

## Lesson 14: Did we do a good job making soap?

### Activity 14.1

#### + Safety

Your soap may be a little harsh on your skin. Do not attempt to wash yourself with your soap. Rinse your hands off completely when you have finished this lab.

#### Purpose

You will use a variety of tests to check to see how well your soap turned out.

#### Efficiency

You used 11 grams of fat and 24 grams of sodium hydroxide. What mass would you expect your soap to have?

**11 grams Fat + 24 grams Sodium Hydroxide → \_\_\_\_\_ grams Soap**

Carefully, place your soap on the scale. Find the mass of your soap.

Expected Mass:	Actual Mass	Amount Lost or Gained

Thinking about what you expected the mass to be, and what it was, why might they be different?

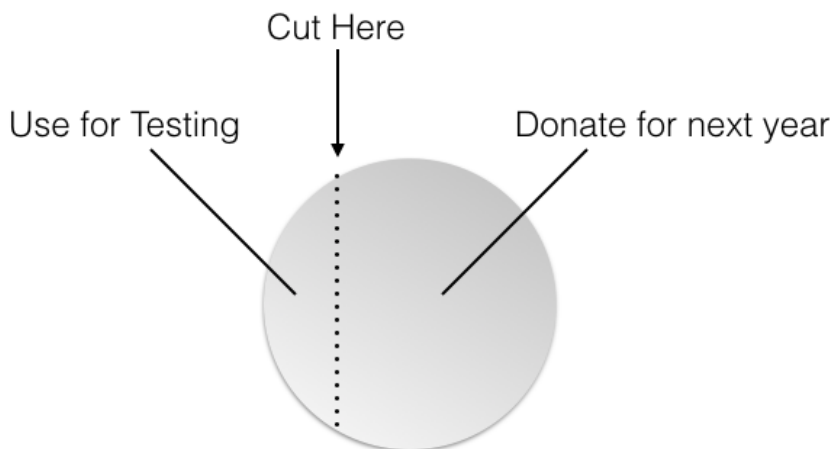
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#### Cutting Off a Sample

Use a plastic knife to cut off a sample to test. Make the cut about one fourth of the way across the sample as shown in the diagram. Take the smaller piece to do your testing with. The rest should be placed in the to be donated pile for next year's labs.

As you are cutting the sample make some observations about how hard it is to cut. Record these observations below.



#### Your Progress:

- Mastery
- Proficient
- Developing
- Beginning

### Basic Properties

Carefully, look at your soap. Smell it and touch it. Record your observations below:

<b>Hardness</b>	
<b>Malleability</b>	
<b>Color</b>	
<b>Smell</b>	
<b>Texture</b>	

### Solubility

Use the metal scoop to scrape a very small amount from three different locations on the sample. Add them in a small plastic cup to 10 ml of water. Stir this with the stirring rod for 2 minutes. Do not discard the solution.

<b>Observations:</b>	<b>Solubility:</b>

### pH

Measure the pH of the soapy water you created above. Compare it to the value you recorded earlier in the pH Scale activity.

<b>pH of Commercial Soap</b>	<b>pH of Your Soap</b>

Thinking about the reactants, why might the pH of your soap be different?

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