

# POP! TEACHER RESOURCE



## Units of Volume

Lesson Plan for *Measuring Volume*

Grade 1

### Objective

To help students use known relationships between units of volume to figure out unknown relationships between units of volume.

### Things Needed

- *Measuring Volume* book
- Whiteboard
- Pencils and paper

### Before the Activity

Write the following relationships on the whiteboard:

- 1 cup = 8 fluid ounces
- 1 pint = 2 cups
- 1 quart = 2 pints
- 1 gallon = 4 quarts

### Activity

Read *Measuring Volume* out loud to students. Page 4 says, "Volume is the amount of space a 3D object takes up." People use many units to measure volume. These units include fluid ounces, cups, pints, quarts, and gallons. The book explains how these units relate to one another.

Show students the relationships on the whiteboard. The equal sign shows that the information on the left is the same as the information on the right. Both sides have the same value. For instance, we can read the first equation as "1 cup is 8 fluid ounces." Students can use these relationships to figure out how other units relate to one another. For example, students can figure out how many fluid ounces are in 1 pint.



Ask students the following questions:

- How many cups are in 1 pint? (Answer: 2 cups)
- How many fluid ounces are in 1 cup? (Answer: 8 fluid ounces)

Write this equation on the whiteboard:

- $1 \text{ cup} + 1 \text{ cup} = 2 \text{ cups} = 1 \text{ pint}$

Then, explain that students can substitute fluid ounces for cups in the equation. Because 1 cup is equal to 8 fluid ounces, they can replace each “1 cup” in the equation with “8 fluid ounces.” Write the new equation on the whiteboard:

- $8 \text{ fluid ounces} + 8 \text{ fluid ounces} = 2 \text{ cups} = 1 \text{ pint}$

Then, students can add the numbers of fluid ounces together to find the total.  $8 + 8 = 16$ , so there are 16 fluid ounces in 1 pint.

After this explanation, have students try answering the following question on their own:

- How many cups are in 1 quart?

### **Evaluation**

Could students use a similar process to determine that there are 4 cups in 1 quart?

If any students finish early, ask them to try finding how many cups are in 1 gallon (Answer: 16 cups).

### **Standards**

This lesson plan may be used to address the Common Core State Standards' math standards, grade 1 (1.OA.D.7) and grade 3 (3.MD.A.2).

