More About Math

Adding Up and Taking Away

Background for Leaders

In this unit children will use addition and subtraction skills appropriate for 6-8 year olds. They will reinforce their understanding and mastery of these operations by solving problems in various real world and extreme scenarios.

Addition and Subtraction

Children at this age are learning how to work with numbers; they are gaining a sense of quantity and of the ways numbers relate to one another. It is very helpful to have a set of tools on hand that can help children manipulate and use number reasoning. This "toolbox" can include a ruler (or blank numberlines), counting chips or dried beans, a hundreds chart, base ten blocks, and extra paper for drawing representations. Providing children with a "toolbox" allows them to choose the strategies that best help them to reason through different problems.

In 1st grade, children should be able to add/subtract totals up to 20; by 2nd grade they should be adding or subtracting up to 100. Children should be gaining familiarity with number combinations such as doubles, adding 1, adding 0, subtracting 1, and numbers that add to make 10. By learning to add and subtract these combinations using mental math, children gain fluency in addition and subtraction, and rely less on their "toolbox" as they progress.

Children should use formal symbols for addition and subtraction. This means they should write number sentences for the problems they are solving. It is important that children take the time to write number sentences in these early years as they learn to reason with numbers so that they will have a strong foundational understanding of addition and subtraction.

Here are a few examples of number sentences. Notice that the equal sign is not always on the right hand side of the equation. This is important in children's understanding of what the equal sign means (instead of just saying "equal" you may want to say "is equal to").

$$4 + 3 = 7 \qquad 13 = 4 + 9 \qquad 2 + 3 = 4 + 1$$
$$12 - 5 = 7 \qquad 17 - 9 = 8 \qquad 5 - 2 = 4 - 1$$

During this unit, children will use the **inverse relationship** between addition and subtraction to solve problems. Remind children that there are four facts in each addition/subtraction fact family — two addition sentences and two subtraction sentences. Knowing just one of these facts can help them solve the related problems.

For example: $\quad 6 + 4 = 10 \qquad 4 + 6 = 10 \qquad 10 - 4 = 6 \qquad 10 - 6 = 4$

Throughout these learning activities make sure the children:

• Have access to their "toolboxes".

• Write complete number sentences.

• Use the related vocabulary: **addition, subtraction, equal, related fact, more,** or **fewer**.