

20 pts. KitchChem1 blog entry. Due up by Nov. 2

Your illustrated KitchChem1 blog entry needs to be up by next Friday, Nov. 2 for full credit. See <http://uwecidis155.weebly.com/first-kitchen-chemistry-assignment.html>

Remember to log in:

www.weebly.com

log in: uwecidis155@gmail.com

password: repulsemonkey

What I want to see: It depends on your group's projects. BUT these are the common elements you must have:

1. **Recipe**—be sure to give proper credit.
2. **Major food chemistry principles demonstrated.** Start with “Geeks” book and research the rest online. Relate to similar kinds of cooking or foods. For example, caramel-making should involve a discussion of candy making and temperatures which cause texture and taste changes, pretzel making should have a discussion of Malliard chemistry and browning and how the process can be enhanced or delayed, and paneer-making should discuss protein denaturation in food preparation and cooking and other methods for cheese-making.
3. **Pictures.** Include enough photos to demonstrate the process and experiments if your food preparation involved any experiments

Here is an example of a food science blog entry.

<http://blog.khymos.org/2010/12/22/no-knead-bread/>

I don't necessarily expect yours to be elaborate or long but there has to be some science in it! BTW, the blog site above, <http://blog.khymos.org/> has a lot of interesting culinary chemistry that may help you later on.

KitchChem 1 Experiments

1. Protein Denaturation:

- a. Cheese making-rennet/paneer –*we will only do paneer today*

[http://www.wikihow.com/Make-Paneer-\(Indian-Cheese\)](http://www.wikihow.com/Make-Paneer-(Indian-Cheese))

Documentation/Experiments:

- 1) Weigh the amount of milk you start with (~ 1 quart)
- 2) record with photos the process of coagulation/how many teaspoons (5 mL each) does it take to coagulate the milk. Take notes.
- 3) Weigh the (wet) cheese afterward. What percentage of whole milk is cheese fat and protein?

2. Browning/Maillard Reaction:

- a. Pretzels and pH (sodium bicarbonate, water, vinegar, vitamin c)

<http://allrecipes.com//Recipe/buttery-soft-pretzels/Detail.aspx>

Documentation/Experiments:

- 1) Dip some pretzels (most of them actually) as described in the baking soda bath.
- 2) Dip a few in plain water as a control
- 3) Dip a few in water to which you have added an acid-maybe about ¼ cup lemon juice/quart of water
- 4) Take pictures of the pretzels before and after baking. Be sure you know which is which! How does the dip affect color and flavor?

3. Caramelization/Maillard Chemistry: Caramels

<http://allrecipes.com//Recipe/caramels/Detail.aspx>

Documentation/Experiments:

- 1) Record color associated with temperature while cooking and after setting. Take pictures with thermometer in view.
- 2) When does the color start changing?