InsightMath Texas

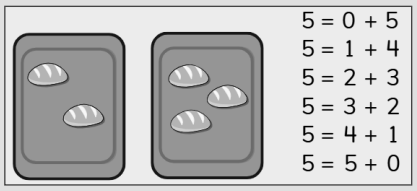
Exploring Parts and Totals

Family Guide | Grade K | Unit 6

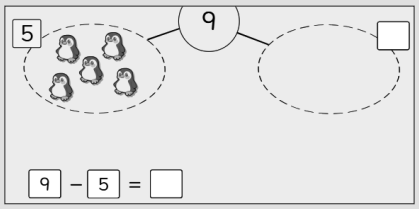
Your student is exploring how addition and subtraction can be used to show how numbers can be composed and decomposed in various ways without changing the total.

Key Math Ideas

In Unit 3, students used number bonds to show how two parts, such as 2 and 3, could make a total like 5. In unit 4, students explored addition and subtraction as active changes and wrote equations. In this unit, students learn that parts and totals can also be represented by addition and subtraction equations.

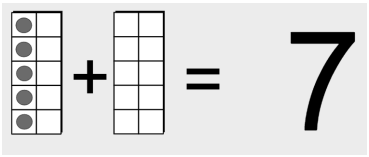


Students notice that there are many ways to **decompose** numbers by separating them into parts. For example, if we start with 5 total loaves of bread, there are many ways we can arrange them on two trays. Students also **compose** numbers, either by finding any two numbers that make a total or by figuring out a missing number to make a total.



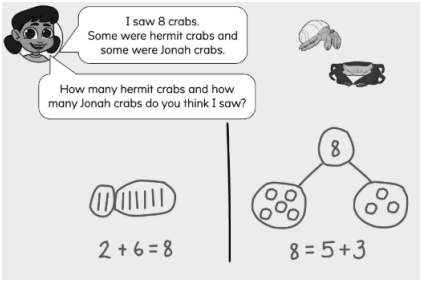
→ In the first part of the unit, your student will learn to

- use objects, fingers, drawings, number bonds, and equations to model part–part–total problems;
- use 5 as a benchmark to add (for example, know that 5 and 2 more is 7);
- count forward and backward within 60.



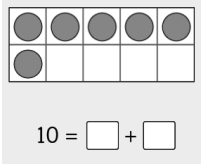
→ In the middle of the unit, your student will learn to

- decompose the same number many ways;
- identify all of the number pairs that make ten;
- solve part–part–total word problems.



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

- add two parts together using objects, fingers, drawings, number bonds, and equations;
- solve part–part–total word problems where both parts are unknown;



Helpful Hint

Students sometimes mistakenly believe that changing the way a total is broken into parts changes the total amount. Reinforce for your student that changing the grouping does not change the total amount by consistently asking your student "What is our total? Did our total change? Why not?" after rearranging the parts. Have your student count to confirm the total as needed.

Tips for Supporting Your Student at Home

Questions to Ask Your Student

→ In the first part of the unit:

- What are the parts? What is the total?
- What equation/number bond did you write? Why?
- Did you add or subtract? Why?

→ In the last part of the unit:

- What are the parts? What is the total?
- What other parts make this total?
- How could we find all the ways to make this total?

If...	Try...
your student is struggling to identify the parts and total or how to represent them in a situation . . .	acting out the problem with objects or drawings, asking your student to point out the parts and the totals.

Student Strengths Spotlight

We take time to think. Identifying different ways to decompose a number gives students an opportunity to practice patience and perseverance as they make a

We learn from our mistakes. Students may make mistakes organizing all of their ways to make a total, but they will notice how their errors help them find new organizational strategies.

Try This Together!

- **Choices.** Turn daily decisions into part–part–total situations by giving your student a total and letting them determine the parts. For example, you can choose 6 vegetable sticks: "How many carrots and how many pepper strips are there?"
- **I Have, You Have.** Show your student an amount on your fingers and ask them to find the other part to make 5 or 10. For example, show 4 fingers and ask them to make 10 by showing the other part (6).
- **All the Parts.** Give your student a written number or a set of objects and have them identify all of the different ways they could use two parts to make that total. Encourage your student to list all of the ways with drawings, number bonds, or equations.
- **Part–Part–Total Art.** Have your student create art scenes based on a part–part–total scenario. For example, draw a picture with 10 flowers and make some flowers pink and some yellow, or draw a monster with 6 eyes, putting some eyes on the head and some eyes on the body.