

# Activity

## Converting Kitchen Measurements

### Lab Preview

**Directions:** Answer these questions before you begin the Activity.

- Why should none of the foods in this lab be eaten?

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- What SI units are measured by a balance and a graduated cylinder?

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*Look through a recipe book. Are any of the amounts of ingredients stated in SI units? Chances are, English measurements are used. How can you convert English measurements to SI units?*

### What You'll Investigate

How do kitchen measurements compare with SI measurements?

### Safety Precautions

### Materials

balance	dried beans
100-mL graduated cylinder	dried rice
measuring cup	potato flakes
measuring teaspoon	water
measuring tablespoon	vinegar
corn meal	salad oil

### Goals

- **Determine** a relationship between two systems of measurements.
- Calculate the conversion factors for converting English units into SI units.

### Procedure

- Use the appropriate English measuring cup or spoon to measure the amounts of each ingredient shown in the table.
- Use a balance to measure the mass in grams of each dry ingredient. Use a graduated cylinder to measure the volume in milliliters of each liquid ingredient.

- Record each SI measurement in the table in the Data and Observations section.

### Data and Observations

Table 1

English to SI Conversions		
Ingredient	English measure	SI measure
Water	1/2 cup	
Corn meal	2 cups	
Salad oil	4 tablespoons	
Dried rice	1/2 cup	
Potato flakes	3 cups	
Vinegar	1 teaspoon	
Dried beans	3 cups	

**Activity** (continued)**Conclude and Apply**

1. **Calculate** the number of grams in one cup of each dry ingredient. Calculate the number of milliliters in one cup, one teaspoon, and one tablespoon of each liquid ingredient.

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2. **Write** conversion factors that will convert each English unit to an SI unit for each ingredient.

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3. **Calculate** how many milliliters you would measure out if a recipe called for three tablespoons of salad oil.

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4. **Compare and contrast** your conversion factors for the dry ingredients and your conversion factors for the liquid ingredients.

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5. **Explain** the benefits and problems of changing all recipes to SI units.

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**Communicating Your Data**

Write a recipe used in your home converting all the English units to SI units.

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