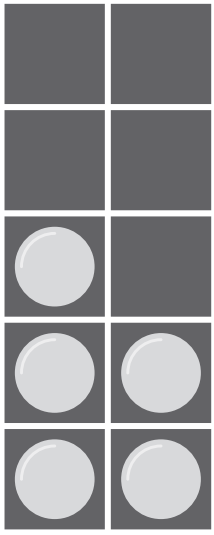
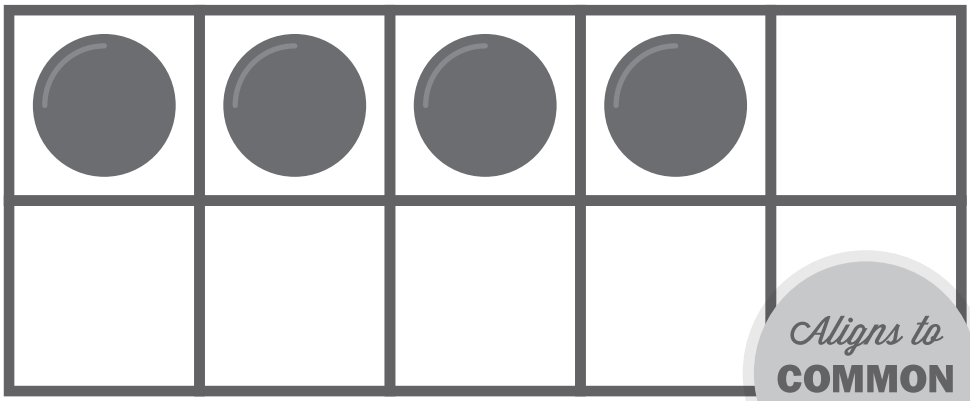
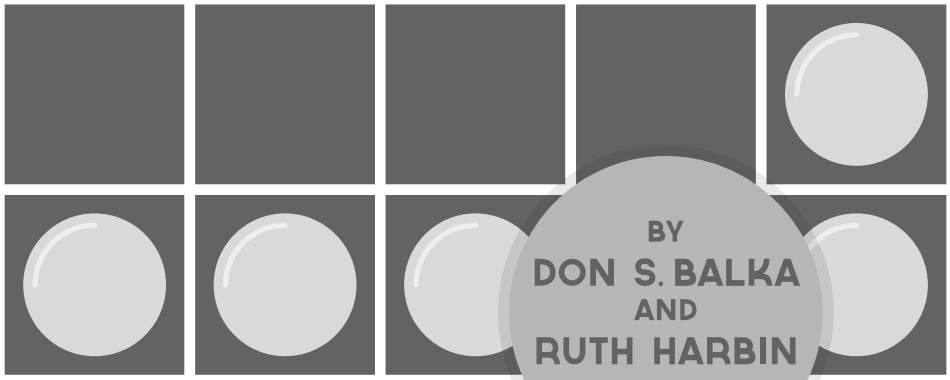
WORKING WITH TEN-FRAMES

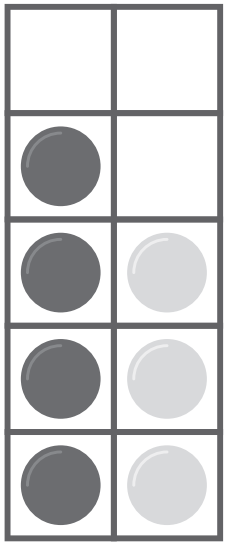
Activities for Counting • Operations and Algebraic Thinking • Base Ten





Aligns to **COMMON CORE**





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Printed in the United States of America.

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Order Number 211496
ISBN 978-1-58324-657-3

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395 Main Street
Rowley, MA 01969
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8: Stand Up and Be Counted

Number of Students

Entire class

Materials

- 2 ten-frames or Ten-Frames Template (page 110)
- Number Cards 6–20 (pages 117–119)
- 20 Unifix Cubes
- Document camera or projection device

Overview

In this teacher-directed activity, students will practice counting strategies with up to 20 objects.

Common Core State Standards

Content Standards:

Grade Level: K

Domain: Counting and Cardinality (K.CC)

Count to tell the number of objects.

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.

Practice Standards:

2. Reason abstractly and quantitatively.

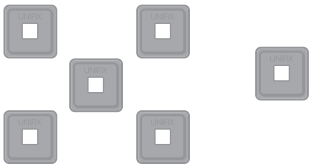
Students must make sense of the quantity in each grouping of cubes.

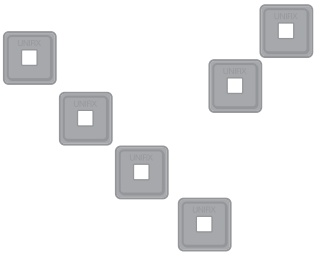
Presenting the Activity

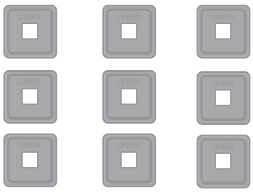
1. Distribute one number card to each student.
2. Say to the students:

   > I will show you some Unifix Cubes. Count the cubes.
   >
   > I will say, "Stand up and be counted." If you have the card with the number that matches the cubes, you will stand up and hold up your card.
   >
   > You will explain to us how you grouped your cubes for counting, and then you will count the cubes for your classmates.

3. Continue with the activity by displaying several Unifix Cube groupings for students to count, like the examples shown at right.
4. If the objects you show are in a circle, the students must decide a starting point to begin the count.
5. If the objects you show are scattered, the students could explain how they regrouped the cubes, or perhaps how they found a pattern in the cube arrangement.







Assessing Student Responses

The following questions will help you assess your students' responses to the activity.

- Did the student(s) use one-to-one correspondence to count correctly?
- Did the student(s) explain the grouping strategy they used?
- Did the student(s) move the objects into a pattern?
- Did the student(s) explain where they started counting in a scattered configuration?

28: Who Am I?

Number of Students

Partner pairs

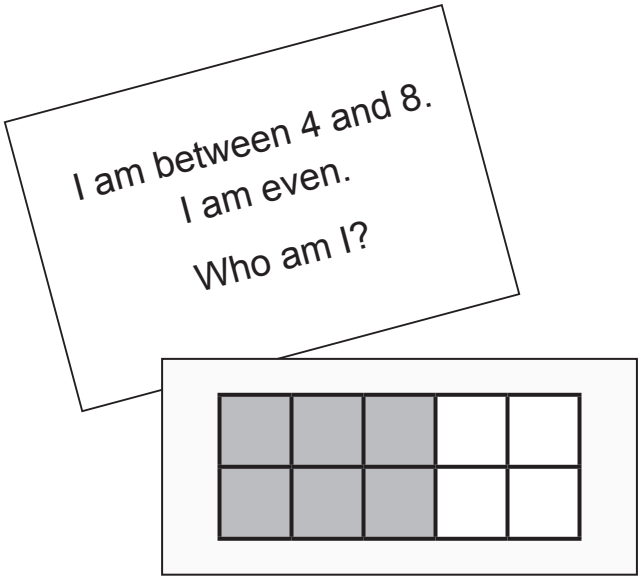
Materials

For each pair of students:

- Ten-Frame Cards 1–20 (pages 114–115)
- "Who Am I?" Cards (pages 145–147)

Overview

In this activity, students respond to oral or written problems involving numbers from 1 to 20, some of which have more than one solution.



Common Core State Standards

Content Standards:

Grade Level: 1

Domain: Operations and Algebraic Thinking (1.OA)

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Domain: Number and Operations in Base Ten (1.NBT)

Understand place value.

2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
   a. 10 can be thought of as a bundle of ten ones—called a "ten."
   b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

Practice Standards:

1. **Make sense of problems and persevere in solving them.**

   Students must explain to themselves and to their classmates what the information means for each problem. In certain situations, problems can have more than one solution.

2. **Reason abstractly and quantitatively.**

   Students must make sense of mathematical vocabulary for the quantities involved on each problem card.

Presenting the Activity

1. Make copies of the Ten-Frame Cards and the "Who Am I?" Cards on card stock and cut them apart.
2. Distribute the Ten-Frame Cards and the "Who Am I?" Cards to each pair of students.
3. Depending upon the students' ability to read, you may need to read the cards to students.
4. Say to the students:

   Place the Ten-Frame Cards from 1 to 20 in front of both of you.

   One of you starts by selecting a "Who Am I?" Card and reading the problem.

   Your partner finds the Ten-Frame Card or cards that answers the question "Who am I?"

   Remember, some cards will have more than one number for an answer. Be sure to find all of the numbers.

5. You may need to demonstrate the activity with one card.
6. Allow time for students to complete the task.
7. Repeat the activity until all "Who Am I?" Cards have been used.
8. For each card selected, say to student(s):

   Is there one answer or more than one answer to this problem?

   If there is more than one number, how did you know?

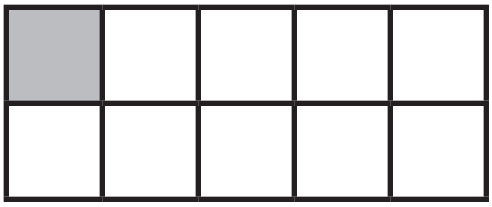
Assessing Student Responses

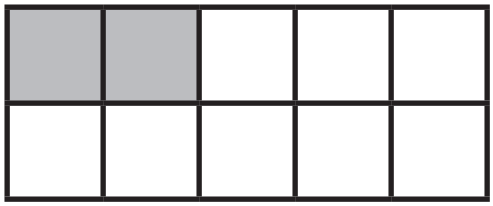
The following questions will help you assess your students' responses to the activity:

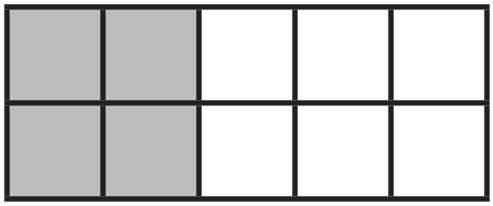
- Did the student(s) correctly find the cards for each problem situation?
- If the problem had more than one correct answer, how did the student(s) determine the multiple answers?
- If the student(s) did not find all solutions to a problem, did you observe or hear any strategies they might have used?
- Did the student(s) have difficulty reading the "Who Am I?" Cards?
- Did the student(s) have difficulty with any particular problem format?

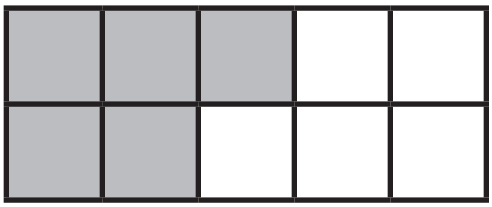
Ten-Frames Template

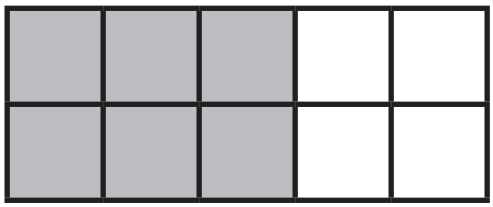
Ten-Frame Cards 1–10

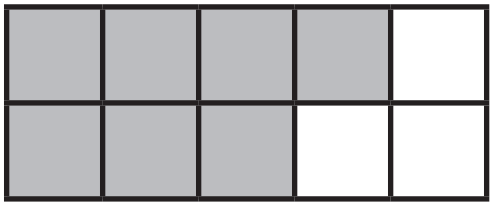


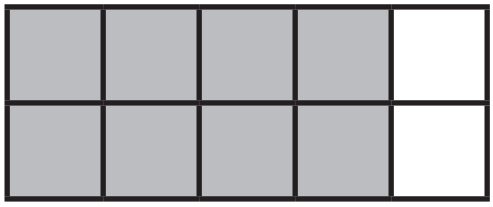


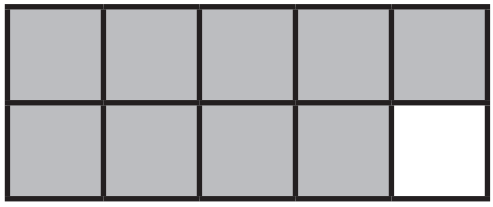


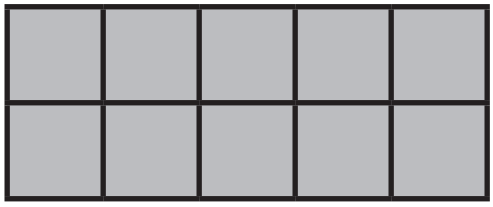




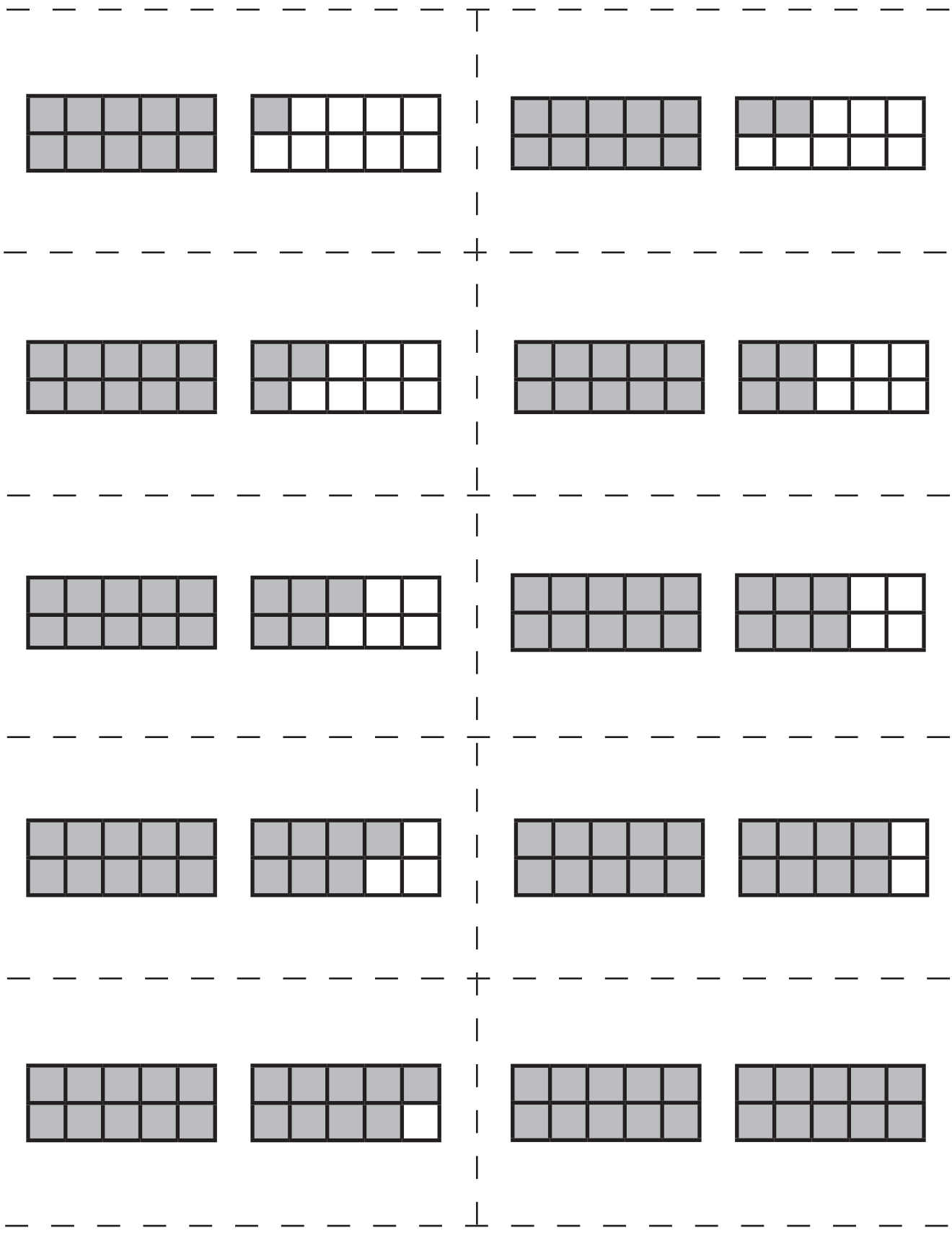


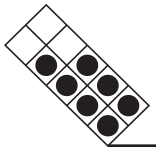






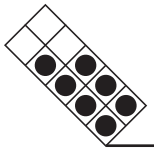
Ten-Frame Cards 11–20





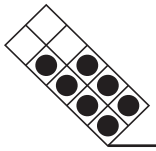
Number Cards 1–9

1	2	3
4	5	6
7	8	9



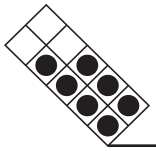
Number Cards 10–18

10	11	12
13	14	15
16	17	18



Number Cards 19–27

19	20	21
22	23	24
25	26	27



"Who Am I?" Cards

I am between 4 and 8.
I am even.

Who am I?

I am less than 16.
I am greater than 12.
I am odd.

Who am I?

I am between 14 and 20.
I am odd.

Who am I?

I am between 2 and 9.
I am even.

Who am I?

I am greater than 10.
I am less than 13.
I am odd.

Who am I?

I am less than 10.
I am the number of days in a week.

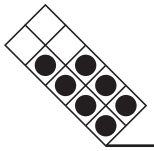
Who am I?

I am less than 5.
I am greater than 2.
I am even.

Who am I?

I am greater than 9.
I am less than 15.
I am even.
I am not 10.

Who am I?



"Who Am I?" Cards

I am greater than 7 and less than 13.
I am odd.

Who am I?

I am less than 9.
I am greater than 3.
I am odd.

Who am I?

I am less than 8 and greater than 1.
If I am doubled, I am less than 5.

Who am I?

I am even and less than 12.
When I am doubled, I have 0 in the ones place.

Who am I?

I am greater than 12.
I am less than 20.
I am even.

Who am I?

I am between 13 and 16.

Who am I?

I am between 7 and 10.
I am even.

Who am I?

I am a 2-digit number.
Both of my digits are the same.

Who am I?

"Who Am I?" Cards

I am a 2-digit number.
My ones digit is 6 more than my tens digit.

Who am I?

I am even.
My double is greater than 13 and less than 18.

Who am I?

I am a 2-digit number.
My ones digit is 3 more than my tens digit.

Who am I?

I am odd and less than 12.
When I am doubled, I have an 8 in the ones place.

Who am I?

I am a 2-digit number.
My ones digit is double my tens digit.

Who am I?

I am between 10 and 15.
I am even.

Who am I?

I am odd.
My double is greater than 13 and less than 16.

Who am I?

I am a 2-digit number.
My ones digit is 8 more than my tens digit.

Who am I?