

Lesson 6: Perimeter, Area & Volume — Grades 4-6

Overview:

Perimeter is the distance around any closed figure. Area is the number of square units needed to cover a surface enclosed by a geometric figure. Volume is the amount of space that a three-dimensional figure contains. In this lesson, students will apply their understanding of perimeter, area and volume using various forms of cheese as models to measure. Measurements can be made in customary or metric form. After finding the measurements, the cheese can be eaten.

Objectives:

Students will be able to:

Find the perimeter, area and volume of a Sorrento Sticksters® Cheese Stick.

Find the perimeter, area and volume of Sorrento® Mozzarella.

Materials:

Sorrento Sticksters® Cheese Sticks and Sorrento® Mozzarella, rulers, graph paper, notebooks, pencils, objects for assessment stations, recording sheets, large rectangular box.

Related Literature:

Let's Investigate Area & Volume – Marion Smoothey, Benchmark Books (1993)

Where We Play Sports: Measuring the Perimeters of Polygons – Greg Roza, Powerkids Press (2004)

Bigger, Better, Best! – Stuart J. Murphy, Harper Collins Juvenile Books (2002)

Procedures:

Explain to students they will be learning how to find the perimeter, area and volume of rectangles and squares.

Give students definitions and formulas for perimeter, area and volume of rectangles and squares and ask them to record this information in their notebooks.

Clarify each concept using the following: Ask students to think of their bedrooms. The perimeter would be the distance around all of

the walls of their rooms, the area would be the number of square units needed to cover their floors (with a carpet for example), and the volume would be how much space their rooms take up, from wall to wall, floor to ceiling.

Model formulas using a large rectangular box. Record measurements on board; ask students to compute and then share answers.

Tell students they will be practicing finding the perimeter, area and volume of some food items with which they are familiar. Distribute one Sorrento Sticksters® Cheddar Cheese Stick to each student.

Ask students to find perimeter, area and volume of their cheese sticks using customary measurement. Students should record measurements and do computation in their notebooks.

Share answers when students have finished. All students should have the same answer, as the Sorrento Sticksters® are uniform in size.

Break up students into six small groups. Now ask the students to find perimeter, area and volume of Sorrento® Mozzarella cheese.

Answers may vary slightly from group to group.

Share results. If students got wildly different answers, discuss how that would be possible, and have students recalculate their estimates.

Students may eat their cheese models.

Products Used:

Sorrento Sticksters® Cheddar Cheese Sticks, and Sorrento® Mozzarella

Assessment:

Set up a variety of measurement stations around the room. Each station will be numbered and contain a square or rectangular shaped object. Students will rotate through the stations, measuring each object, recording their measurements, and then returning to their seats to compute the perimeter, area and volume of the objects in the various stations. Their recording sheets will be handed in when all computations are complete.

