

**Math Myths and Misconceptions**  
**Subtraction Concept Examples for the Facilitator**

**To the Session Facilitator:** The examples and information given below are intended to be background information for you. Session participants should be given the opportunity to come up with examples themselves rather than these examples being given to them. This is just a limited sample of the many possible examples. The critical piece here is that the examples provided by the participants match the conceptual understanding for each concept type.

Subtraction Concept	Examples	Impact on Future Learning
<p><b>Taking Away Taking Apart Decrease From</b></p>	<p><i>“Luis had 20 sheets of paper and gave 5 of them to Vinny. How many sheets of paper does Luis now have?”</i></p> <p><i>“Seven birds on the fence. Three flew away. How many are left on the fence?”</i></p> <p><i>“Kayla brought three apricots to eat at school. She ate two at recess. How many apricots does she have left for lunch?”</i></p>	<p>The differences between these two ways of looking at subtraction, while seemingly subtle, are important in a child’s overall understanding of how this operation works.</p> <p>The differences arise from the situation in which the problem is presented. The mental picture created between a taking away problem (one set of items) and a comparing problem (two sets of items) is significant. While a number-only problem, such as <math>9 - 4</math> gives the difference of 5, the mental picture of what is occurring can be quite different. Understanding that subtraction can describe a variety of situations will assist children in their overall understanding of the functions and mechanics of mathematics—a critical element as they continue their learning towards higher mathematics.</p>
<p><b>Comparing Quantities</b></p>	<p><i>“Maynae is 11 years old. Her cousin is 15. What is the difference in their ages?”</i></p> <p><i>“42 pink cupcakes. 18 chocolate cookies. How many more cupcakes than cookies?”</i></p> <p><i>“Joshua is 6’4” tall. Chris is 5’10” tall. How much shorter is Chris than Joshua?”</i></p>	
<p><b>Missing Addend (also known as Counting Back)</b></p>	<p><i>“It costs \$14 for a book. You have \$9. How much more money do you need?”</i></p> <p><i>“Marta needs 23 lemons and she had already picked 15 from her tree. How many more lemons will she need to pick to reach 23?”</i></p> <p><i>“When David counted his card collection, he found he only had 16 cards from his favorite team. A full collection would have 30 cards. How many more cards does he need to have a full collection?”</i></p>	<p>The missing addend or counting back strategy is a strong model of the inverse relationship between addition and subtraction. Many children will first count up to reach a total before they subtract to find a difference. Both are useful strategies for children in developing number sense and flexibility in thinking.</p>