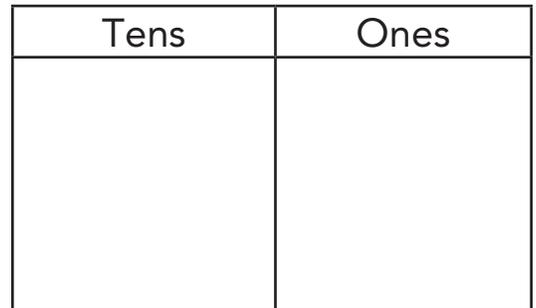
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Use Base Ten Blocks. Build each number. Draw the models. Write the numbers with > or < between them.

2. 24



32



24

<

32

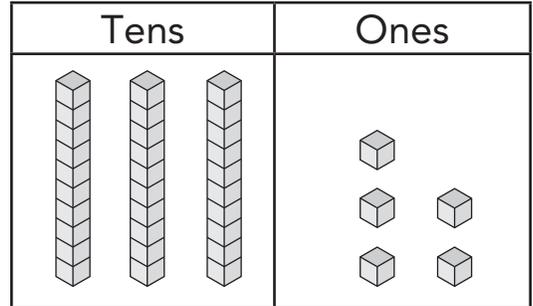
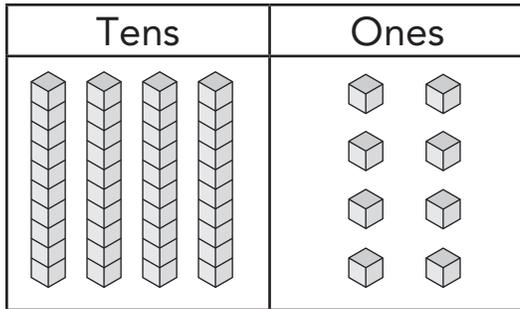
Write > or < between the numbers.

3. 22 > 15

4. 51 < 65

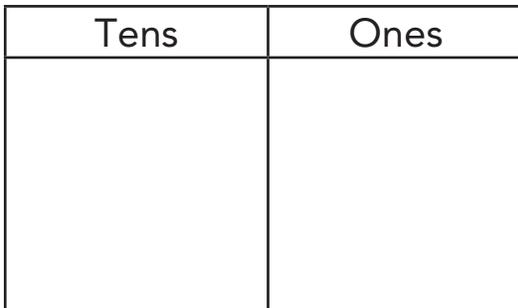
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1.

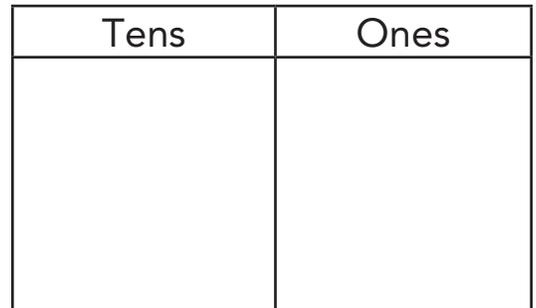


Use Base Ten Blocks. Build each number. Draw the models. Write the numbers with > or < between them.

2. 24



32



Write > or < between the numbers.

3. 22 _____ 15

4. 51 _____ 65

Name _____

Challenge! What place value did you compare first with the numbers in the lesson? Why?

Name _____

Ones	
Tens	