InsightMath California

# Extending Place Value Within 100

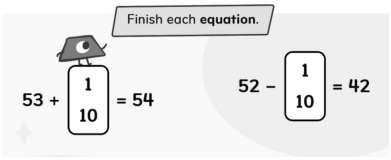
Family Guide | Grade 1 | Unit 8

**Your student is exploring how understanding the value of a two-digit number relies on understanding the value of each digit.**

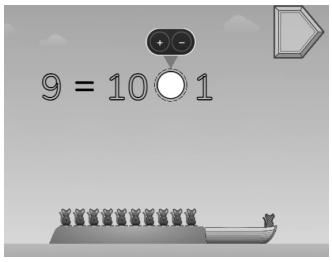
## Key Math Ideas

In previous units, students explored how place value refers to the value of each digit in a number depending on where it is in a number. In this unit, students notice patterns in how digits change when adding or subtracting 1 compared to when adding or subtracting 10 from a two-digit number. They also explore how the tens digit contributes more to the value of a number than the ones digit (i.e. 3 tens is greater than 3 ones), which supports their ability to use place value to compare two-digit numbers.

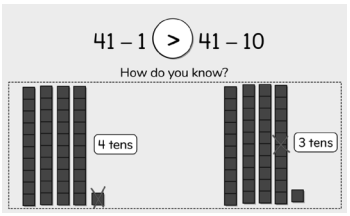
### → In the first half of the unit, your student will learn to



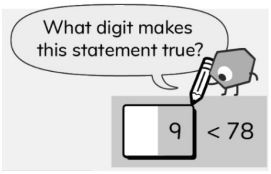

- mentally add and subtract 1 or 10 from a two-digit number;
- use place-value understanding recognize patterns in how the digits change when adding or subtracting 1 (only the digit in the ones place changes) and when adding or subtracting 10 (only the digit in the tens place changes);
- find the missing number in an equation involving adding and subtracting 1 or 10, such as 53 – ? = 52 or 28 = 18 + ?;
- determine whether addition or subtraction makes an equation true when adding and subtracting 1 and 10.




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




- use place-value understanding to compare two-digit numbers, such as by saying, “82 is greater than 79 because 8 tens is more than 7 tens”;
- use place-value understanding to compare expressions, such as by saying, “41 + 10 is greater than 51 – 10 because 41 + 10 has more tens”;
- use the comparison signs >, <, and = to complete statements that compare numbers or expressions;
- write two inequality statements when comparing the same two 2-digit numbers, such as 82 > 79 and 79 < 82;
- use place-value understanding to fill in missing digits in two-digit numbers to make a comparison statement true, as shown in the example to the right.




## Helpful Hint

Referring to digits in two-digit numbers using their value helps to cement your student’s place-value understanding and support their ability to compare numbers. For example, refer to the 2 in 29 as 2 tens (or 20), not simply 2. This supports your student’s understanding that the value of a two-digit number relies on the value of each digit. In two-digit numbers with the digit 0 in the ones place, such as 30, sometimes, students interpret the place-value “nothing.” For example, students may interpret 30 and 3 as the same value. Address this misconception by having your student model both numbers and ask if the amounts are the same. You can also have them read the numbers aloud to see if they hear the same number.

# Tips for Supporting Your Student at Home

## Questions to Ask Your Student

### → At the beginning of the unit:

- What strategy can you use to add or subtract 10?
- What strategy can you use to add or subtract 1?
- How will the digits in the number change when you add or subtract 10?
- How will the digits in the number change when you add or subtract 1?

### → Later in the unit:

- Which number is greater? Which is less? How do you know?
- Which place value do you look at first when comparing numbers?
- Which comparison sign will you use to complete the inequality?
- Which is greater, 41 + 10 or 41 + 1? How do you know?
- Which is less, 22 – 10 or 12 + 10? How do you know?

| If... | Try... |
|---|---|
| your student using the value of a single digit to determine which is greater when comparing two-digit numbers (i.e. saying 29 is greater than 32 because 9 is greater than 3 or 2)... | asking your student how many tens and ones are in the number. Recognizing that 2 tens is less than 3 tens will help them to compare using their place-value understanding. |

### Student Strengths Spotlight

**We learn from our mistakes.** Mistakes with adding or subtracting 10 or 1 help students better learn strategies and work toward solving with mental math.

**We model our thinking.** Students use models to represent two-digit numbers to show the value of each digit and help to compare numbers.

## Try This Together!

- **Create Comparisons!** During daily activities, such as doing arts and crafts, share with your student how many of an item you have. Ask them to tell an amount that is greater or less and to explain how they know. For example, if you have 31 beads and they have 22 beads, they may say, "22 is less than 31 because 2 tens is less than 3 tens."
- **Would You Rather?** Ask your student would-you-rather questions using quantities to compare numbers, such as "Would you rather see 23 or 34 spiders?" Ask your student to use "greater than" and "less than" language to explain why.
- **Play a Game!** Using a deck of cards with all the face cards removed, turn two cards face up to make a two-digit number. For example, the 4 card and the 3 card could make 43. Ask your student to tell you the value of each digit in 43 and how they know. Extend the activity by asking your student to say a number that is 10 greater or 10 less than the cards' number.