

Evidence of Chemical Reactions

/16

Name: _____

Date: _____ Bl: _____

Purpose: To observe a series of chemical reactions, all in one beaker.

PPE: Goggles, Lab coats, gloves if working with the Copper II Chloride

Materials:

3.0g Copper II Chloride (CuCl_2)	15 cm x 15 cm aluminum foil	petri dish
100mL beaker with 50 mL water	Glass stirring rod	digital scale
Thermometer	graduated cylinder	

CAUTION: DO NOT TOUCH THE COPPER II CHLORIDE

Procedure:

1. Measure the temperature of the water in the beaker with a thermometer. Record **temperature in $^{\circ}\text{C}$** .
2. Use a dry plastic petri dish to measure 3.0g of copper II chloride.
Examine the copper II chloride and **record 2 properties** below.
3. Carefully pour the 3.0 g of copper II chloride into the beaker filled with 50 mL of water. **Do NOT stir. Observe the liquid for three minutes without disturbing it. Record 2 observations.**
4. Stir with the glass rod until the copper II chloride is completely dissolved. Place a thermometer in the solution and **record its temperature.**
5. Crumple the aluminum foil into a loose ball and push it down into the liquid with the glass stirring rod.
6. Look carefully for evidence of a chemical reaction. Record the temperature in $^{\circ}\text{C}$.
7. Place the contents of the beaker in the waste container supplied by the teacher.

“Now you can take off gloves, goggles, lab coats”

Observations:

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Step 1. Temperature of water = _____ $^{\circ}\text{C}$

Step 2. 2 Properties of Copper II Chloride before reaction

Step 3. 2 Observations of water + Copper II Chloride after 3 minutes reaction

Step 4. Temperature of water + Copper II Chloride after stirring = _____ $^{\circ}\text{C}$

Step 5. 2 Observations of liquid after add crumpled foil

Step 6. Temperature of water + Copper II Chloride + crumpled foil = _____ $^{\circ}\text{C}$

Discussion Questions:

1. Which observation provides the most convincing evidence of a chemical reaction? /2

For example: temperature change, bubbles or colour change.

Choose one and give a reason for your choice.



2. Identify the following as a Quantitative or a Qualitative property: /2

a.) Copper II chloride is a blue solid. _____

b.) Water + Copper II Chloride had a temperature of 24°C. _____

3. (a) What kind of energy was produced by this reaction? /1

(b) Where do you think this energy came from? /1

4. List 2 chemical reactions that occur in your home. /2

Conclusion:

/2

In this lab I learned (tell me 2 things you learned about chemical reactions)

1. _____

2. _____



Please hand in to IN BIN when done.

