Review: Measuring Perimeter

Overview:
Students will practice using measuring tools to measure the perimeter of rectangular objects in the garden. *Note: This lesson is meant to give students more practice using measuring tools and calculating perimeter. If students had a good grasp on it after the last lesson, this one can be skipped.

Objectives:
At the end of the lesson, students will be able to:

- **Write** the formula for perimeter of a rectangular object.
- **Measure** the perimeter of non-rectangular items in the classroom and in the garden.
- **Explain** why it is important to be able to measure perimeter.
- **Explain** how measuring perimeter can be applied to garden planning and design.

Materials:
- Rulers or measuring tape for each student
- Rectangular items in the garden for students to measure perimeter
- Handout: "Measuring Perimeter"

On the Board:
- Student Reflection Questions

Suggested Snack:
- There is no suggested snack for this lesson. See our Healthy Snack Database for ideas.

Preparation:
- Prior to the lesson, review the handout.
- Prepare rectangular objects for students to measure.

Vocabulary:
- perimeter
- yardstick
- length
- width
- measuring tape
- ruler

Learning Activities:
1. Garden Activity: Using Measuring Tools (30 min.)
   A. Tell students that today's lesson will review how to measure the perimeter of rectangles.
   - Ask a student to come up and write the formula for the perimeter of a rectangle on the board:

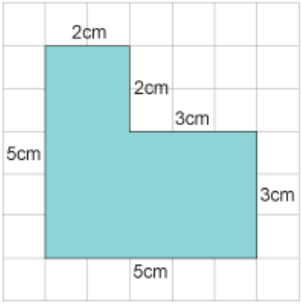
- P = 2 (l +w) = l+l+w+w = 2l+2w
- Perimeter (ft) = 2 x (length + width)

B. Distribute Handout: "Measuring Perimeter" and rulers, measuring tape or yardsticks to each student.

- Divide the class into pairs.
- Give students five minutes to measure an item in the classroom and five minutes to measure an item in the garden.

C. Bring students back into the classroom and lead a discussion about their findings in the classroom and outdoors.

- Ask the students if they found this exercise easy or difficult? If difficult, why?
- Ask students when this information might be useful for them or their parents (e.g., when they are buying a new sofa for their home to see if it will fit where they want it to go).



2. Activity: Advanced Perimeter Measurements. (15 min.)

A. If time allows, review with students how to find the perimeter of an L-shaped polygon. Using the principles of a rectangle, students can determine the length of sides that are not given in the instructions. For example, the perimeter of the figure on the right is: 5 + 2 + 2 + 3 + 3 + 5 = 18 cm.

B. Send students into the garden to measure and object that has more than four sides.

3. Snack (5 min.)

4. Have students answer the reflection questions in their garden journals. (5 min.)

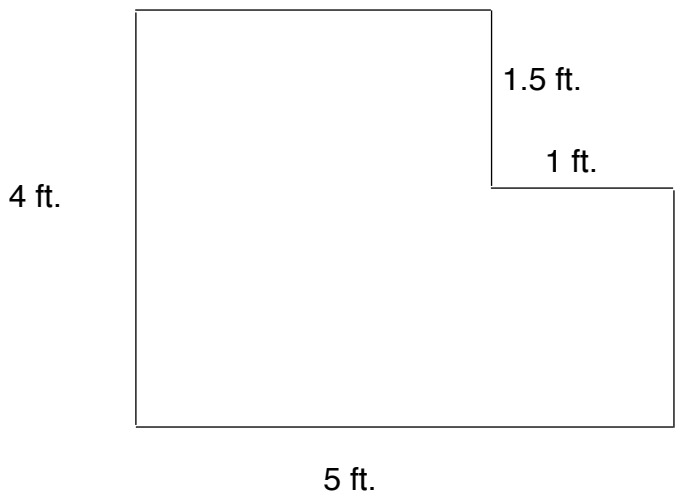
Student Reflection Questions:

1. Are there certain shapes of objects that it would be difficult to determine/ measure their perimeter? If yes, give an example.
2. When do you think you or your family might need to know how to measure the perimeter of something you are going to buy for your home?

Assessment Questions:

1. Determine the perimeter of the following shape. **(18 ft.)**

   Teacher's Note: Be prepared to allow students to struggle and ask them questions such as, what do you know about this side? How can you find the length of the side that is not labeled. And finally, the give away, if you know the entire length is 5 ft and this part is 1 foot, what would the remaining length be?



Standards:

CCSS: Mathematics Review
CCSS.MATH.CONTENT.2.MD.A.1
Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

CCSS.MATH.CONTENT.3.MD.D.8
Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

CCSS: 6th Grade
(Perimeter is a scaffold to this standard.)
CCSS.Math.Content.6.G.A.2
Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of

right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

(When writing the formulas for perimeter.)
CCSS.Math.Content.6.EE.A.2.a
Write expressions that record operations with numbers and with letters standing for numbers.

CCSS.Math.Content.6.G.A.1
Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

Mathematical Practices

Use appropriate tools strategically.
Attend to precision.