

**Chemical Changes**

Name \_\_\_\_\_ Section # \_\_\_\_\_ Station # \_\_\_\_\_ Date \_\_\_\_\_

**1. Write balanced chemical equations for each reaction and describe what changes you saw in each part that indicated a chemical change had occurred.**

I. Copper and nitric acid

II. Copper (II) nitrate and sodium hydroxide

III. Heating of copper (II) hydroxide

IV. Copper (II) oxide and sulfuric acid

V. Copper (II) sulfate and magnesium

VI. Magnesium + hydrochloric acid

VII. Copper + hydrochloric acid

**2. What color was the liquid in your test tube at the very end of the experiment in Part VI?  
What is the implication of this for your recovery of copper?**

3. How would each of the following errors affect the recovery of copper at the end of the experiment? Would more or less copper be recovered, or would there be no change? **Explain your answer.**

A. What if too much NaOH was added in Part II?

B. What if not enough magnesium was added in Part V?

4. What would indicate that all of the copper was removed from the liquid at the end of the experiment in Part VI?