

# Disappearing Parts

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<b>Strand:</b>	Number and Number Sense
<b>Topic:</b>	Composing and Decomposing Numbers to 10
<b>Primary SOL:</b>	K.4 The student will a) recognize and describe with fluency part-whole relationships for numbers up to 5; and b) investigate and describe part-whole relationships for numbers up to 10.
<b>Related SOL:</b>	K.1, K.6

## Materials

- Overhead projector or document camera
- Magnetic counters
- Magnet wand (magnetic counters and wands are often used when playing Bingo)

## Vocabulary

*number, part, whole, zero (0), one (1), two (2), three (3), four (4), five (5), six (6), seven (7), eight (8), nine (9), ten (10)*

## Student/Teacher Actions: What should students be doing? What should teachers be doing?

*Note: This activity can be done with however many total counters you wish to focus on as the “whole” for the day. Begin with just two or three counters. This is meant to be a quick 5 – 10 minute activity that can be done as a daily routine or number talk. Gradually move to bigger “wholes” as the majority of students become fluent with the parts of the current “whole”. Students need much practice with the same whole to become fluent with the parts of that whole. Keep in mind that the goal is fluency with wholes through five and investigation of wholes through ten.*

1. Tell students that you will be using a special tool today. Show students a pile of counters and the magnetic wand. Touch the magnetic wand to the pile of counters so that it picks up a few counters. Ask the students to describe what happened. (They may say that some of the counters stuck to the wand.) Repeat this a few more times so that students understand that some of the counters are sticking to the wand.
2. Place three counters (the target number for the day) randomly on the overhead projector or document camera. Have the students determine the total number of counters shown and describe how they determined the total. Be sure to refer to the total as the “whole.”
3. Turn the projector off and use the magnet wand to pick up some of the counters and make them disappear. (Students should not see how many counters are on the wand.)
4. Turn on the projector. Have students identify the number of counters showing.
5. Ask students, “How many counters do you think disappeared? How do you know?” Show the counters on the wand. Say: “Our whole was three. The part we saw was two. The part on the wand was one. Two and one is three.” As students become more familiar with the language of parts and wholes, begin to record the parts for combination

explored with the magnetic wand. (Note: In kindergarten, we should be saying and writing “\_\_ and \_\_.” We do not want students rushing into the symbolism of “+” and “-,” but rather gaining a deeper understanding of number sense and what makes up a number.)

6. Replace the counters from the wand and repeat, picking up either a different number of counters or the same number of counters with the magnet wand each time. Be sure to explore picking up zero counters with the wand and picking up all of the counters with the wand to talk about “zero and three” as well as “three and zero”.

### Assessment

- **Questions**

- What are some ways you can make \_\_\_\_?
- How do you know \_\_ and \_\_ make \_\_?
- What goes with \_\_ to make \_\_\_\_? How do you know?
- I wonder how many counters you will see if I put \_\_\_\_ on my wand? Why do think it's\_\_?

- **Journal/writing prompts**

- Have students draw what the two parts could have looked like with a particular number.
- Have students draw two other ways their two-sided counters could have looked.

- **Other Assessments**

- Show students \_\_\_\_ counters and ask them how many more are needed to make \_\_\_\_.
- Bean assessment: Place some beans on the table and ask the students to hand you \_\_\_\_ beans. (Or use another manipulative that can be easily hidden in a cup.) Place all of the beans in a cup and then remove some of them from the cup. Show the removed beans to the student and ask, “How many are left in the cup?” Repeat until all combinations of that number have been given. A student who is fluent with part-whole relationships for a given number will quickly tell you the number of beans left in the cup for all combinations of that number, without having to figure it out. A student who is incorrect or must figure it out needs more practice to become fluent.

### Extensions and Connections (for all students)

- Students can solve story problems where the whole is known but the two parts are unknown. “I have five crayons in all. Some are blue and some are purple. How many of each could there be?” Encourage students to find all of the ways.
- As students work toward fluency they can be encouraged to also write number sentences to represent the parts and the whole (“2 and 3 is 5,” or “5 is 2 and 3”).
- The magnetic counters and wand can be placed at a station for students to practice decomposing numbers. Make bags that contain 3, 4, 5, etc. counters and label each bag

with the number of counters inside. Students pick up the bag that corresponds to whatever number they are exploring as their target whole.

**Strategies for Differentiation**

- Differentiate the “whole” with which each student will work.
- Have the students write the part on the table and the part on the wand.
- Have students use a number bond mat or part-part-whole mat to record the parts.
- Provide a number path to assist with writing numerals.