

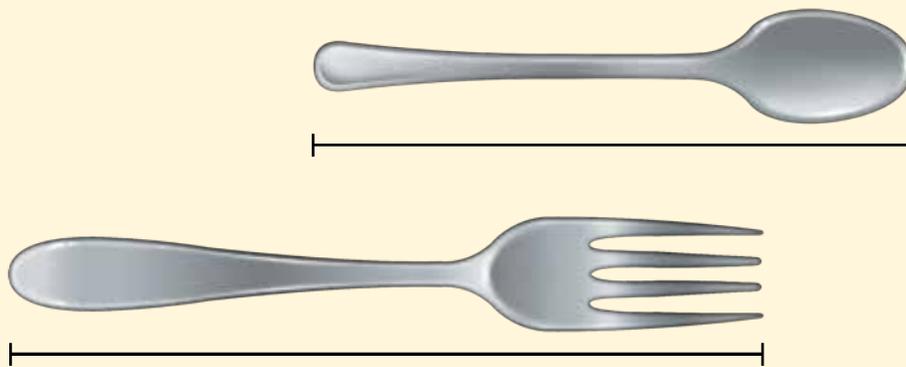


# Compare Lengths

## Use What You Know

You know how to measure length.

Layla found this spoon and fork with her tea set.



Measure each object in centimeters. Which object is longer?

- What is the length of the spoon? \_\_\_\_\_ centimeters
- What is the length of the fork? \_\_\_\_\_ centimeters
- Which object is longer? \_\_\_\_\_
- Explain how you know which object is longer.

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## Find Out More

What is the difference between the length of the spoon and the length of the fork?



 The fork is \_\_\_\_\_ centimeters longer than the spoon.

 The spoon is \_\_\_\_\_ centimeters shorter than the fork.

### Reflect Work with a partner.

- 1 Talk About It** Zuri and Marco want to find the difference in their heights. Explain how they could do this.

**Write About It** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Learn About**  **Finding Differences Between Lengths**

Read the problem. Then you will explore ways to find the difference between lengths.

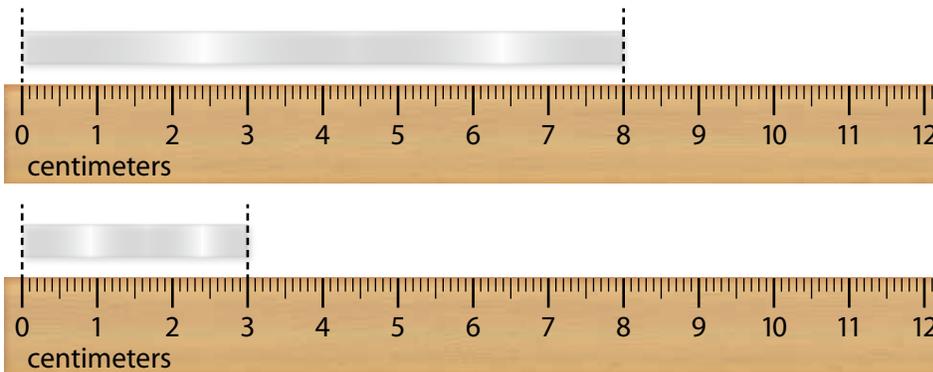
Nate and Jen each have a piece of tape.



Who has the longer piece of tape? How much longer is it?

 **Measure It** You can measure each piece of tape.

Measure each piece of tape using centimeters.



 **Model It** You can make a bar model.

You can make a bar model to compare the lengths.

Length of Nate's tape	
Length of Jen's tape	?

**▶ Connect It** Write an equation to find the difference.

- 2 What is the length of each person's piece of tape? Write the numbers in the bar model.

Length of Nate's tape _____ centimeters	
Length of Jen's tape _____ centimeters	?

- 3 Who has the longer piece of tape? Explain how you know.

\_\_\_\_\_

- 4 Write an equation you can use to find the difference in the lengths. Then find the difference.

\_\_\_\_\_

- 5 Complete the sentence to compare Nate's and Jen's tape.

\_\_\_\_\_ tape is \_\_\_\_\_ centimeters longer than \_\_\_\_\_ tape.

**▶ Try It** Try another problem.

Use these stickers for Problems 6 and 7.

- 6 Circle the sticker that is longer.
- 7 Measure and write the length of each sticker in centimeters. How much longer is the long sticker than the short sticker?



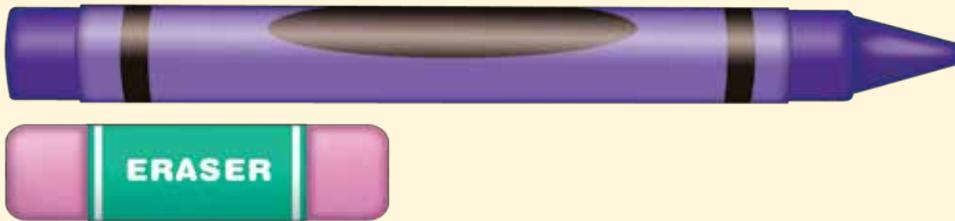
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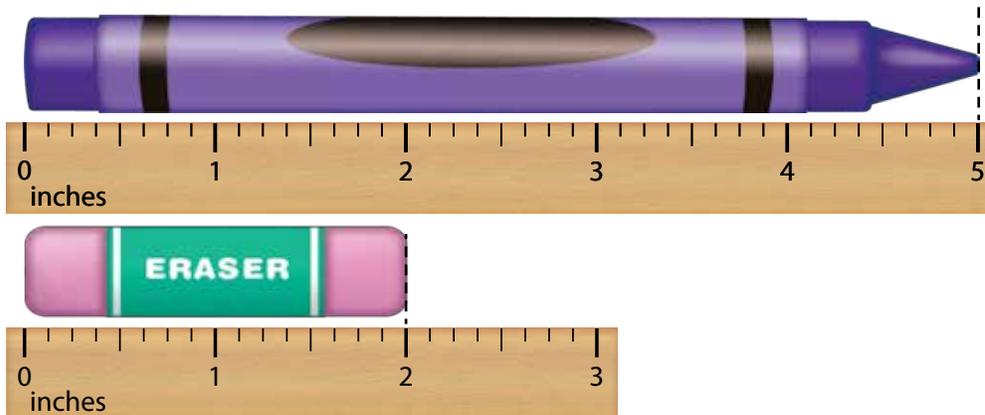
**Learn About**  **Ways to Compare Lengths**

**Read the problem. Then you will explore ways to compare lengths.**

How much shorter in inches is the eraser than the crayon?

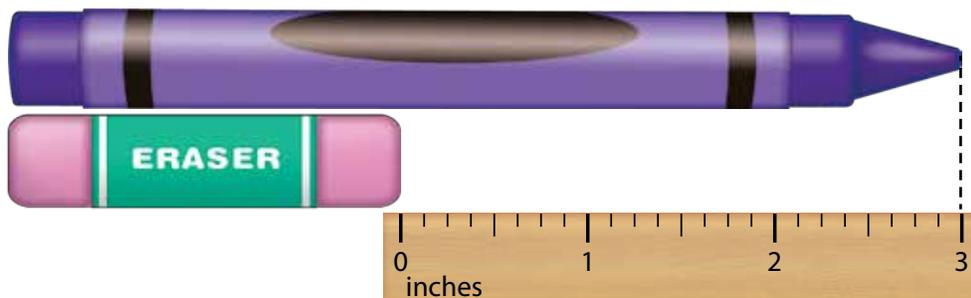


**▶ Measure It** You can measure each object and find the difference.



**▶ Measure It** You can measure the difference.

Line up one end of the eraser and the crayon. Then use a ruler to measure the difference.



**▶ Connect It Find the difference.**

**8** Look at the first *Measure It*. Explain how to find how much shorter the eraser is than the crayon.

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**9** How much shorter is the eraser than the crayon?

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**10** What is measured in the second *Measure It*?

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**11 Talk About It** Kelly says that you cannot always use the method shown in the second *Measure It*. Do you agree? Why or why not?

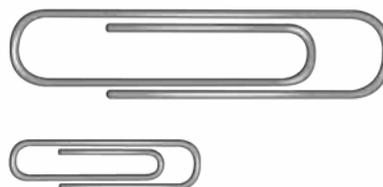
**Write About It** \_\_\_\_\_

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**▶ Try It Try another problem.**

**12** Henry has two paper clips.  
Circle the paper clip that is shorter.  
How many inches shorter is it?



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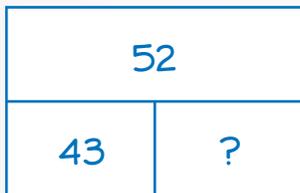
**Practice**  **Comparing Lengths**

Study the model below. Then solve Problems 13–15.

**Example**

Jonah is 52 inches tall. His sister Sophia is 43 inches tall.  
How much taller is Jonah than Sophia?

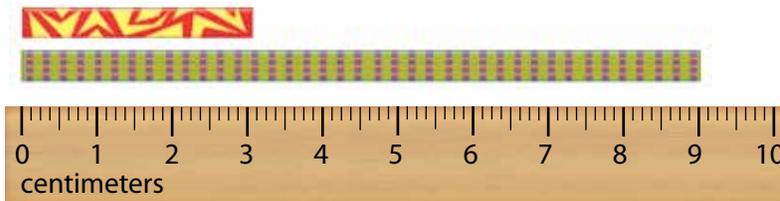
**You can show your work with a bar model and equation.**



$$52 - 43 = 9$$

**Answer** Jonah is 9 inches taller than Sophia.

- 13** Anna measures the paper strips below in centimeters. What is the difference in the lengths of the paper strips?



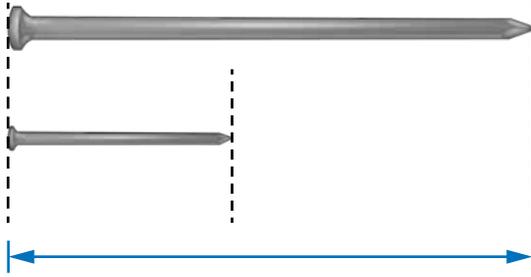
**Show your work.**

**Answer** \_\_\_\_\_



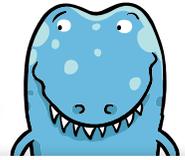
The difference in the lengths of the paper strips is how much longer or shorter one is than the other.

- 14 Circle the nail that is shorter. Then tell how much shorter it is. Measure using centimeters.



Show your work.

Answer \_\_\_\_\_



What equation can you write to help you find the answer?

- 15 Tim has a piece of yarn that is 3 inches long. Which piece of yarn is 1 inch shorter than Tim's yarn?

- A
- B
- C
- D

Ben chose **A** as the answer. This answer is wrong. How did Ben get his answer?

\_\_\_\_\_

\_\_\_\_\_

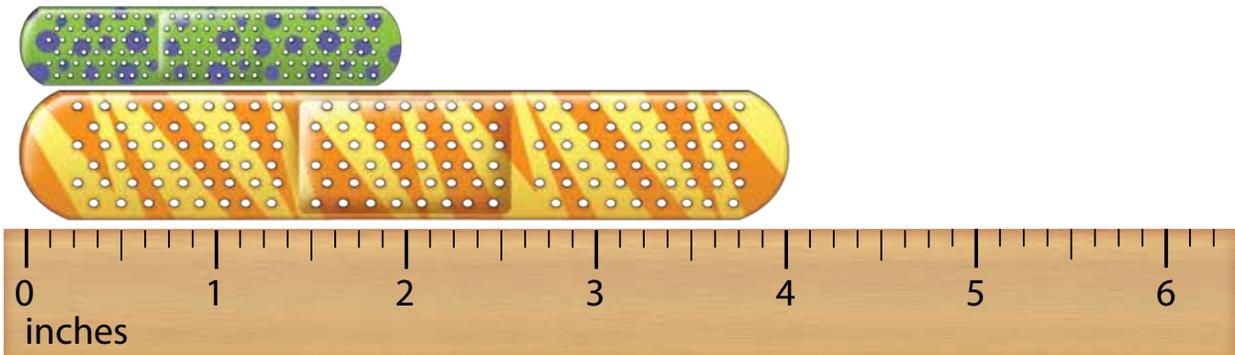
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Will the length of the correct piece of yarn be more or less than 3 inches?

**Solve the problems.**

- 1** How much longer in inches is the bottom bandage than the top bandage? Circle the correct answer.



- A** 2 inches
- B** 3 inches
- C** 4 inches
- D** 5 inches
- 2** The tail on Evan's kite is 85 centimeters long. The tail on Maya's kite is 68 centimeters long. What equation could you use to find the difference in the lengths? Circle all the correct answers.
- A**  $85 + 68 = ?$
- B**  $85 - 68 = ?$
- C**  $85 + ? = 68$
- D**  $68 + ? = 85$

- 3 What is the difference in the lengths of the two straws? Measure using centimeters. Circle the correct answer.



- A 3 cm                      C 7 cm  
B 4 cm                      D 11 cm

- 4 A table is 10 feet long. A desk is 3 feet long. Circle *True* or *False* for each statement.

- |   |      |       |
|---|------|-------|
| a. The table is 7 feet shorter than the desk. | True | False |
| b. The table is 7 feet longer than the desk.  | True | False |
| c. The desk is 7 feet shorter than the table. | True | False |
| d. The desk is 7 feet longer than the table.  | True | False |

- 5 Draw a line that is 6 centimeters longer than the line below.



How long is your line in centimeters? How did you know the length your line should be?

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**Self Check**

**Now you can compare lengths.**

**Fill this in on the progress chart on page 153.**