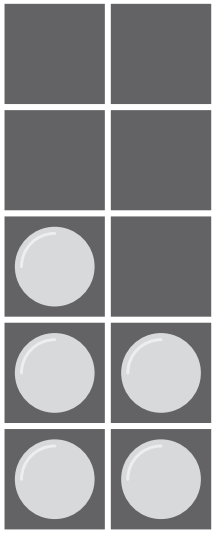
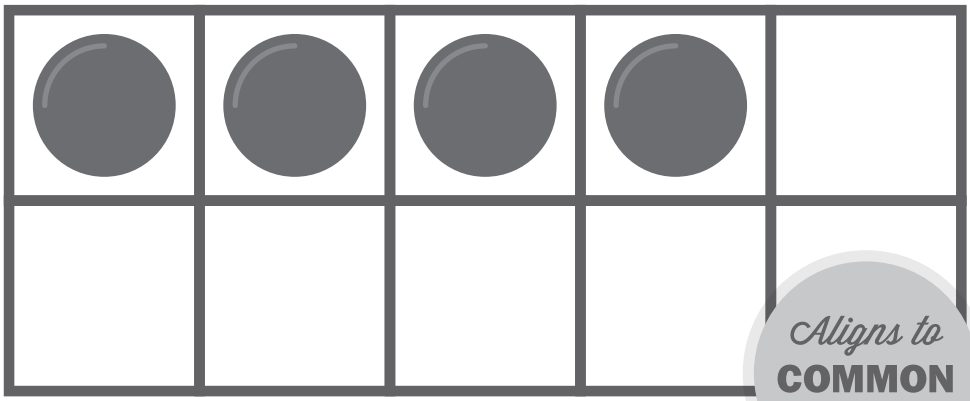
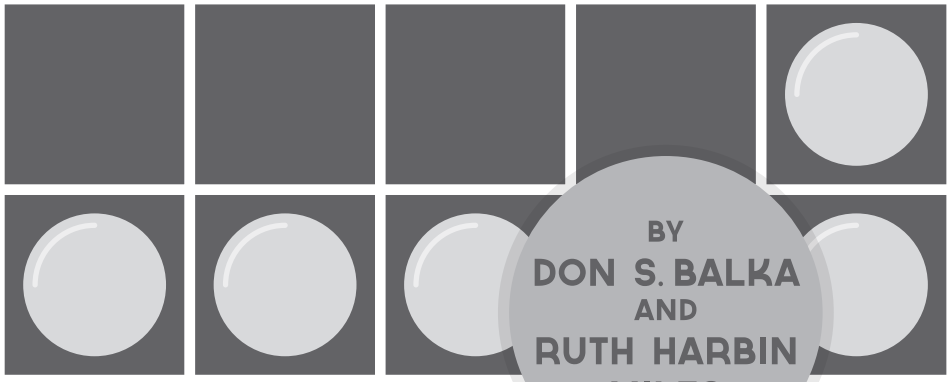
# WORKING WITH TEN-FRAMES

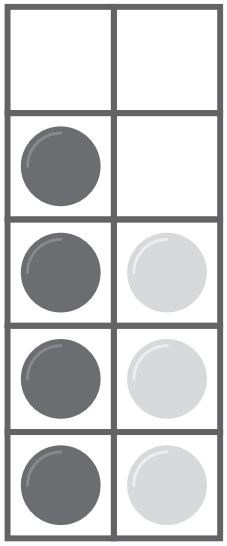
**Activities for Counting • Operations and Algebraic Thinking • Base Ten**





*Aligns to* **COMMON CORE**





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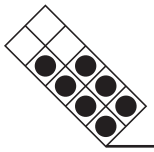
# Table of Contents



# Correlation to Common Core State Standards

| Standard[1, 2] | Activity No. |
|---|---|
| **Grade K** | |
| **Counting and Cardinality (K.CC)** | |
| Know number names and the count sequence. (K.CC.1–3) | 1, 2, 3, 4, 7, 11, 12 |
| Count to tell the number of objects. (K.CC.4–5) | 1, 2, 5, 6, 7, 8, 9, 19 |
| Compare numbers. (K.CC.6–7) | 10, 11, 12, 40 |
| **Operations and Algebraic Thinking (K.OA)** | |
| Understand addition as putting together and adding to, and undersand subtraction as taking apart and taking from. (K.OA.1–5) | 6, 13, 14, 15, 16, 17, 18, 19, 20, 21 |
| **Number and Operations in Base Ten (K.NBT)** | |
| Work with numbers 11–19 to gain foundations for place value. (K.NBT.1) | 22, 23, 24, 25 |
| **Grade 1** | |
| **Operations and Algebraic Thinking (1.OA)** | |
| Represent and solve problems involving addition and subtraction. (1.OA.1–2) | 26, 27, 28, 29, 30, 31 |
| Understand and apply properties of operations and the relationship between addition and subtraction. (1.OA.3–4) | 32, 33, 34 |
| Add and subtract within 20. (1.OA.5–6) | 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 47, 49, 50 |
| **Number and Operations in Base Ten (1.NBT)** | |
| Understand place value. (1.NBT.2–3) | 2, 11, 12, 28, 43, 44 |
| Use place value understanding and properties of operations to add and subtract. (1.NBT.4–6) | 45, 46, 47, 48, 49 |

[1] Standards not correlated to the activities in this book are not listed.

[2] See teacher pages for a more detailed correlation of each activity to the standard listed.

# 7: Find It on the Floor

## Number of Students

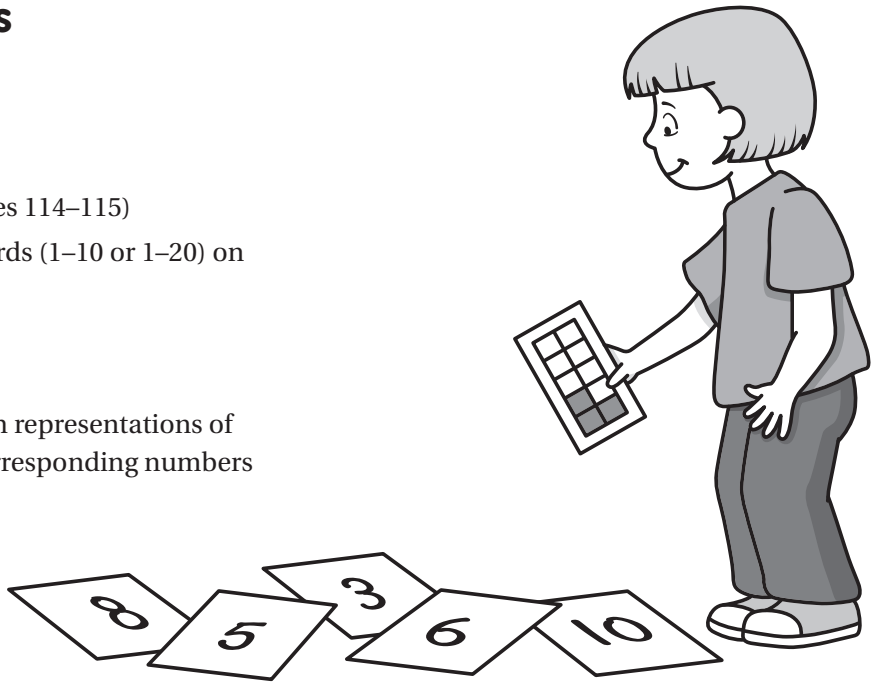
Small group or entire class

## Materials

- Ten-Frame Cards 1–20 (pages 114–115)
- Teacher-created number cards (1–10 or 1–20) on 8.5 × 11 in. paper

## Overview

In this activity, students match representations of numbers on ten-frames to corresponding numbers placed on the floor.




## Common Core State Standards

### Content Standards:

**Grade Level:** K

**Domain:** Counting and Cardinality (K.CC)

**Know number names and the count sequence.**

1. Count to 100 by ones and tens.

**Count to tell the number of objects.**

4. Understand the relationship between numbers and quantities; connect counting to cardinality.
   a. 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.
   b. 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.
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:

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

   Kindergarten students are beginning their mathematics learning. They are matching the representation of a quantity on a ten-frame with the corresponding numeral.

2. **Reason abstractly and quantitatively.**

   Students must be able to "transfer" a quantity represented on the ten-frames to the corresponding number.

## Presenting the Activity

1. Make copies of the Ten-Frame Cards (1–10 or 1–20) and distribute one card to each student.
2. Write the numbers 1 to 10, or 1 to 20, on separate sheets of 8.5 × 11 in. paper.
3. Randomly place these informal number cards on the floor.
4. Say to the students:

   > When I say "Go!" I want you to find the number on the floor that matches the number represented on your ten-frame.
   >
   > When you find it, come to the front of the room and line up in order from 1 to 10 (or 1 to 20).

5. You may need to demonstrate the activity with one ten-frame and one number card.
6. Allow time for students to complete the activity.
7. Say to the students:

   > When we finish, I will mix up the ten-frames and we will try again.

8. Repeat the activity at least three times.

## Assessing Student Responses

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

- Did the student(s) match the ten-frame correctly to the corresponding number card?
- Did the student(s) order the numbers correctly? If not, were certain numbers problematic?
- What procedure did the student(s) use to make the matches? Did they count the objects on their ten-frame one by one? Did they know what the corresponding number was just by looking?
- Did the student(s) have difficulty with higher numbers? Did they have to recount on the ten-frame to make certain matches?

# 27: Where Are You?

## Number of Students

Entire class in pairs

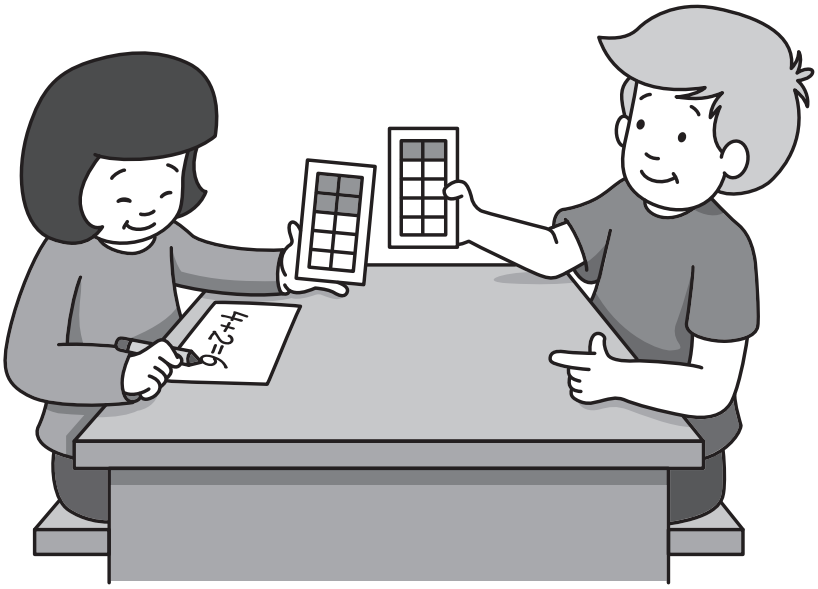
## Materials

For each pair of students:

- Ten-Frame Cards 1–10, 4 sets (page 114)

## Overview

In this activity, pairs of students find the sum of their two Ten-Frame Cards. If the sum is not 20, they find another pair who has the missing addend that will produce a sum of 20.




## 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.

### 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 the quantities involved on each card, manipulating objects in a quantitative manner to solve the problems.

## Presenting the Activity

1. Make 4 copies of the Ten-Frame Cards on card stock and cut them apart.
2. Group students into pairs.
3. Distribute a Ten-Frame Card to each student.
4. Say to the student(s):

> With your partner, find the sum of the two numbers represented on your ten-frames.
>
> Then write a number sentence showing the sum. For example, if one of you has 3 and the other has 5, write "3 + 5 = 8."
>
> When you finish, write a subtraction number sentence to show what you need to have a sum of 20. (20 − 8 = 12.)
>
> You need to find a pair whose Ten-Frame Cards sum to 12. When you do, go stand together with the other pair.

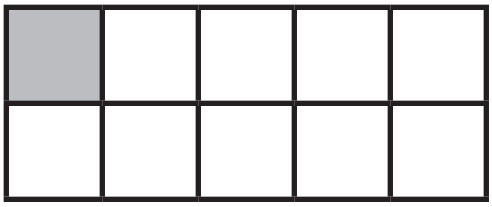
5. The first two pairs that make a sum of 20 win the game.
6. Allow time for students to complete the game.
7. At the completion of the game, collect the cards, redistribute them to the pairs, and play a second game.

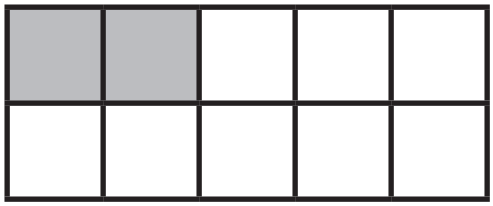
## Assessing Student Responses

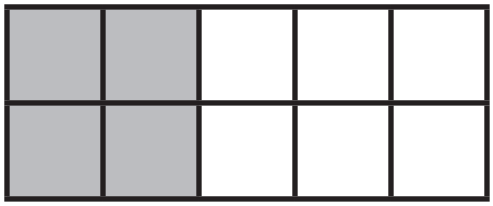
The following questions will help you assess your students' responses to the activity:

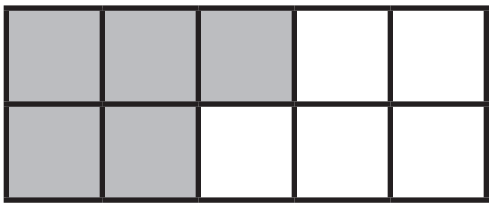
- Did the pairs of students correctly find the sum of the two numbers represented on the ten-frames?
- Did the pairs of students correctly write the two number sentences?
- If the student(s) gave an incorrect sum, is there an observable error pattern?
- Were the pairs of students able to find another pair to make a sum of 20?

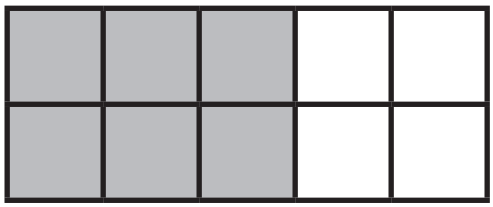
# Ten-Frame Cards 1–10

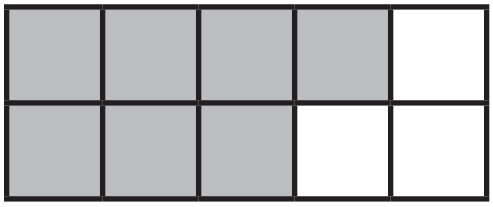


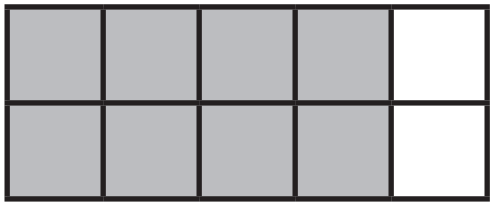


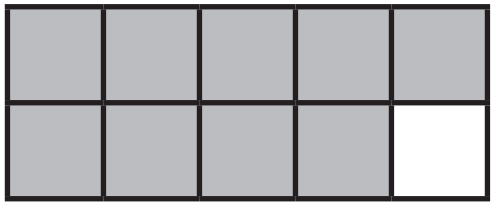


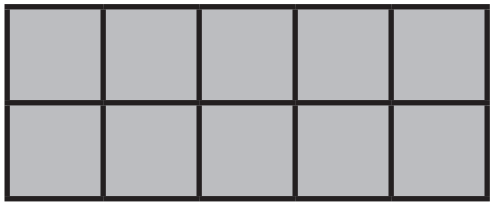












# Ten-Frame Cards 11–20