

Procedure and Questions:

1. Record observations of the dry copper (II) chloride crystals below: Include a thorough description:

2. Measure 11.2 grams of dry copper (II) chloride in a weigh boat on a balance. Transfer the copper (II) chloride into at least a 250 ml beaker.

3. Measure 75 mL of tap water into a 100-mL graduated cylinder. Pour all of the water into the **same** beaker with the copper (II) chloride.

4. Stir the mixture with a glass rod until the solid has completely dissolved. Place the thermometer into the solution (do not rest it on the bottom of the beaker) and record the initial temperature. Record your temperature in the data table.

5. READ THIS STEP COMPLETELY BEFORE CONTINUING:

Tear a sheet of aluminum foil from the roll. Measure out a piece of foil that is as close to **1.5 grams**. Tear the aluminum foil into many small pieces. Once the foil has been tore into small pieces, add all of the aluminum to the copper (II) chloride solution. One person should to use the stirring rod and keep the aluminum foil submerged in the solution. As the reaction takes place, another person should record the temperature in the data table every 30 seconds for 3 minutes.

Do not remove the thermometer from the beaker during measurements!

Time	Temperature	Time	Temperature	Time	Temperature
30 seconds		60 seconds		90 seconds	
120 seconds		150 seconds		180 seconds	
210 seconds		240 seconds		270 seconds	

7. Keep the Aluminum foil submerged until the majority of the reaction has completed. When the reaction has stopped, carefully pour off the aqueous (water) phase of the mixture into the sink. Do not to let any product get into the sink.

8. After you have poured off the aqueous solution, record your new observations of the product.

9. Obtain a piece of filter paper. Record the initial mass of the filter paper before adding your product. You will need this mass for later calculations. Once the mass has been recorded, transfer all of your new product to a piece of filter paper and place under the hood for drying.

Mass of Filter Paper: _____

10. Clean out and rinse all laboratory equipment. Wipe off your lab area and leave it clean and dry. Answer the following questions about your lab.

LAB QUESTIONS:

1. What specific evidence (give at least two) that indicated a chemical change was taking place?
2. Write the chemical formulas for just the reactants in this chemical reaction:
3. How would this reaction be classified? (What type of reaction?):
4. Using the type of reaction listed above, predict the products and write a balanced chemical reaction.
5. What is the identity of the solid you collected in your filter paper?
6. Collect your dried product. Remember to subtract the mass of the filter paper done in #9 on the front. Show your calculations below for how many grams of the product you collected.
7. Based on calculations already done, the actual yield for this experiment should be 5.3 grams of your collected product. Compare your amount collected by calculating the percent error. Show your work and then describe what that number means. (Were you close? Or not? How do you know?)
8. Hypothesize and explain why there may be differences between the actual amount and the amount you collected:
9. On a separate piece of paper, graph your time (x-axis) versus temperature (y-axis) data from the lab.