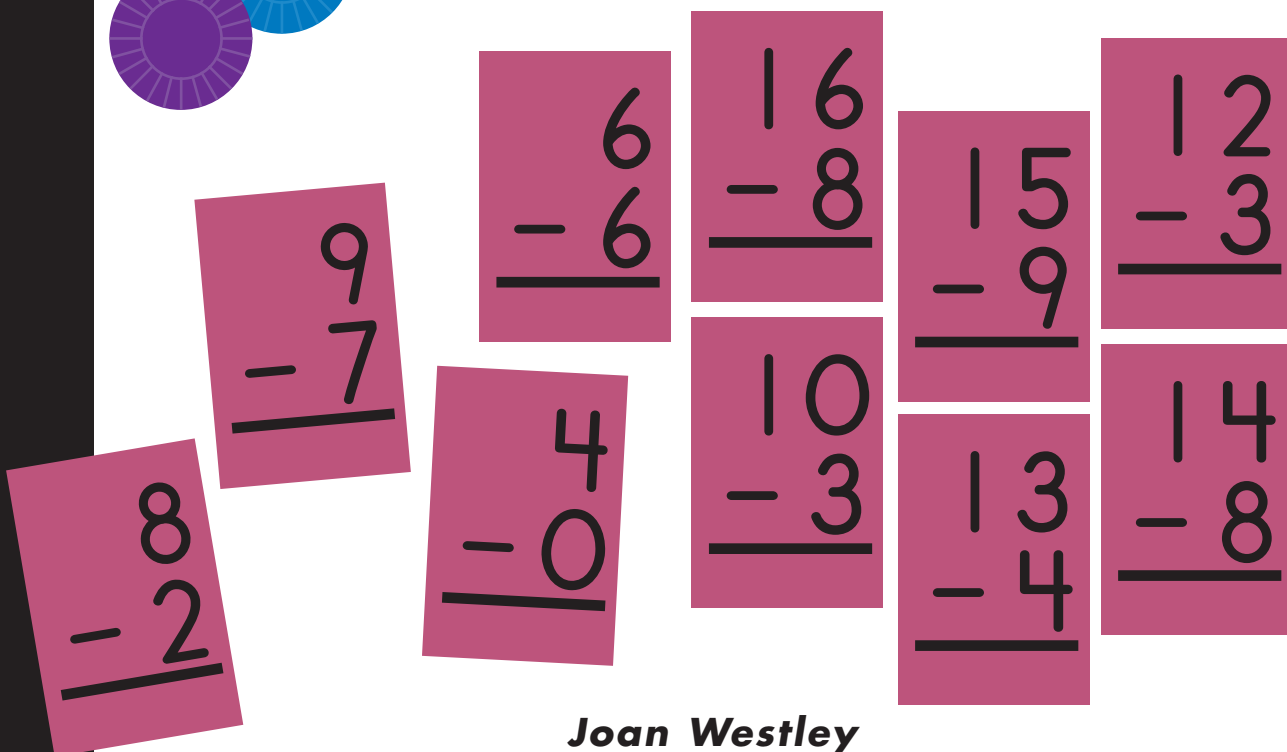


Subtraction

FAST FACTS

Smart Strategies
for Basic Facts



Joan Westley
Heather McDonald

Primary Concepts®

Publishers Note: The table of contents is linked to the lessons. If you click an entry, you will go to that page in the book. You can also use the pages on the left to navigate through the book.

Design and production: Candace Wesen
Editor: Sarah Le Forge

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Subtraction

Basic Facts

STRATEGY

Counting Back

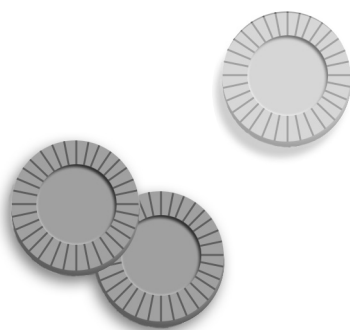
Manipulatives

- Counting Chips

Warm-Ups

I'll name a number. You count backwards from there to zero.

- 5... (4, 3, 2, 1, 0)
3...
8...
10...



Understanding Counting Back

In this lesson, children are introduced to the idea of counting back as a more efficient means of solving subtraction problems.

Introducing the Strategy

1 Display the problem $8-3$ on the overhead projector or chalkboard. Use Counting Chips to model the problem, setting out a group of eight chips, then taking away three chips. Have students do likewise with their own Counting Chips, then ask them to count the total.

2 *Let me show you an easier and faster way to do this problem.* Indicate the group of eight chips. *We need to take away three, right? If we count back as we take them away, we'll "land" on the answer.* Have the class count with you as you take each of the three chips away. *Take away one, now there are 7 left; take away one more, now there are 6 left; take away one more, now, there are 5 left. That's 8 to start, then 7, 6, 5. The answer is 5. Is that the same as when we did the problem the other way?*

3 Practice this strategy several more times with problems such as $6-2$, $7-1$, and $8-2$. Show each new problem on the overhead, then model it as the children work along with their own counters at their desks. Children should say the starting total aloud, then count back as they take each counter away. Some children may want to double-check by counting the leftover chips again from one. Soon they will become confident about the accuracy of the counting back strategy.

4 Draw a simple drawstring bag for the children to see, and label the bag 7. Next to the bag, write the problem $7-3$. *Imagine we have seven counters in this bag, and we want to take away 3. Let's cross out counters as we count back from seven. 7...6, 5, 4. Four left.* This way of picturing the process of counting back gives children a handy mental image to use. Have students practice the strategy of counting back with the worksheet on the next page.

$7-3$



Name _____

Understanding Counting Back

Solve the problems below by counting back as you cross out each chip.



$$9 - 2 = \underline{7}$$



$$5 - 3 = \underline{\quad}$$



$$6 - 3 = \underline{\quad}$$



$$8 - 1 = \underline{\quad}$$



$$9 - 3 = \underline{\quad}$$



$$6 - 1 = \underline{\quad}$$



$$6 - 2 = \underline{\quad}$$



$$7 - 3 = \underline{\quad}$$

STRATEGY

Counting Back

Manipulatives

- Ten Strips

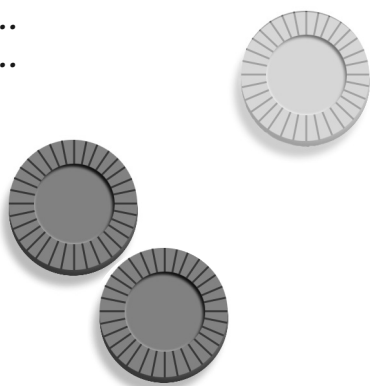
Flash Facts

- Set A1

Warm-Ups

I'll say a number from 0 to 9. You say the number that comes just before it when you count. Set a quick pace for this game, so that students begin to say the previous counting number reflexively. As soon as they respond, go on to a new number.

- 5... (4)
- 2...
- 8...
- 6...
- 9...



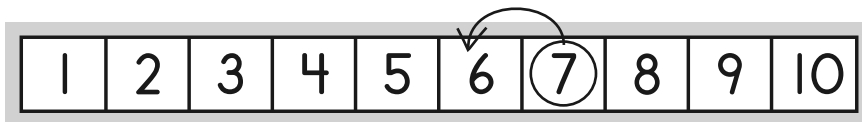
Just One Less

Spotting and solving “take away one” problems should become automatic. This activity helps students hone the reflex of counting back just one.

Introducing the Strategy

1 *Some subtraction problems are easier than others to solve.* Display a number of flash facts from Set A1 on the overhead projector. **What do you notice about all of these problems?** Students should note that all the facts involve taking away one.

2 *Let's explore what happens when you take away one.* Show one tile from Set A1 on the overhead stage. Have students imagine that many counters set out on the Ten Strip. **Mark the starting number with your finger, then count back one on the Ten Strip. Your finger will “land” on the answer.** Repeat with several more Set A1 cards. Reinforce that counting back one is the same as taking away one.



$$7 - 1$$

3 Let the students know that sometimes it's important to be able to do subtraction problems quickly. **If you look at the problem and see that it's a take away one problem, you should start to be able to do it quickly in your brain, without counters or Ten Strips—the answer is just one smaller than the number you started with, right?** Use the Flash Facts overhead tiles from Set A1. Go through several problems, having students raise their hands as soon as they have the answer.

Flash Facts

Use overhead Flash Facts Set A1. Present one fact at a time and encourage students to say the answer to themselves as quickly as they can. Then, on a signal from you, everyone can say the answer aloud together. This gives everyone a chance to think about and solve the problem without the interruption of others shouting out the answer too early. After a few “starters,” have the students say the answer aloud immediately in unison to further speed the pace.

Name _____

Just One Less

Quick! Take away one!

$$\begin{array}{r} 3 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ -1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$$