Unit 5, Lesson 16

# Compare Perimeters of Rectangles

Let's solve problems about rectangles of different sizes.

## Warm-up

### Number Talk: Two and Four Times a Fraction

Find the value of each expression mentally.

- $2 \times \frac{3}{2}$
- $4 \times \frac{3}{4}$
- $4 \times \frac{9}{4}$
- $\left(2 \times \frac{3}{4}\right) + \left(2 \times \frac{9}{4}\right)$

Activity 1

## Chenille Stem Perimeters

How many different rectangles can be made, using the entire length of one 12-inch chenille stem?

1. Record as many pairs of side lengths as you can think of.

| length (inches) | width (inches) |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |



2. Which pair of measurements represents the side lengths of a square?

Activity 2

## Perimeter Predictions

1. Your teacher will assign a pair of side lengths to you. Use a chenille stem to build a rectangle with those side lengths.

   What is the perimeter of the rectangle?

2. Two 12-inch chenille stems are joined end to end (with no overlaps) and used to build a square.

   a. What is the side length of this square? What is its perimeter?

   b. How do the side length and the perimeter of this square compare to those of the first square?

3. Several chenille stems are joined end to end (with no overlaps) to build a square with a perimeter of 60 inches.

   a. How many chenille stems are used? Explain or show how you know.

   b. What is the side length of the square?

   c. How do the side length and the perimeter compare to those of the first square?

Activity 3

## Gridded Rectangles

1. Draw the following rectangles on centimeter grid paper. Label each rectangle. Record the side lengths and the perimeter of each.
   - Rectangle A has a perimeter of 16 centimeters.
   - Rectangle B has side lengths that are 3 times the side lengths of Rectangle A.
   - Rectangle C has side lengths that are $\frac{1}{2}$ of the side lengths of B.

| rectangle | length (cm) | width (cm) | perimeter (cm) |
|---|---|---|---|
| A | | | 16 |
| B | | | |
| C | | | |

2. Rectangle D has a perimeter of 96 centimeters.

   The perimeter of D is:

   - _____ times the perimeter of A
   - _____ times the perimeter of B
   - _____ times the perimeter of C