LESSON 2

Objective

Decompose numbers from 11 to 19 in tens and ones.

Common Core State Standards

- **K.NBT.1** Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Number and Operations in Base Ten

Decompose Numbers 11–19

As children continue to build their number sense by manipulating the numbers 11 to 19, they need to have experiences breaking apart or decomposing these numbers into one ten and a number of ones. Using concrete objects to decompose 11 to 19 into a ten and a number of ones gives children those experiences. These experiences also help children visualize each number as one ten and a number of ones, furthering their number sense and laying the foundation for further success in mathematics. This understanding of composing numbers into tens and ones, will be even more important as children are introduced to operations requiring regrouping.

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

Talk About It

Discuss the Try It! activity.

- **Ask:** *How many Snap Cubes® are in the top ten frame? How many Snap Cubes are in the bottom ten frame?* **Say:** *Let's count on from ten to make sure we still have sixteen cubes.* Have children point to each cube in the bottom frame and count with you: 11, 12, 13, 14, 15, 16.
- **Ask:** *If Luke fills the first box with ten crayons, how many crayons will be in the second box?* **say:** *Sixteen can be broken into ten ones and six ones. There will be six crayons in the second box.*
- **Say:** *We can write a number sentence to show this problem.* As you write *16 = 10 + 6* on the board, **say:** *We write sixteen to show the total number of crayons. We have ten in one box plus six more in the second box. Sixteen is equal to (or is the same as) ten plus six.*

Solve It

With children, reread the problem. Have them draw 16 crayons and write 16. Have them circle 10 of the crayons and write 10. Then have them write the number sentence 16 = 10 + 6 under their picture.

More Ideas

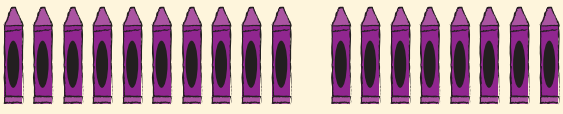
For other ways to teach decomposing numbers 11 to 19—

- Have children use Snap Cubes with the CounTEN® Sorting Tray. Give children a number from 11 to 19 and have them count out that number of cubes. Then have children place one cube in each cup of the tray to make a ten and lay the remaining cubes in a line in front of the tray.

Formative Assessment

Have children try the following problem.

Circle 10 crayons. How many more crayons are needed to make 18?



Try It! 15 minutes | Groups of 4

Here is a problem about decomposing numbers 11 to 19.

Luke is putting away the large crayons. Ten crayons fit in a box. There are 16 crayons on the table. If Luke fills the first box, how many crayons will be in the second box?

Introduce the problem. Then have children do the activity to solve the problem. Distribute Snap Cubes and the Ten-Frame Worksheet (BLM 4) to each group.

Materials

- Snap Cubes®
- Ten-Frame Worksheet (BLM 4)

1. Say: *Let's use Snap Cubes to show the crayons, and use ten frames to show the boxes.* **Ask:** *How many crayons does Luke need to put away?* Have children count 16 Snap Cubes and snap them together. Have them write 16 on their BLM.

2. Ask: *How many crayons fit in a box?* Have children count 10 of the Snap Cubes that are snapped together and break off the 10 cubes, placing them in a ten frame. **Ask:** *How many cubes are left? How can we find out?*

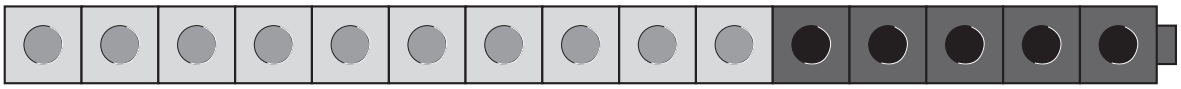
3. Say: *Let's use the ten frames as our crayon boxes. Put the ten Snap Cubes in the top ten frame. Put the six Snap Cubes in the bottom ten frame.* Have children fill the ten frames from left to right, top row first, them bottom row so that they can visualize the numbers more easily.

⚠ Look Out!

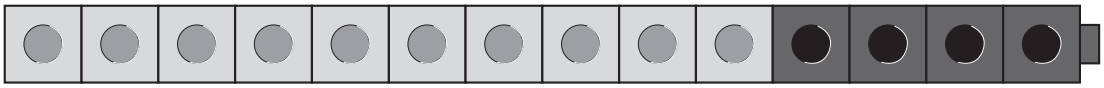
Watch for children who do not have 16 cubes snapped together to start. Have partners count the cubes together to make sure they have 16. Reinforce the number 10 by allowing the use of the ten frame to count out the necessary number of Snap Cubes. It might be helpful to use only two colors of Snap Cubes to allow children to see the two groups, 10 and 6.

Answer Key

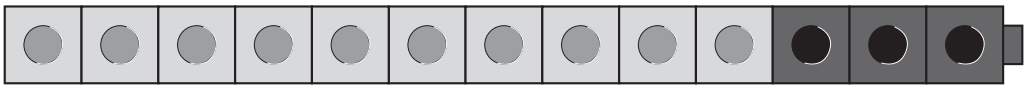
1.



$15 = 10 + \underline{5}$



$14 = 10 + \underline{4}$



$13 = 10 + \underline{3}$

2. 17 Check children's work.

$17 = 10 + \underline{7}$

Directions

1. Use Snap Cubes®. Make the models shown. Fill in the number sentence for each row. **2.** Use Snap Cubes.

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Answer Key

Check children's work.

Challenge

Draw 15 circles. Color 10 of the circles. Write a number sentence for your circles.

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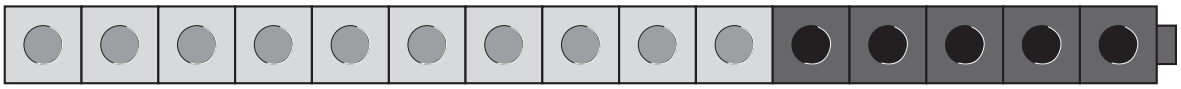
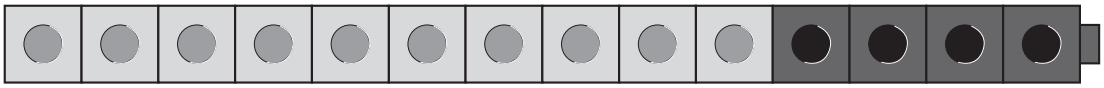
Name _____

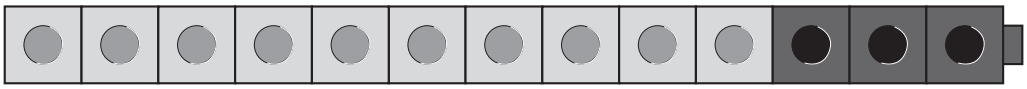
1.



15 = 10 + _____



14 = 10 + _____



13 = 10 + _____

2. 17

17 = 10 + _____

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