Sums and Differences to 10

In this first module of Grade 1, students make significant progress toward fluency with addition and subtraction of numbers to 10. They are presented with opportunities designed to advance them from counting all to counting on. This leads many students to decomposing and composing total amounts. This module is an important foundational piece for our first grade mathematicians.

Grade Level Standards

1.OA.1, 1.OA.3, 1.OA.4, 1.OA.5, 1.OA.6, 1.OA.7, 1.OA.8

Student Report Card

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

Key Vocabulary

- **Count on:** Students count up from one addend to the total, e.g. for 5 + 4 they would start with 5, then count 6..7..8..9 to get the total of 9
- **Expression:** e.g., 2 + 1 or 5 + 5 (expressions do not have an equals sign, thus are not equations)
- **Addend:** One of the numbers being added in an addition problem
- **Doubles:** e.g., 3 + 3 or 4 + 4
- **Doubles plus 1:** e.g., 3 + 4 or 4 + 5
- **Part:** e.g., "What is the unknown part? 3 + ___ = 8"
- **Equation and number sentence:** these words are used interchangeably throughout the module
- **Number Bond:** a graphic showing part/part/whole (see reverse side for more information)

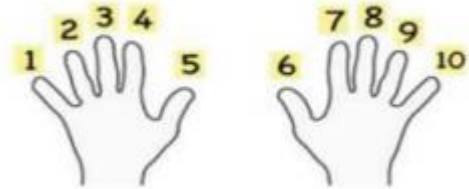## How you can help at home:

- Use dice to roll single digit numbers and add them together.
- Add all the digits of your house number together.
- Make a train with Legos or colored blocks. Write a number sentence for the different colors in the train.
- Add the price of two items at a store.

- Give your student an addition or subtraction number sentence and ask them to make up a story problem to go with the number sentence.
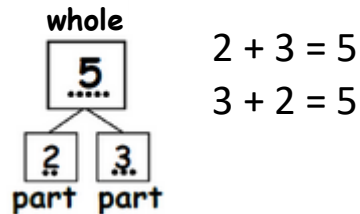
Models and Representations

Ways to show understanding of sums and differences to 10.
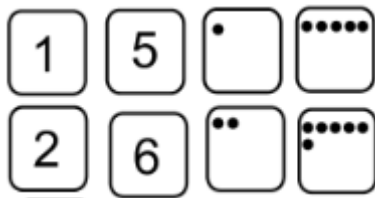
Finger Counting

Students will be taught to begin counting on their left hand pinky finger, which would be the number 1, then the ring finger is 2, middle finger 3, pointer 4, and thumb is 5. Right hand thumb is 6, pointer is 7, middle finger is 8, ring finger 9, and pinky is 10. This method of counting leads into number paths and number lines.

Number Bond

whole

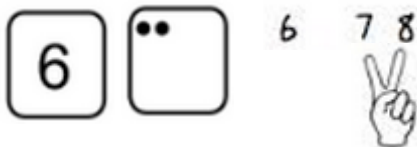$2 + 3 = 5$

$3 + 2 = 5$

part   part

Number bonds help students see that numbers can be "broken" into pieces to make computation easier. With number bonds, students recognize the relationships between the parts and the total.
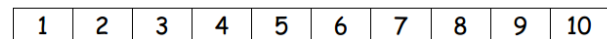
5 Group Cards

6 + 2

Start with 6 and touch the dots and count 7… 8.

The first number is represented with a number card, indicating the number to count on from. The number to be added is represented using the dot side of the 5-group card. Students count on from the first number.
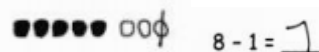
Number Path

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

$9 - 6 =$ _____ $6 +$ _____ $= 9$

A number path is a tool that children use to model addition, subtraction and comparison problems. Each number is represented within a rectangle and the rectangles can be clearly counted. This model provides a bridge between concrete manipulatives and abstract numeric symbols.

Five Group Drawing

$8 - 1 = 7$

These drawings are used to model addition and subtraction. They can be drawn horizontally or vertically. The first set of five is colored in and the second part is left blank.