Additive Thinking

Parent Communication

This is **not** a test! These questions and example tasks are provided to give you insight into the importance of additive thinking in **mathematics.** Remember, we all come to the tasks with different levels of understanding. If you are using it with your child, both of you should focus on thinking and talking and comparing what you thought. Let your child respond first and listen carefully. You may be surprised by what they say or already know. Try to avoid statements like "No. That's wrong. Here's the answer." Instead, ask questions like "What makes you think that?" and "Can you show me what you're thinking?" Then turn the page over and look at the information on the back. Compare your thinking to what is explained here. What's the same? What's different? Did anything surprise you? **At home** activities are a chance to further explore your child's understanding.

1. Which of the following question formats have you seen most often?
   a. 2 + 3 = ___
   b. 2 + ___ = 5
   c. ___ + 3 = 5
   d. 5 – 3 = ___
   e. 5 -__ = 2
   f. __ - 3 = 2

2. What does subtraction mean?

3. True or False: You can't subtract a bigger number from a smaller number.

Big Idea 3: Additive Thinking deals with questions where the start, change or result is unknown.

1. **Which is most common?**

   Typically, answers *a:* (2 + 3 = ___) and *d:* (5 – 3 = ___) are most commonly found in textbooks and math resources. However, children need to be exposed to all six types of questions in order to develop deeper understanding of operations.

   At home, you can turn everyday situations into an opportunity to ask a math question. For example, you go to the store with $28. You buy a gift and are left with $20. Ask your child to help you figure out how much the gift was. You could also tell your child that you have some money in your piggy bank. If you add $12 more dollars you now have $23. How much money did you start with?

2. **What does subtraction mean?**

   The most common answer is "take away" or "remove". In word problems, you'll see it as Johnny has $7. He spends $3. How much money does he have left? However, subtraction also has a second meaning. Subtraction also refers to comparing. For example, I have $12. Johnny has $8. How much more money do I have? This is not a "take away" question because we're not removing Johnny's $8 from my $12. Comparing two quantities and determining the difference is a little more difficult to grasp than "take away" subtraction.

   At home, place two quantities of items in front of your child. Ask them which pile has more and how many more. For example, pile one might have 10 objects. Pile two might have 7 objects. The child should be able to say that pile one has 3 more objects than pile two because 10 – 7 is 3. The child should also be able to say that pile two has 3 less objects than pile one.

3. **True or False?**

   The answer is false. When students start working with negative numbers, they will be able to subtract a bigger number from a smaller number. For example, you have $3. You want to buy a $5 item. How much money do you need to borrow? This would be represented using 3 – 5 = -2.

   At home, never say that "you *always* write the bigger number first when subtracting" or "you can't subtract a bigger number from a smaller number". You can tell them that you haven't learned how to do it yet.
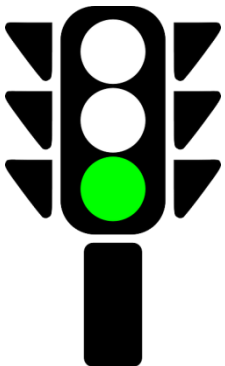
> **Check this out!** The "Thinking Blocks" websites offers a free tool that teaches children how to model and solve math word problems. It offers a strong visual, variety of questions, variety of topics, variety of contexts, several levels of difficulty, sound. If an incorrect answer is submitted, the website gives hints that lead the child towards the correct answer. http://www.mathplayground.com/thinkingblocks.html