





Student Guide

Paper-and-Pencil Subtraction (SG pp. 161–163)
Questions 1–4

1. **A.** Possible response: She changed 7 skinnies to 6 and 3 bits to 13.
B. Possible response: After trading one of the 7 skinnies for 10 bits, there were 6 skinnies. Then she added 10 skinnies to the 6 to make 16 skinnies so she could subtract 8 skinnies.
2. **A.** Answers will vary. Possible response: Sara had to regroup in order to subtract 7 ones from 6 ones. When she regrouped, the 5 tens, or 50, became 4 tens, or 40. Sara used the ten ones to add to the 6 ones to make 16.
B. Sara cannot subtract 6 tens from 4 tens, so she regrouped 1 hundred to make 10 tens. The 7 hundred in her problem became 6 hundred, and the 4 tens (40) became 14 tens. Now Sara can subtract 6 tens from 14 tens.
3. **A.** 39 **B.** 42 **C.** 233
D. 117 **E.** 219 **F.** 2188

Paper-and-Pencil Subtraction


Kathy decided to record her work on a base-ten recording sheet. Here is her work for the problem $573 - 289$:

			
5 ⁴	7 ¹⁶	3 ¹³	
-	2	8	9
-----	2	8	4

1. Review Kathy's work with base-ten pieces on the first *Subtracting with Base-Ten Pieces* page in Lesson 3. Discuss how Kathy's written work above matches her work with the base-ten pieces.
 - A.** How can you tell that she traded 1 skinny for 10 bits?
 - B.** Why are there two numbers crossed out in the middle column?

Sara looked at Kathy's work.

You do not need a recording sheet to tell the value of each digit in a number. The first place from the right is always the ones column, the second place is always the tens place, and so on.



Sara

Sara solved Kathy's problem like this:

$$\begin{array}{r} ^{\text{16}} \\ 573 \\ -289 \\ \hline 284 \end{array}$$


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Sara solved a new problem, $536 - 218$, like this:

I have to take 8 bits from 6 bits. That is impossible. I have to regroup. I can take a skinny and trade it for 10 bits. Then I have enough bits to subtract.



Sara

$$\begin{array}{r} ^{\text{16}} \\ 536 \\ -218 \\ \hline 318 \end{array}$$

2. **A.** Explain why Sara wrote 4 above the 5 and wrote 16 above the 6 in the problem below.

$$\begin{array}{r} ^{\text{16}} \\ 756 \\ -167 \\ \hline 9 \end{array}$$
- B.** Sara continued the problem. Explain why she wrote 6 above the 7 and wrote 14 above the 4.

$$\begin{array}{r} ^{\text{14}} \\ 6756 \\ -167 \\ \hline 559 \end{array}$$

3. Solve the following problems using Sara's method.

A. $\begin{array}{r} 64 \\ -25 \\ \hline \end{array}$	B. $\begin{array}{r} 70 \\ -28 \\ \hline \end{array}$	C. $\begin{array}{r} 441 \\ -208 \\ \hline \end{array}$
D. $\begin{array}{r} 309 \\ -192 \\ \hline \end{array}$	E. $\begin{array}{r} 506 \\ -287 \\ \hline \end{array}$	F. $\begin{array}{r} 6005 \\ -3817 \\ \hline \end{array}$

Use Johnny's *Paper-and-Pencil Subtraction* in the *Student Activity Book* to practice Sara's method.

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Checking Your Work with Addition

"I know I sometimes make mistakes when I subtract. So I want a good way to check my answers," said Kathy.

"I use addition to check," said Sara. "In a subtraction problem, I start with a number and subtract something. If I add back what I subtracted, I should get the number that I started with. If I do not, I must have made a mistake."

Kathy used Sara's method to do the problem $621 - 293$. Her answer was 332.

$$\begin{array}{r} 621 \\ -293 \\ \hline \text{Answer } 332 \end{array}$$

She used addition to check her answer.



When I add $293 + 332$ to check, I should get the number I started with, 621. But I get 625. Hmm . . .

$$\begin{array}{r} 621 \\ -293 \\ \hline \text{Answer } 332 \\ \text{Check } 625 \end{array}$$

Adding these two numbers should give 621, the number Kathy started with. Instead she got 625 when she added. Kathy must have made a mistake.

4. Kathy used addition to check these answers. Which are correct and which are incorrect? Tell how you know.

A.	$\begin{array}{r} 492 \\ -45 \\ \hline \text{Answer } 447 \\ \text{Check } 492 \end{array}$	B.	$\begin{array}{r} 867 \\ -759 \\ \hline \text{Answer } 118 \\ \text{Check } 877 \end{array}$	C.	$\begin{array}{r} 8120 \\ -1156 \\ \hline \text{Answer } 6964 \\ \text{Check } 8120 \end{array}$
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For more practice, use the *Checking with Addition* page in the *Student Activity Book*.

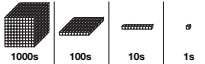
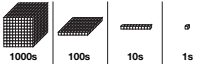
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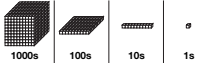
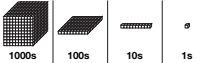
4. A and C are correct. Explanation will vary. Students should recognize the addition check should be the same as the minuend (top number) of their subtraction problem. If the total is not the same, then they subtracted incorrectly.

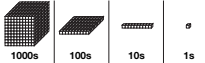
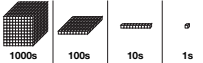
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Name _____ Date _____

Solve the following problems. Think of base-ten pieces as you record your trades.

1. 	2. 
$\begin{array}{r} 1000s \\ 100s \\ 10s \\ 1s \\ \hline \\ 6 \\ -2 \\ \hline 9 \\ 5 \end{array}$	$\begin{array}{r} 1000s \\ 100s \\ 10s \\ 1s \\ \hline \\ 7 \\ -3 \\ \hline 5 \\ 8 \end{array}$

3. 	4. 
$\begin{array}{r} 1000s \\ 100s \\ 10s \\ 1s \\ \hline \\ 3 \\ -2 \\ \hline 4 \\ 2 \\ \hline 6 \\ 8 \end{array}$	$\begin{array}{r} 1000s \\ 100s \\ 10s \\ 1s \\ \hline \\ 3 \\ -1 \\ \hline 8 \\ 9 \\ \hline 9 \\ 1 \end{array}$

5. 	6. 
$\begin{array}{r} 1000s \\ 100s \\ 10s \\ 1s \\ \hline \\ 5 \\ -3 \\ \hline 7 \\ 8 \\ \hline 6 \\ 9 \end{array}$	$\begin{array}{r} 1000s \\ 100s \\ 10s \\ 1s \\ \hline \\ 6 \\ -4 \\ \hline 3 \\ 2 \\ \hline 5 \\ 6 \end{array}$

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Student Activity Book

Subtraction on Recording Sheets (SAB p. 224) Questions 1–6

- | | |
|--------|---------|
| 1. 44 | 2. 37 |
| 3. 118 | 4. 198 |
| 5. 187 | 6. 1509 |

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