Sums and Differences to 20

In this first module of Grade 2, we set the foundation for students to master sums and differences to 20. They will then apply these skills to fluently add one-digit to two-digit numbers up through 100, using place value understanding, properties of operations, and the relationship between addition and subtraction.

Grade Level Standards
2.NBT.5, 2.OA.1, 2.OA.2

Student Report Card
Adds and subtracts in word problems and uses grouping strategies.

Key Vocabulary

- Make ten and subtract from ten – strategy in which students decompose a number in order to make a ten, using simpler, known facts to solve the problem, e.g., 8 + 3 = 8 + 2 + 1 and 15 – 7 = 10 – 7 + 5 = 3 + 5
- Say ten counting - e.g., 11 is “1 ten 1,” 12 is “1 ten 2,” twenty is “2 tens,” 27 is “2 tens 7,” 35 is “3 tens 5,” 100 is “10 tens,” 146 is “14 tens 6”
- Ten plus: number sentences in which students automatically combine one addend with the group of 10 without having to count, e.g., 10 + 3 = 13, 30 + 5 = 35, 70 + 8 = 78

- Number bond: used to explore the part/whole relationships within a given number
- Decomposing a number means to break apart a number into to smaller numbers. 5 can decompose, or break apart, to 4+1 or 3+2.
- Composing a number means putting numbers together usually by making a ten.

How you can help at home:

- Review with your student all the ways to make 10; students will need to have these memorized as we work through this module
- Practice “10 plus” problems, such as 10 + 9, 20 + 8, 40 + 6, 70 + 7, and so on, so that your student becomes very adept at doing them mentally and quickly Roll single digit numbers and add them together.
- Roll 2-digit or 3-digit numbers and add them together.
- Add all the digits of your house number together.
- Represent two digit numbers with popsicle sticks - make bundles of ten for the tens and use single sticks for the ones. Add the piles together.
- Use small items (counters, beans, small toys) to represent number sentences. Use index cards to make +, -, , and = symbols. Show a number sentence with a missing element: 7 + ___ = 12. Have your student find the missing addend.
Models and Representations

Ways to show understanding of sums and differences

**Number Bond**

5 + 1 = 6
1 + 5 = 6
6 − 1 = 5
6 − 5 = 1

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.

**Say Ten Way**

<table>
<thead>
<tr>
<th>Regular</th>
<th>Say Ten</th>
</tr>
</thead>
<tbody>
<tr>
<td>fifty-one</td>
<td>5 tens 1</td>
</tr>
<tr>
<td>sixty-seven</td>
<td>6 tens 7</td>
</tr>
<tr>
<td>seventy-five</td>
<td>7 tens 5</td>
</tr>
<tr>
<td>eighty-four</td>
<td>8 tens 4</td>
</tr>
<tr>
<td>ninety-five</td>
<td>9 tens 5</td>
</tr>
</tbody>
</table>

Research shows that unit form counting, or Say Ten counting, supports number sense in that the naming of the numbers reveals the base ten to students. This helps students to understand the unit changes that occur at the tens.

**Make Ten**

In first grade, students learned to form ten as a unit. The phrase *make ten* now transitions to *make a ten*. The goal in making a 10 and taking from 10 is for students to master mental math.

**Subtract From Ten**