

LESSON 3

Objective

Represent numbers 1 to 12 in different forms.

Common Core State Standards

- **2.NBT.3** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

Number and Operations in Base Ten

Represent Numbers

Representing numbers in multiple and flexible ways helps children gain number sense. Often children will understand one representation of a number, such as a numeral, but not a physical representation, such as with Base Ten Blocks. Using multiple representations of a number in the classroom reinforces the concept of a number. Understanding multiple representations sets the stage for algebraic thinking in which children will be able to identify a variable as a representation of a number.

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

Talk About It

Discuss the Try It! activity.

- Have children discuss how they know that different representations of the same number are equal.
- **Ask:** How could you show the number 11? What are two ways to show this number? What if we changed to the number 9? What are two ways you could show that number?

Solve It

With children, reread the problem. Invite them to use crayons and paper to make a poster that shows Steven's age four different ways. Tell children that they can draw a picture of a model for one of the ways.

More Ideas

For other ways to teach about representing the numbers 1 to 12 in different forms—

- Have children grab handfuls of Color Tiles. Then have children count the tiles, write the number, and show the number in two other ways.
- Have children write a number and word name and represent the number using Snap Cubes®.

Formative Assessment

Have children try the following problem.

Which picture shows 12? Draw a circle around the picture.

A. ☐ ☐ ☐ ☐ ☐
☐ ☐ ☐ ☐ ☐

B. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ ☐

C. ☐ ☐ ☐ ☐ ☐
☐ ☐ ☐ ☐

Try It! 15 minutes | Groups of 4

Here is a problem about representing the numbers 1 to 12 in different forms.

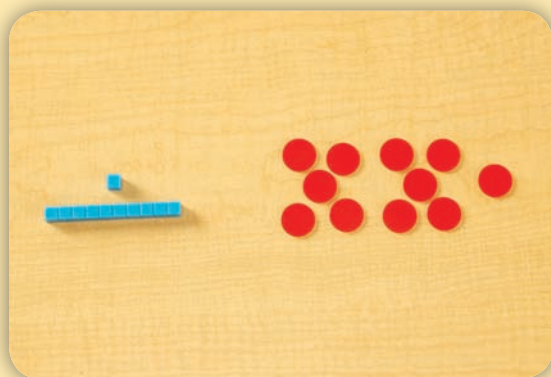
Steven is Jim's older brother. He just turned 11 years old. Mr. Anton, Jim's teacher, asked the class to make a birthday poster for Steven to show his age in four different ways. How can the class show Steven's age in four different ways?

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

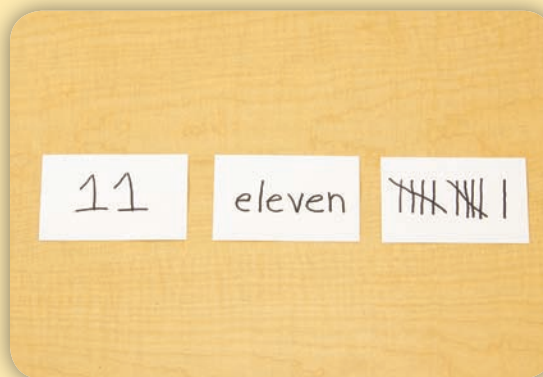
Before children do the activity, ask them to give examples of ways in which they might want to show an amount by using a word, a number, a tally mark, or a model (such as Base Ten Blocks). Give out blocks, counters, index cards, and crayons. **Say:** *Let's show the same number in different ways.*

Materials

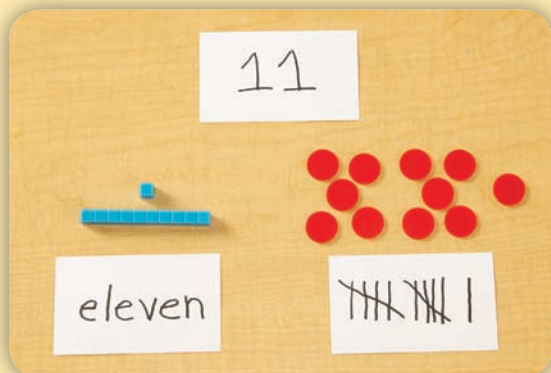
- Base Ten Blocks (1 rod and 12 units per group)
- Two-Color Counters (11 per group)
- index cards (3 per group)
- crayons (3 per group)



1. To begin, say the number 11 out loud. Give the blocks to one child in each group and the counters to another. Give index cards and crayons to the other children. Ask the two children to use the blocks and counters to model two ways to show 11.



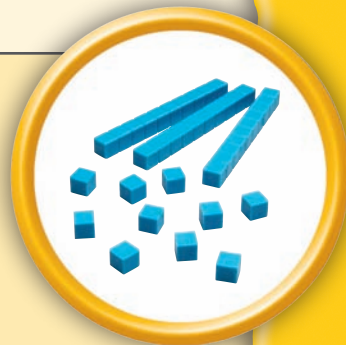
2. Ask the children with the index cards to work together to show 11 in three other ways. For example, children can make 11 tally marks, write the number 11, and write the word *eleven*.



3. Ask groups to check that all representations show the same number.

Look Out!

Check that children have created multiple representations of the same number. Children need to realize that the Base Ten rod equals and can be exchanged for 10 units.



Use Two-Color Counters and Base Ten Blocks.
Build the sets shown. Complete each sentence.

(Check students' work.)

1.  This set shows 12.

 This set shows 12.

 This set shows 12.

Use Two-Color Counters and Base Ten Blocks.
Draw a picture for each number.

(Check students' drawings.)

2. 9

Two-Color Counters:

Base Ten Blocks:

Tally Marks:

3. 10

Two-Color Counters:

Base Ten Blocks:

Tally Marks:

Answer Key

Challenge! Besides using Two-Color Counters, Base Ten Blocks, and Tally Marks, what are other ways to show a number?

Challenge: (Sample) Digits, words, sets of other objects

Use Two-Color Counters and Base Ten Blocks.
Build the sets shown. Complete each sentence.

1.  This set shows _____.

 This set shows _____.

 This set shows _____.

Use Two-Color Counters and Base Ten Blocks.
Draw a picture for each number.

2. 9

Two-Color Counters:

Base Ten Blocks:

Tally Marks:

3. 10

Two-Color Counters:

Base Ten Blocks:

Tally Marks:

Name _____

Challenge! Besides using Two-Color Counters, Base Ten Blocks, and Tally Marks, what are other ways to show a number?
