Lab 9 – The Making of Cement

You will dehydrate the Copper(II) Sulfate Pentahydrate. This will be done by heating a known mass in a test tube and then determining the mass of the resulting anhydrous salt. Subtracting the mass of the anhydrous salt from the mass of the hydrate gives the mass of water in the original sample. \*\*Note: We will be keeping the white powder that you form in this lab for our next lab. You will need to transfer your sample to a smaller test tube, label it with your group names and cover the opening on the test tube with a stopper (an additional piece of tape might be necessary if there are holes in the stopper. We don’t want the sample pulling any moisture from the air).

Procedure:

1. Obtain a large test tube and weigh it
2. Obtain about 3 g of hydrate and crush it using a mortar and pestle
3. Place the hydrate in the test tube and weigh again
4. Distribute the hydrate evenly along the length of the tube.
5. Place the tube and hydrate over a Bunsen burner.
6. Rotate the tube so that the blue hydrate tumbles inside and contacts the glass. Also, heat the entire tube so that water does not condense in the end
7. Look for evidence of **yellow or black product or the smell of rotten eggs. These show overheating!** Turn the heat down if any of these occur
8. Continue heating until the powder is a uniform white or very pale green color.
9. Cool the test tube and contents. Reweigh.