Organic Chemistry Lab

Purpose: 1) to examine the underlying chemical structure of foods, 2) to burn stuff

Materials: Obtain the following from the front of the room: large crucible, large clay triangle, two samples of one type of food. Place one sample in the crucible; keep the other at your lab bench.

Procedure:

1. Set up retort stand with ring clamp and clay triangle. Position fume hood to vent the smoke from the crucible (do not place it so close that it will be strongly heated by the Bunsen burner).
2. Light the Bunsen burner. Begin heating the substance. When the reaction stops (no more smoke) turn off Bunsen burner. Leave sample to cool.
3. Place the second sample at the base of your retort stand (so other students can see what the sample looked like before).
4. Circulate to the other lab stations to observe the effect of heating on other foods.

Questions:

1. What colour did most food substances change? _____
2. Look at the elements at the front of the room. Which element most resembles the product from burning? _____. This element was present in the foods before they were burned. In many cases, burning/heating breaks down complex molecules (by oxidising them), leaving only the element that formed the framework of the substance.
3. What substance was an exception (it did not have the same reaction to burning)? _____ What elements are found in this compound? _____, _____. Thus, it did not turn the same colour as other foods because it did not contain _____.

Clean up: Place foods in the trash. Clean crucible with steel wool if necessary. Return equipment.

Reading: Read pg. 858 (starting from “Some similarities …”), read pg. 1011

Questions:

1. List 3 items in this room that are carbon based and 3 items that are not (do not include foods from the lab).
   _____
   _____
2. How many bonds does a carbon atom form when in a molecule? _____
3. How many carbon atoms can be linked together in a chain? _____
4. How are the chains that carbon atoms form different from the chains that other elements form? _____
   _____
5. What other unique property does carbon have (compared to other members of the carbon family)? _____
6. Define organic chemistry: _____
   _____
7. List all of the carbon compounds that are not considered organic
   _____
8. Which other elements are commonly found in organic compounds? _____
9. What part(s) of a human body are principally inorganic? _____
   _____