

# Homework Help for Math Out of the Box

## Developing Number Concepts: More and Less, Module A

**Information about homework assignments is provided to help parents and other homework helpers with the mathematics ideas that are being developed. The homework help includes definitions of key vocabulary, questions to ask that will help students connect to the classroom investigations, problem solving examples, and other helpful explanations.**

### Homework 2A1 and 2A2

In Lessons 1–5, students examine strategies that can be used for fluency of addition facts.

#### Solving Basic Facts

Each addition and subtraction fact is part of a fact family. Following are examples of several fact families:

$8 + 3 = 11$	$3 + 6 = 9$	$4 + 4 = 10$	$5 + 9 = 14$
$3 + 8 = 11$	$6 + 3 = 9$	$10 - 4 = 4$	$9 + 5 = 14$
$11 - 8 = 3$	$9 - 3 = 6$		$14 - 5 = 9$
$11 - 3 = 8$	$9 - 6 = 3$		$14 - 9 = 5$

Since counting up beyond 2 or 3, using fingers or taps, is inefficient, strategies are shared in math class to help solve addition facts mentally.

For example, knowing facts that equal 10 helps to determine other facts.

If  $8 + 2 = 10$  is known, then  $8 + 3$  is 1 more, or 11.

If  $5 + 5 = 10$  is known, then  $9 + 5$  is 4 more, or 14.

### Homework 2B1 and 2B2

In Lessons 6–10 students examine strategies that can be used for fluency of subtraction facts.

Using inverse relationships is one strategy for quickly determining subtraction facts. To solve the subtraction fact  $11 - 5 = n$ , the known inverse addition fact,  $5 + 6 = 11$ , is used. Each fact family has the same three numbers in the addition and subtraction facts. The same strategy can be used to determine missing numbers. For example, with the problem  $13 - \square = 9$ , knowing that  $9 + 4 = 13$  shows that the missing number is 4. Counting up from 9 to 13 can verify the answer.



## Homework 2C1 and 2C2

Lessons 11–16 focus on the base-10 number system. Concepts of ordering and comparing numbers are also developed

**Expanded form:** A representation of a number in which the value of the digits are expanded into an addition statement. ( $243 = 200 + 40 + 3$ )

**Standard form:** A representation of a number using the digits 0–9, with each digit having a place value. (243)

**Word form:** A representation of a number in words. (two hundred forty-three)

When comparing numbers the following symbols and words can be used.

$<$  is less than             $>$  is greater than             $=$  is equal to

## Homework 2D1 and 2D2

In Lessons 16–22, addition and subtraction concepts are investigated.

When representing solutions in drawings, words, and numbers, students can draw actual pictures of the objects in the story problem or they can draw a more symbolic representation. Students should explain their thinking about the problem and its solution in words and show an equation for the problem and its solution.