Introduction to Place Value Through Addition and Subtraction Within 20

In this module we will extend our work with addition and subtraction to the numbers 1–20, and learn some new strategies along the way.

Grade Level Standards

1.OA.1, 1.OA.2, 1.OA.3, 1.OA.4, 1.OA.6, 1.NBT.2

Student Report Card

Adds and subtracts within 20 using equation properties and in word problems.

Key Vocabulary

- **A ten:** (students will focus mainly on one ten during this module)
- **Ones:** (these are individual units, ten of which become a ten)
- **Add**
- **Subtract**
- **Equals**
- **"Teen Numbers":** e.g., 13, 15, 19, etc.
- **Partners to 10:** two numbers that together make 10
- **5 groups:** representations of numbers that are lined up in groups of 5
- **Number bonds:** a pictorial representation of how two or more smaller numbers can be combined to make a larger number

How you can help at home:

- Continue to practice finding partners for any given number, e.g., how can we make 8? 10?
- Talk about how we can find "tens" in other, larger numbers
- Make up and discuss short story problems that involve simple addition and subtraction
- Give your student an addition or subtraction number sentence and ask them to make up a story problem to go with the number sentence.
- Use dice to roll single digit numbers and add them together.
- Use dice to roll 2-digit or 3-digit numbers and add them together.
- Add the price of two items at a store.
- Start with 20 counters (beans, pennies, etc.) and roll two dice to make a 2-digit number. Subtract counters until you get to 0.

Models and Representations

Addition

Level 1: Count all   Level 2: Count on   Level 3: Decompose an addend to compose ten

9 and 1 is 10
10 and 5 is 15

$9 + 6 = 15$
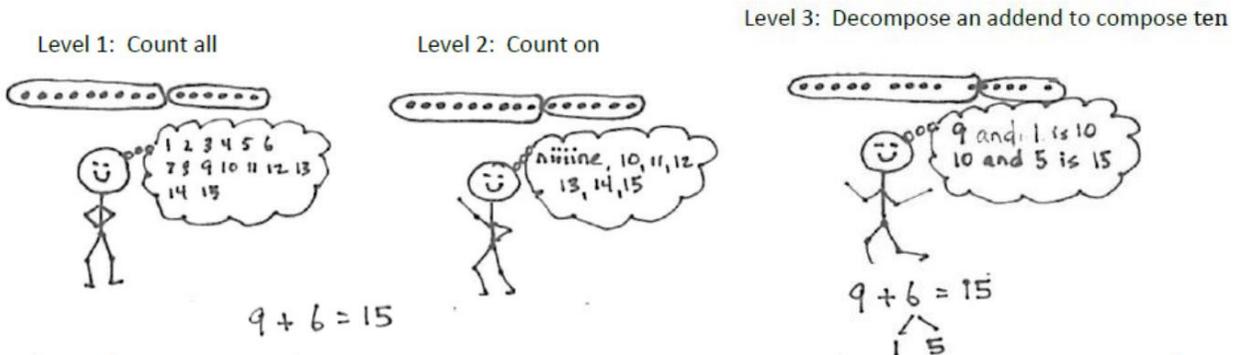
In Module 1, students were encouraged to Count all (Level 1) and Count on (Level 2) to add and subtract. In this module, students learn decomposition and composition strategies (Level 3) by making ten. Students may continue to count on to add and subtract. The purpose of composing and decomposing ten is to lay the foundation for the role of place value in addition and subtraction.

Subtraction

$12 - 9 = 3$

9 ● ● ●

10 11 12

Students will begin to solve subtraction by counting on (Level 2).

$12 - 9 = 3$

$1 + 2 = 3$

$12 - 9 = 3$

10   2

$10 - 9 = 1$
$1 + 2 = 3$

12 is seen as 10 and 2 more.

Students begin to realize that they can decompose the teen number into 10 and some ones (Level 3). For example, in the problem 12 – 9, students see 12 as 10 and 2 more. Students subtract the 9 from 10, and have 1 left over. They then add the left over 1 with 2.