InsightMath

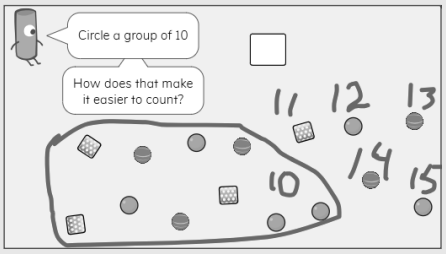
Discovering Number Structure

Family Guide | Grade K | Unit 7

Your student is exploring how the base-10 number system relies on identifying and composing groups of 10.

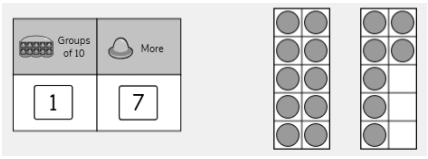
Key Math Ideas

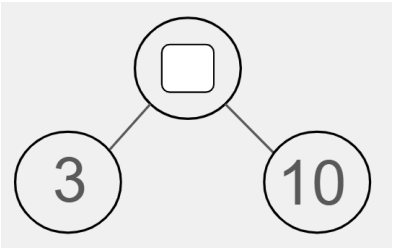
Since the beginning of kindergarten, students have been saying and writing two digit numbers by rote, without understanding what the digits mean. In this unit, students break the "number code"—in the number 14, for instance, the 1 means 10, while the 4 means there are 4 more. Students model numbers up to 19 by making a group of 10 and some more with ten frames, fingers, and place value charts.



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

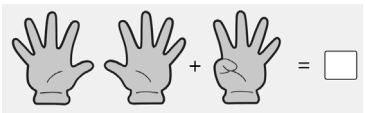
- count up to 19 objects by making a group of 10;
- connect groups of 10 and some more with named and written numbers by counting on and noticing patterns.





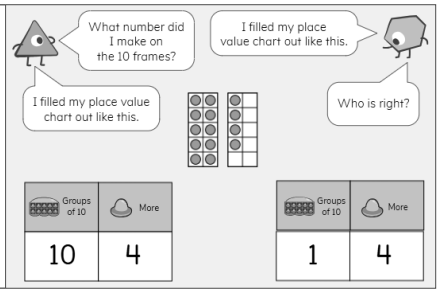
→ In the last half of the unit, your student will learn to

- explain the meaning of digits in numbers from 11 to 19 (for example, in the numeral 13, the 1 means 10 and the the 3 means 3 more);
- rote count forward and backward within 100;
- skip count by groups of 10 to 100;
- count out up to 20 objects or count up to 20 objects in organized or scattered arrangements.



Helpful Hint

Place value, the idea that the digit 1 can be used to represent 1 group of 10 when it is next to another number, can be tricky for students to understand. When reading teen numbers with your student, use the language "1 group of 10 and 4 more" to avoid misconceptions like the one on the left.



Tips for Supporting Your Student at Home

Questions to Ask Your Student

→ In the first half of the unit:

- How can you use a group of 10 to make it easier to count?
- When looking at up to 20 items: How many things are there? How do you know?

→ In the second half of the unit:

- In the number 13, what does the digit 1 mean? What does the digit 3 mean?
- I have 1 group of 10 and 9 more. How much is that?
- How can I write 18 by adding two numbers together?
- Which is greater, 17 or 7? 12 or 18? How do you know?
- What's a number that's 1 less than 14? What number is 1 greater than 16?

If...	Try...
your student has trouble matching numbers from 11–19 with their names . . .	breaking the number words into parts. In "fifteen," *-teen* means a group of 10 and fif- sounds like 5 because it means 5 more.

Student Strengths Spotlight

We try our best.	Students persevere in counting objects by choosing a strategy that will help them avoid mistakes and by counting twice to check their answers.
We listen to other people's ideas.	Students practice building on each others' ideas by listening to someone else's explanation, then adding more detail.

Try This Together!

- **Counting Collections.** Give your student any collection of 11–20 small items (dried beans, pennies, small toys, etc.) to count. Suggest that they make a group of 10 and ask how this makes it easier to know how many.
- **Finger Numbers.** Hold up 10 fingers, then challenge your student to hold up the additional numbers need to make a number like 17. Discuss how we can think of 17 as 10 and 7 more.
- **Hopscotch by Tens.** Use chalk to draw a hopscotch board with the numbers to count by groups of 10 (10, 20, 30, 40, 50, 60, 70, 80, 90, 100). Have your student hop forward and backward on the path while saying the names of the numbers.
- **Greater-Less Challenge.** Say a number from 0 to 20 and challenge your student to give a number that is greater or less than your number. (For example, "Say a number that's less than 17." "5.") Repeat the game by saying numbers that are 1 greater or 1 less. (For example, 16 is 1 less than 17.)