Name _____

Fat in Ground Meat Products…
The "Nasty Meat Lab"

(Modified from Food Science Experiment 10B)

Purpose: In this lab you will evaluate the fat content of different types of ground meat products. Fat will be rendered from the meat products by cooking them in water for 15 minutes. The fat will rise to the surface and harden during cooling for easy removal – yuck! ☹

Procedure:

Day One

1. Mass out about 75 grams of your assigned ground meat product on the balance and place it in your beaker.

   Write down the exact mass of your meat product here: _____

2. Some possible choices are:

   Lean Ground Beef (85/15)
   Ground Beef (80/20)
   Extra Lean Ground Sirloin (96/4)
   Ground Turkey
   Veggie (Boca) Burger Crumbles

   Be sure to observe the "juiciness" of the different kinds of meat.

3. Fill your beaker about halfway with water.

4. Place the beaker on the stove or hot plate and heat it until the water comes to a boil. Reduce the heat and allow it to simmer for about 15 minutes, stirring occasionally.

5. Remove the beaker from the stove or hot plate. We will put our beakers in the refrigerator overnight.

Day Two

6. Carefully scoop/lift the hardened fat off the top of the water/meat mixture.
7. Get the mass of the fat layer using the balance. Record this mass here: _____
8. Put your numbers in the class data table.

Data:

	Lean Ground Beef (85/15)	Ground Beef (80/20)	Extra Lean Ground Sirloin (96/4)	Ground Turkey	Veggie (Boca) Burger Crumbles
Price per Pound	$5.99	$5.39	$6.14	$5.38	$4.25
Mass of Meat Before Boiling					
Mass of Just the Fat Layer					
Your Calculated Percent Fat Content					
The government says your meat should have at most this percent fat →	15%	20%	4%	17%	0.7%

1. Look back at the purpose of this lab. What do you think the word "rendered" means in this sentence?

2. A common method of fat rendering is used when butter is turned into clarified butter. Visit this website to answer the following questions: http://en.wikipedia.org/wiki/Clarified_butter
    a. What is clarified butter?

    b. Which scientific property allows chefs to make clarified butter?

    c. Which has a higher smoke point – "regular" butter or clarified butter?

    d. How might clarified butter be used?

3. Is there a relationship between the percent fat and the price per pound of each variation? If so, what is it?

4. Which burgers tend to have the best flavor/be the juiciest? The ones with a high or low fat content?

5. Which burger is composed of mostly *unsaturated* fat? How do you know?