

Objective

Estimate and count groups of objects to 10.

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

Estimate and Count

Young children must have varied opportunities to continue to develop, use, and practice counting groups of objects. Children often use different strategies for dealing with smaller versus larger groups. For example, some children may look at a small group of objects and recognize “how many,” but they may need to physically count larger sets to find the total number of objects. The ability to recognize small groups within a larger group supports the development of visually grouping objects as a strategy for estimating quantities.

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

Talk About It

Discuss the Try It! activity.

- Have children talk about how they made their estimates. **Ask:** *How can you tell when there are a lot of Link ‘N’ Learn® Links in the bag? How can you tell when there are only a few links in the bag?*
- Pass a bag containing 5 links around to the children. Let them feel the bag, shake it, and listen for sounds. **Ask:** *Do you think this bag has more than 5 links, less than 5 links, or about 5 links? What is your estimate?*
- **Ask:** *Which numbers do you think would be easy to estimate? Which numbers would be harder to estimate? Why do you think so?*

Solve It

With children, reread the problem. Have children talk about the things they would do to estimate the number of links in the bag if they were John.

More Ideas

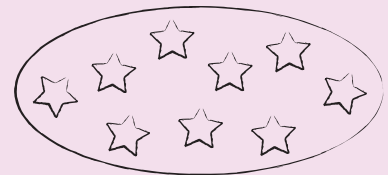
For other ways to teach about estimating and counting—

- Have children make bracelets using Link ‘N’ Learn Links. Before children start, have them get a feel for the size of 1 link. Then have them estimate how many links they think they will need to make a bracelet. Finally, have children build the bracelets and count the links. How close were their estimates?
- Have children make “estimation cups” by filling paper cups with up to 5 small objects, such as Snap Cubes® or Link ‘N’ Learn Links. Children can trade cups with other classmates and try to estimate the number of objects.

Formative Assessment

Have children try the following problem.

*How many stars do you see in the circle?
Make an estimate and then count.
How close was your estimate?*



Try It! 15 minutes | Pairs

Here is a problem about estimating and counting.

John's school is having a carnival. One stall has an estimating game. Children play by estimating how many Link 'N' Learn Links are in a paper bag without looking in the bag. How can John estimate how many links are in the bag?

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

Discuss the term *estimate* with children. Then give each pair a paper bag and 10 links. Pick one child in each pair to be the "Counter." The other child will be the "Estimator."

Materials

- Link 'N' Learn® Links (10 per pair)
- paper bags (1 per pair)



1. Invite the "Counters" to count out a number of links and place them in a bag. Tell these children that the number of links in the bag is a secret and they should not tell the "Estimators."



3. Have children talk about the reasons for their guesses. **Ask:** *Why did you guess that number?* Then ask the "Estimators" to empty the bag of links onto the table and count them. How close were children's estimates? Have children switch roles and repeat the activity with a different number of links.



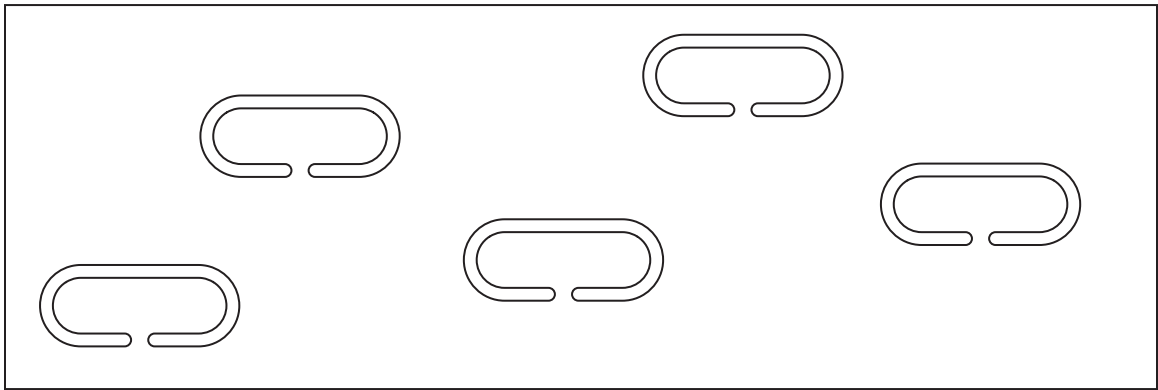
2. Ask the "Estimators" to estimate how many links are in the bag. (Have some links available for these children to use as reference.) Tell them that they can feel the bag and shake it, but not open it. **Ask:** *Can you tell how many are in the bag by quickly feeling, shaking, and listening?* **Say:** *When you think you know the number, say the number out loud.*

! Look Out!

Watch for children who make unreasonable estimates. Remind these children to use the loose links as reference for their estimates.



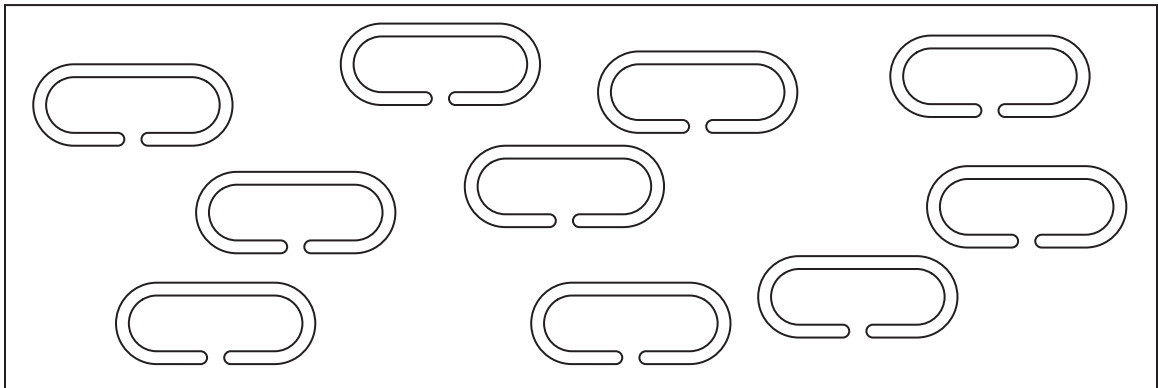
1.



Check children's work.

5

2.



Check children's work.

10

Directions

1. How many links do you see in the box? Make an estimate and write the number. Now count and write the number. How close was your estimate? 2. How many links do you see in the box? Make an estimate and write the number. Now count and write the number. How close was your estimate?



Answer Key

Check children's work.

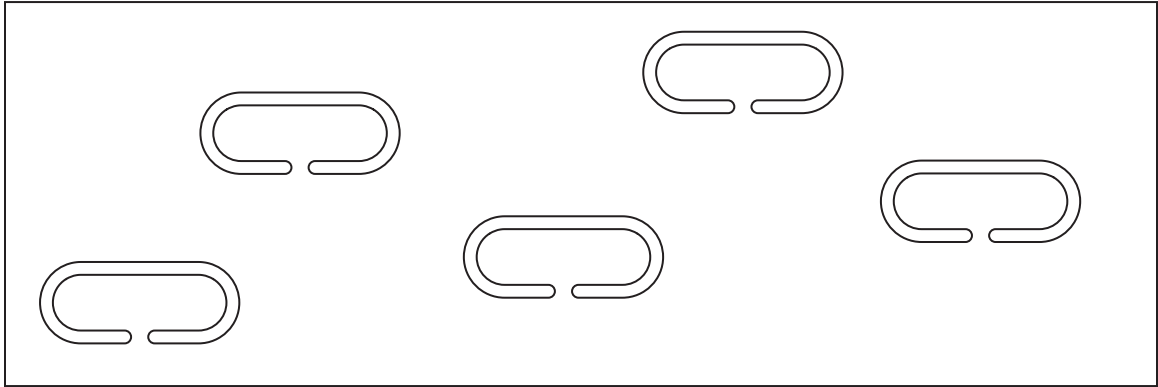
Challenge

Place a handful of links on the table. Estimate how many links you grabbed and write the number. Then count and write the number. How close was your estimate?

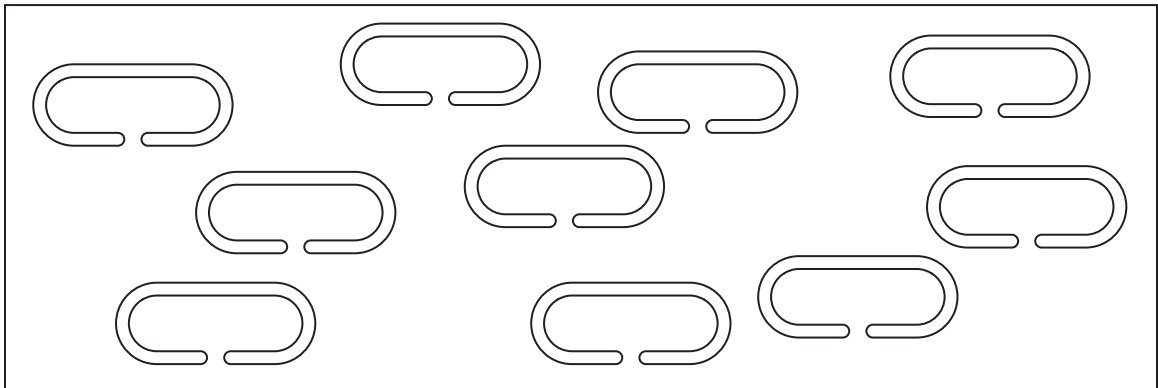
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1.



2.



Directions

1. How many links do you see in the box? Make an estimate and write the number. Now count and write the number. How close was your estimate? 2. How many links do you see in the box? Make an estimate and write the number. Now count and write the number. How close was your estimate?

Name _____

Challenge

Place a handful of links on the table. Estimate how many links you grabbed and write the number. Then count and write the number. How close was your estimate?

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