

## Objective

Use sets of concrete objects to represent quantities given in verbal or written form through the number 9.

## Common Core State Standards

- **K.CC.4** Understand the relationship between numbers and quantities; connect counting to cardinality.
- **K.CC.4a** When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
- **K.CC.4b** Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
- **K.CC.4c** Understand that each successive number name refers to a quantity that is one larger.
- **K.CC.5** Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. Compare numbers.

## Counting and Cardinality

# Representing Numbers with Objects

Numbers can be represented in multiple ways. The value of the number may be represented visually by sets of objects or symbols. The number may be expressed in its verbal or written form. These forms are more abstract representations. In order for children to develop number sense and progress to more complex representations of number, such as simple equations, they must first connect these three distinct representations (sets of objects, verbal form, and written form) and understand their shared meaning.

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

## Talk About It

Discuss the Try It! activity.

- Have children look at their completed trays and compare to other children’s trays.
- **Ask:** *Do you know how many houses there are? How many houses did you place in each compartment?*
- **Say:** *Count the houses in your carton.*

## Solve It

Ask children to draw a picture of their families. When they finish, they should write the number of people in their family, then share their pictures with the class, telling the class how many people there are.

## More Ideas

For other ways to teach about representing numbers with objects—

- Have children roll a dot die, count the dots, and name the number. Have children record answers by writing the number.
- Have children play “Go Fish” with cards that have object representations. Children should count the objects, name the number, and then ask for that number from other players.

## Formative Assessment

Have children complete the following activity.

*Janie has 4 dogs. Draw pictures of Janie’s dogs to show how many she has, and then write the number of dogs on your picture.*

**Try It!**

30 minutes | Pairs

Here is a problem about representing numbers.

*Julio and his father counted 6 houses on their street. Julio wants to set up his toy houses to look like the houses on his street. Show how many houses he should use.*

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

Follow the steps below to show Julio how many houses he should use.

**Materials**

- CounTEN® Sorting Tray (1 per pair)
- Classifying Counters (6 house counters per pair)



**1.** Guide children to put one house in their sorting trays. Tell children to say “one” to show there is one house.



**2.** Have children say “two” as they place another house in their trays.



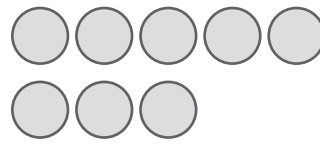
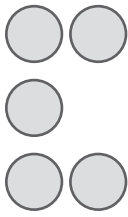
**3.** Have children keep putting houses in their trays until they reach six because Julio and his father counted six houses on their street.

**! Look Out!**

Watch for children who are not counting with a one-to-one ratio. Help these children by explaining again that one number is said for one house, then the next number for the next house, etc.



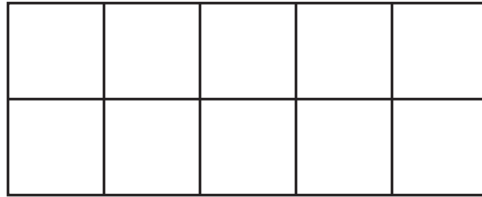
1.



5

8

2.



Check children's work.

**Directions**

1. Write the number for each group of counters. 2. Draw 8 counters in the first ten frame. Draw 8 counters in a different way in the second ten frame.



## Answer Key

Check children's work.

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### Challenge

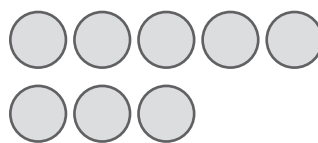
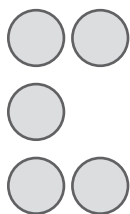
Dan has 6 toy cars. Draw a picture of Dan's cars. Then write the number of cars on your picture.

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Name \_\_\_\_\_

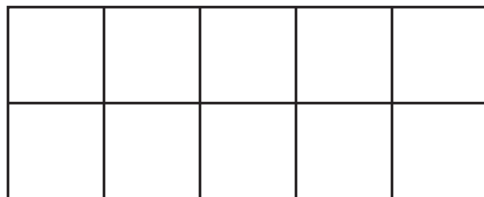
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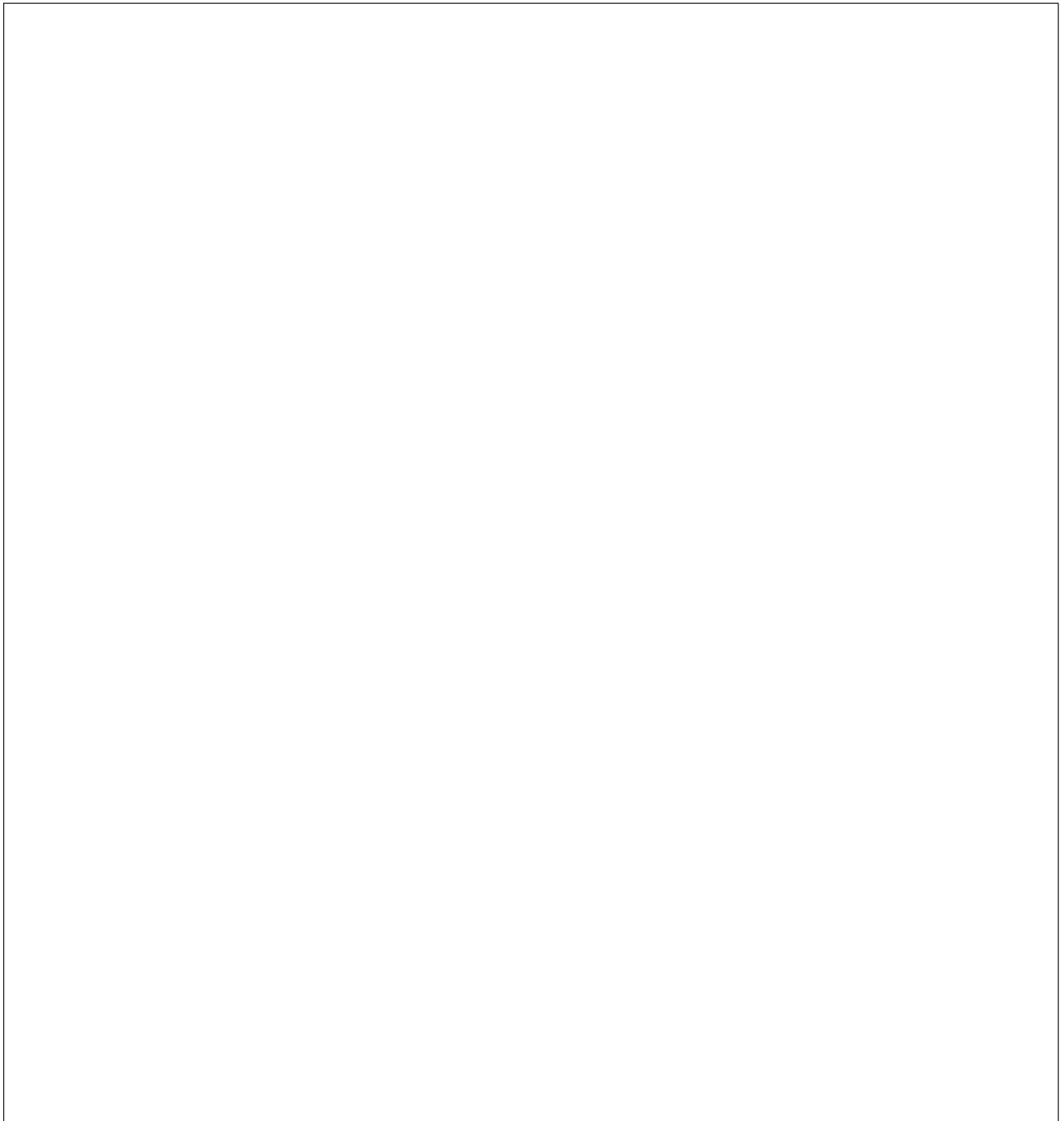
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2.

**Directions**

1. Write the number for each group of counters. 2. Draw 8 counters in the first ten frame. Draw 8 counters in a different way in the second ten frame.

Name \_\_\_\_\_



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### Challenge

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