InsightMath California

# Discovering Parts and Totals

Family Guide | Grade K | Unit 3

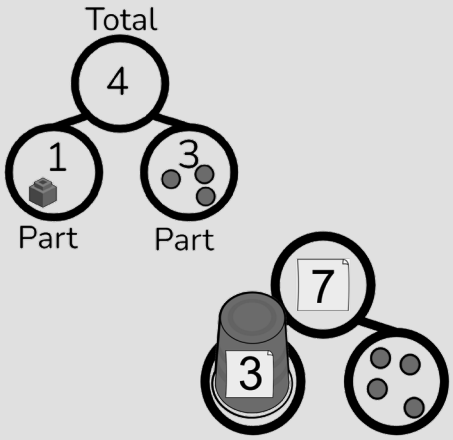
**Your student is exploring how numbers are composed of other numbers.**

## Key Math Ideas

In previous units, students counted sets of objects to answer "How many?" In this unit, students make smaller groups within a larger set to answer "How many in each group?" and "How many altogether?"

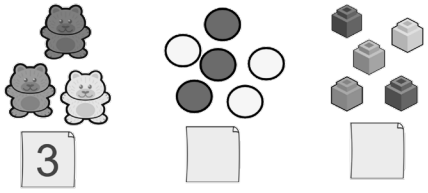
Students sort real objects, such as connecting cubes versus counters, into groups, then use **number bonds** to show the parts and total. For example, the top number bond shows that one connecting cube and three counters make four things in total.

Students then learn to **count on**, or count starting at numbers other than 1. After covering three objects with a cup, they count on by saying, "I have 3. 4, 5, 6, 7," to find the total.



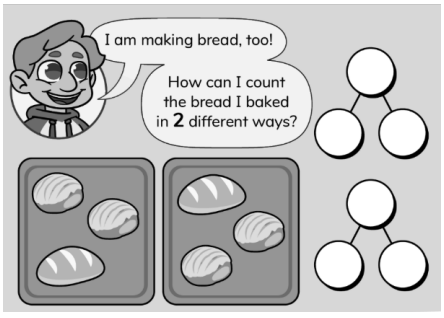

### → In the first part of the unit, your student will learn to

- group a set of objects by attribute, then label how many in each group and how many in all;
- group a set of of objects in two different ways and label how many in each group and how many altogether.




### → In the last part of the unit, your student will learn to

- record parts and totals in a number bond for a set that can be sorted one way or two different ways;
- count on from a numeral by touching objects while saying each number that comes next to find the total
- (for example, count 5 and ● ● ● as "I have 5. 6, 7, 8. There are 8 total.");
- count sets of 11–20 images that cannot be moved, in lines or scattered across a page.




## Helpful Hint

Some students may not trust that the total remains the same even if the objects are grouped differently. For example, when working with a set of 5 objects, a student might first make groups of 2 and 3 and count a total of 5, but when they use the same counters to make groups of 1 and 4, they will not recognize that the total is still 5 and will try to count again. Discuss how we can know that the total does not change when we make different groups by challenging your student to make different groups and counting each time to see that the total is still the same.

# Tips for Supporting Your Student at Home

## Questions to Ask Your Student

### → In the first part of the unit:

- How could we sort these things into groups?
- How many are in each group?
- How many in all?
- What strategies could we use to count these things without skipping any or counting any of them twice?

### → In the last part of the unit:

- What parts do you see?
- How many are in each part?
- How many total?
- What strategies could we use to count these things?

| If... | Try... |
|---|---|
| your student is not counting every object or counting some twice . . . | asking your student to make a plan before starting their count, like crossing out or touching each object. |

### Student Strengths Spotlight

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| **We take time to think.** | Students take their time to count difficult arrangements of objects by planning a strategy and counting slowly. |
| **We talk about our ideas.** | Students describe how they can make parts in different ways and listen to ideas their classmates share. |

## Try This Together!

- **Sorting.** Give your student a set of 20 or fewer objects that can be easily sorted into two groups (for example, some pencils and some markers, some red grapes and some green grapes, some small rocks and some big rocks). Have your student sort the objects into two groups and answer how many in each group and how many in total.
- **I Spy Descriptions.** Practice positional language (on, under, next to, behind, etc.) by taking turns describing the location of an object for the other person to guess. ("I spy something on the desk. It is next to the pencil cup.")
- **I Spy Parts.** Go for a walk and describe different parts and totals you see in the world around you. ("I spy 6 windows on that house. Three of them are open and three of them are closed.")
- **Count On Cards.** Write the numbers 0–5 on pieces of paper. Roll a die and have students count on by touching the dots to find the total. For example, if the card shows 2 and the die shows 3 dots, your student would say, "I have 2. 3, 4, 5," while pointing to each of the three dots.
- **Shake and Record.** Put ten or fewer pennies in a cup. Have your student dump out the pennies and describe the parts and total they see. ("Four pennies are heads up. Three are tails up. There are seven pennies total.") Students could use a number bond to record their thinking.