

Chemical Vs. Physical Changes

Introduction: When you shower, cook food, color your hair, perm your hair, eat food, and exercise you perform chemical reactions. Chemical reactions are also performed in chemistry laboratories in order to better our lives (i.e., shampoo is made in a chemical laboratory, food is enriched in a chemistry laboratory, many fabrics are made or dyed in a lab, etc). You also perform a number of physical changes in your everyday life (cut your hair, fold paper, freeze ice, tear your shirt, etc). In this lab you are to follow the directions and determine if a chemical reaction (change) or a physical change occurred.

Pre-Lab Questions: Completely read the lab and then return to this section to answer these questions.

1. Name two general lab safety precautions.
2. What specific safety precautions do you need to keep in mind when doing **THIS** lab?

Procedure:

*Warning: Hydrochloric acid, HCl, and sodium hydroxide, NaOH, can cause chemical burns. Rinse with **water only for 20 minutes** if you feel burning or itching.*

The steps below do not have to be completed in the order written.

- A. Place a strip of magnesium **loosely coiled** in a test tube. (You can touch magnesium with your hands.) Add enough aqueous HCl to cover the magnesium. Record your observations below. Empty this test tube into **ACID-BASE** waste container.
- B. Add about 1 mL aqueous CuCl_2 to a test tube. Add about 1 mL aqueous NaOH to the test tube. Record observations below. Empty this test tube **HYDROXIDE** waste container.
- C. Add about 1 mL saturated NaOH to a clean test tube. Add about 1 mL water drop-wise to the test tube. Record observations below. **Save your test tube to use in the next reaction**
- D. To the same test tube, add a drop of phenolphthalein. Swirl your test tube. Record your observations below. **Save your test tube to use in the next reaction**
- E. To the same test tube, add hydrochloric acid until you see a color change. Pour into the **ACID-BASE** waste.
- F. Watch as your instructor shows you the last change.
- G. Wash all glassware, your lab area, and your hands with soap and water.

	Observations (Describe ONLY what you see, feel, smell, or hear. Be specific.)	Chemical or Physical Change?
A		
B		
C		
D		
E		
F		