

Name:

Date:

TA:

Science 9: LG 5 6-1A Comparing Chemical Reactions

Safety

- Avoid touching all reactants and products
- Use the fume hood and fan
- Return all chemicals to Kiosk
- Wear safety equipment included in lab kit
- Wash hands and equipment thoroughly when done

Purpose: To observe and compare three similar chemical reactions.

Pre-Lab Theory

Define the following terms: Ions, Ionic Compounds, Chemical Reaction

What is the *general* formula for a single replacement reaction?

Hypothesis: *If copper(II) chloride and a metal are combined, then one of the products will be ...*

Materials:

- Copper (II) chloride solution
- 4 medium test tubes
- Test tube rack
- Strip of magnesium
- Iron nail
- Mossy zinc metal
- Copper wire
- Waste bucket
- Paper towel

Procedure: (refer to p. 257 of BC SCIENCE 10)

Observations:

Using a ruler, create an observation table for your experiment.

Analysis Questions:

1. For EACH of your reactions, what were the products formed?
2. For EACH of your reactions, can you identify (name and formula) each ionic compound?
3. (a) Describe what you observed in the test tube containing the copper wire.
(b) Suggest a reason for your observations.
4. Draw a Bohr diagram for $MgCl_2$

Conclusions:

1. Do your observations and data support your hypothesis? How do you know?
2. Using your prior knowledge around ions and ionic compounds, explain how the products in these reactions were formed.
3. How accurate do you think your results are? Explain any possible experimental or environmental errors. What could you do to improve your methods to make your results more reliable?

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Table Name: _____

Reaction	Reactants	Observations	Diagram
1	Copper (II) Chloride + Copper Wire		
2	Copper (II) Chloride + Magnesium		
3	Copper (II) Chloride + Iron (II) Nail		
4	Copper (II) Chloride + Mossy Zinc		