

# Lesson 16: Compare Perimeters of Rectangles

## Standards Alignments

Addressing 4.MD.A.3, 4.NF.B.4, 4.OA.A.2

### Teacher-facing Learning Goals

- Solve problems involving the perimeter of rectangles using multiplicative comparison.

### Student-facing Learning Goals

- Let's solve problems about rectangles of different sizes.

## Lesson Purpose

The purpose of this lesson is for students to apply multiplicative reasoning and their knowledge of fractions to solve problems about perimeters of rectangles.

This lesson reinforces students' understanding of the relationship between the side lengths and the perimeter of a rectangle and their ability to reason multiplicatively in a geometric context.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 1)

#### English Learners

- MLR8 (Activity 1)

## Instructional Routines

Number Talk (Warm-up)

### Materials to Gather

- Pipe cleaners: Activity 1, Activity 2
- Rulers (inches): Activity 2
- Rulers or straightedges: Activity 3
- Tape: Activity 2

### Materials to Copy

- Centimeter Grid Paper - Standard (groups of 2): Activity 3

## Lesson Timeline

Warm-up	10 min
Activity 1	10 min

## Teacher Reflection Question

What evidence do you have that students' ideas about perimeter shifted or broadened as a result of this lesson?

Activity 2	15 min
Activity 3	10 min
Lesson Synthesis	10 min
Cool-down	5 min

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## Cool-down (to be completed at the end of the lesson)

🕒 5 min

Rectangles Y and Z

### Standards Alignments

Addressing 4.MD.A.3, 4.OA.A.2

### Student-facing Task Statement

1. Rectangle Y has a perimeter of 20 inches. Name a possible pair of side lengths it could have.
2. Rectangle Z has a perimeter of 180 inches.
  - a. Complete this statement:  
The perimeter of rectangle Z is \_\_\_\_\_ times the perimeter of rectangle Y.
  - b. If the length of rectangle Z is 70 inches, how many inches is its width? Explain or show your reasoning. Draw a diagram if it is helpful.

### Student Responses

1. Sample response: 8 inches and 2 inches
2.
  - a. 9 times
  - b. 20 inches. Sample response: The two sides (lengths) add up to 140 ( $70 + 70 = 140$ ). This means the two other sides (the width) add up to  $180 - 140$  or 40 inches, and each side is 20 inches.