

LESSON 6

Objective

Find 10 more or 10 less than a given two-digit number.

Common Core State Standards

- **1.NBT.5** Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

Number and Operations in Base Ten

10 More, 10 Less

An understanding of the base ten system is critical in the development of a child's number sense, because it is the foundation for any attempt to perform multi-digit operations flexibly. For example, a child learns early on that 10 can be added to or subtracted from a two-digit number without changing the number of ones. Using concrete objects to practice finding 10 more and 10 less helps children visualize these operations in terms of place value and helps them learn to mentally find 10 more or 10 less without having to count.

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

Talk About It

Discuss the Try It! activity.

- Have children build a train of 3 Base Ten rods and 7 units on the Number Line (BLM 4), starting at 0. **Ask:** *What number does this model stand for? How many groups of 10 are in 37?* Then have the children find 10 more (by adding another rod). **Ask:** *What does this model stand for? How many groups of 10 are in 47?*
- Repeat using 5 Base Ten rods and 4 units and having children find 10 less.

Solve It

With children, reread the problem. Instruct children to draw a picture showing how many cards Trey has after he buys one pack of cards. Then have children write the addition sentence for the problem.

More Ideas

For other ways to teach finding 10 more and 10 less than a given two-digit number—

- Distribute the Hundred Chart (BLM 5) to each child. Point to 15 on the Hundred Chart. Have children slide their finger straight down to find 10 more than 15 (25). Repeat with other numbers. To find 10 less, have children slide their finger straight up.
- Give random numbers of Base Ten rods and units (less than 9 each) to children. Have pairs count them and decide what they represent—trading cards or beads, for example. Have children give 10 to a partner and tell what 10 less is. The partner should tell what 10 more is.

Formative Assessment

Have children try the following problem.

Circle the correct answer.

$$67 + 10 = \underline{\quad}$$

- A. 57 B. 68 C. 77

Try It! 20 minutes | Pairs

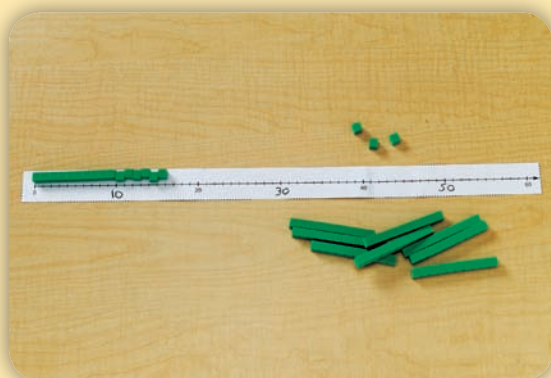
Here is a problem about finding 10 more and 10 less.

Trey buys baseball cards in packs of 10 cards. He had 16 cards. Then he buys one new pack of cards. So now he has 10 more cards. How many baseball cards does Trey have now? How many cards will Trey have if he gives the new pack to his brother?

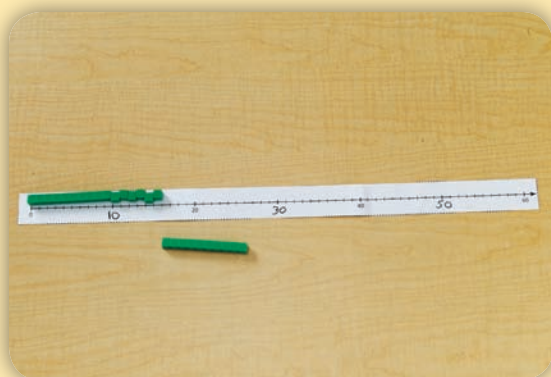
Introduce the problem. Then have children do the activity to solve the problem. Distribute Base Ten Blocks and the Number Line (BLM 4) to children. Help children assemble number lines or prepare number lines before the lesson.

Materials

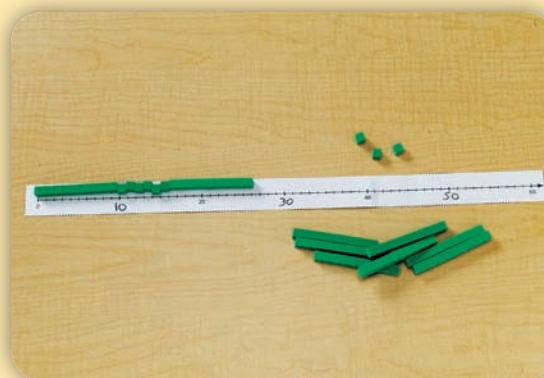
- Base Ten Blocks (9 rods and 9 units per pair)
- Number Line (BLM 4; 1 per pair)
- pencils (1 per pair)
- scissors and tape



1. Have children label the missing tens (10, 30, 50) on the number line. They can use a Base Ten rod as a measuring guide. Have one child in each pair place a Base Ten rod and 6 units on the number line to show 16. **Ask:** *How many tens does this number have? How many ones?*



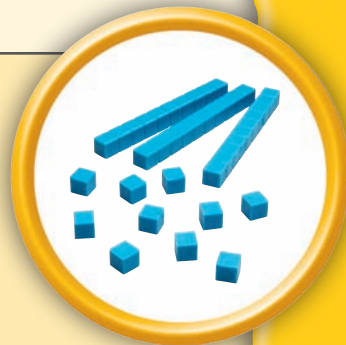
3. Have a child remove the second Base Ten rod to show 10 less. **Ask:** *How many tens does this number have? How many ones? Has the number of ones changed? How has the number of tens changed?* Guide children to realize that finding 10 less is the same as subtracting a ten.



2. Have the other child add a Base Ten rod to show 10 more. **Ask:** *How many tens does this number have? How many ones? Has the number of ones changed? How has the number of tens changed?* Guide children to realize that finding 10 more is the same as adding a ten, and write $16 + 10 = 26$ on the board.

! Look Out!

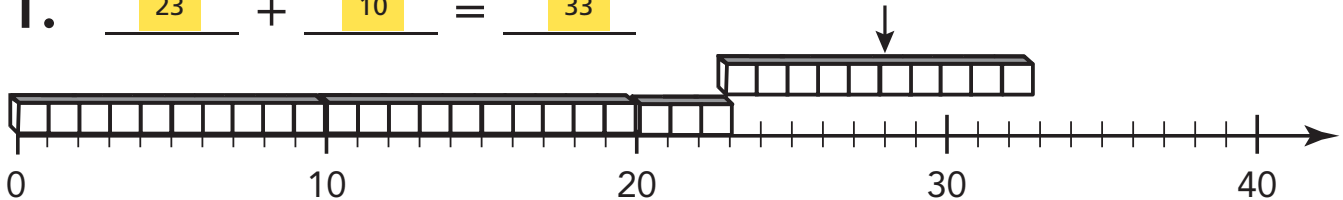
Watch for children who struggle to distinguish tens and ones. Have them align 10 units next to 1 rod to show correspondence. Then have them use rods and the number line to count by tens to twenty, thirty, forty, fifty, and sixty.



**Use Base Ten Blocks. Build each number.
Write the numbers and the sum.**

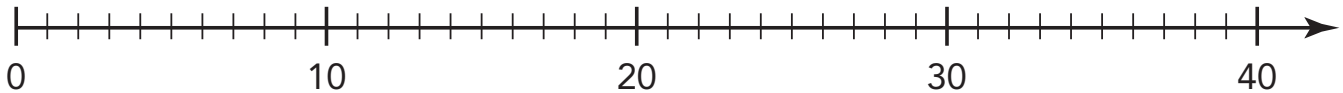
(Check students' work.)

1. $\underline{23} + \underline{10} = \underline{33}$



**Use Base Ten Blocks. Build the numbers.
Draw the models. Subtract.**

2. $35 - 10 = \underline{25}$



Add.

3. $17 + 10 = \underline{27}$

4. $42 + 10 = \underline{52}$

Subtract.

5. $29 - 10 = \underline{19}$

6. $58 - 10 = \underline{48}$

Answer Key

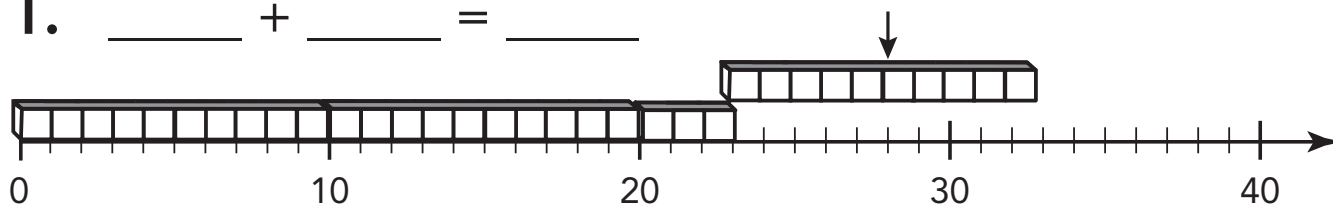
Challenge! Why do the ones not change when you find 10 more or 10 less?

Challenge: (Sample) 10 more or 10 less only changes the number of tens because I'm jumping 10 spaces on the number line.

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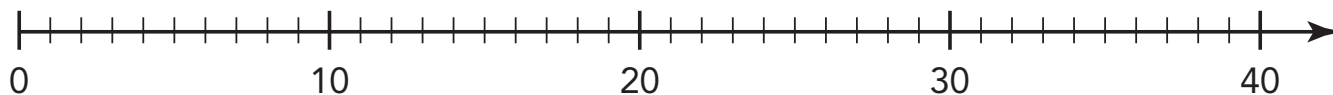
**Use Base Ten Blocks. Build each number.
Write the numbers and the sum.**

1. _____ + _____ = _____



**Use Base Ten Blocks. Build the numbers.
Draw the models. Subtract.**

2. $35 - 10 =$ _____



Add.

3. $17 + 10 =$ _____

4. $42 + 10 =$ _____

Subtract.

5. $29 - 10 =$ _____

6. $58 - 10 =$ _____

Name _____

Challenge! Why do the ones not change when you find 10 more or 10 less?

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Name _____

