

**Understand and apply properties of operations and the relationship between addition and subtraction**

**Standard 1.OA.4** Understand subtraction as an unknown-addend problem. For example, subtract  $10 - 8$  by finding the number that makes 10 when added to 8.

**Key Elements:** Students must demonstrate an understanding of related equations (fact families), associative property, and strategies to find the unknown-addend.

**Related Equations** - Students need to understand the relationship of addition and subtraction. A table can be used much like a Math Mountain.

**\*center this?**

<b>TOTAL</b> (sum, minuend)	
<b>PARTNER A</b> (addend, subtrahend)	<b>PARTNER B</b> (addend, difference)

<p>Partner A + Partner B = Total</p> <table border="1" style="margin: auto;"> <tr><td colspan="2" style="font-size: 2em;">10</td></tr> <tr> <td style="font-size: 2em;">?</td> <td></td> </tr> </table> <p><input type="text"/> + 8 = 10</p>	10		?		<p>Partner B + Partner A = Total</p> <table border="1" style="margin: auto;"> <tr><td colspan="2" style="font-size: 2em;">10</td></tr> <tr> <td></td> <td style="font-size: 2em;">?</td> </tr> </table> <p>8 + <input type="text"/> = 10</p>	10			?
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**Strategies to find the Unknown-Addend**

Once students have used the relationship between addition and subtraction to re-write the subtraction equation to be a missing addend equation, students can use counting on to find the unknown addend in an addition equation.

$$10 - 8 = \square$$

Can be solved by:

$$8 + \square = 10$$

Students often put 8 in their brain and then count on until they get to the total.

**Number Line:** Number lines can help students to count on. Students can use a number line to do their first “jump” to 8, then count on to the total. The total number of jumps from their initial starting number to the total will be the missing addend.

