Metric Munchies Lab: Name: _____

Problem: What is involved in converting from English to Metric measure?

Materials:

Balance	cupcake cups
Ingredients	hot plate
Measuring cup	measuring spoons
Measuring spoons	pan
Hot plate	stirring spoon

Procedure:

1. Use the balance or measuring cups to determine the metric value of the measured ingredient. Be sure to mass the cup empty then subtract that mass from the mass of the cup and the ingredients. Remember never to place substances directly on the balance.
2. Write the metric equivalent in your data table below. Also write it on the metric ingredients list posted in the classroom.
3. Copy the completed list of metric measures from the class list.
4. Place your margarine in the cooking pot on the hot plate set at 5.
5. After the margarine is melted add the remaining ingredients and stir until well mixed.
6. Spoon the cookie mix into the cupcake cups and set aside until mix is set.

Data and Observations

Ingredients	Object measured	Metric
Margarine	1/8 lb margarine (1/2 stick)	
Sugar	1 cup	
Cocoa	3 Tablespoons	
Milk	¼ cup	
Rolled Oats	1 1/2 cups	
Vanilla	1/2 teaspoon	

Observations:

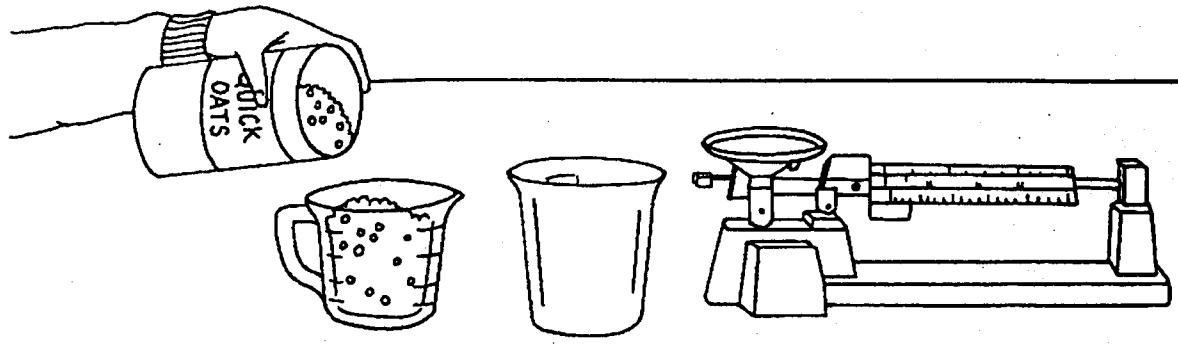
1. What English units did you use to measure mass? What metric units did you use?

2. What English units did you use to measure volume? What metric units did you use?

3. How does the density of rolled oats compare with the density of sugar? Hint: Density = mass/volume (use the metric measurements)

4. Which system of measurements is more accurate for measuring the amount of oats to use? Why? Can you think of any application this might have to everyday life?

NAME _____ DATE _____ CLASS _____



Analyze

1. The volume ratio of sugar to rolled oats is 2 to 3. What is their mass ratio? _____

2. Which recipe, English or metric, requires the use of the most measuring devices? _____

3. Which kind of measure tends to be more accurate, volume or mass? _____

Conclude and Apply

4. English measure recipes tend to use whole numbers and simple fractions. How could you simplify the metric recipe? _____

5. How would kitchen equipment change if all recipes were metric? _____

6. What benefits and problems can you see in changing all recipes to metric? _____