

LAB: PHYSICAL AND CHEMICAL CHANGES

Purpose: To observe physical and chemical changes in matter.

SAFETY PRECAUTIONS: Aprons and goggles must be worn and hair tied back.
Caution working with Bunsen burner.

Before performing the following experiment, make a hypothesis about whether a physical or chemical change will occur

Procedure:

1. Place a small amount of copper sulfate into a test tube. Using test tube holders, heat the bottom of the test tube over the Bunsen burner thoroughly until you observe a color change. Remove the heat tube from the heat and place in test tube rack to cool. Set aside until cooled to room temperature.

Once cool, use a pipette to add a few drops of water to the test tube. Gently feel the bottom of the test tube once water is added. Record observations.

2. Using a splint, light a candle. Record observations.
3. Place a tiny amount of NaCl (salt) into a test tube. Use a graduated cylinder to measure 5 mL of water and add water to test tube. Place thumb over top of test tube and swirl gently until NaCl dissolves. Add 10 drops of AgNO_3 to the test tube and record observations.
4. Obtain a sodium bicarbonate tablet a beaker of tap water. Place the tablet into the beaker of water. Record observations.
5. Obtain a strip of Magnesium ribbon. Using crucible tongs, hold the magnesium over the Bunsen burner flame. DO NOT look directly into the flame while heating the magnesium. Record observations.

Materials:

Equipment	Chemicals

Hypothesis: Predict what the outcome will be for each experiment explained in the procedure above. Write your hypothesis using complete sentences.

- 1.
- 2.
- 3.
- 4.
- 5.

Data: Use the table to record all observations.

PROCEDURE	OBSERVATIONS	PHYSICAL OR CHEMICAL CHANGE?	HOW DO YOU KNOW?
Heating Copper Sulfate			
Candle Burning			
Mixing NaCl and AgNO ₃			
Sodium Bicarbonate in Water			
Magnesium Ribbon			

Conclusion: Answer the following questions for your lab conclusion.

1. Did any of your hypotheses change after you performed the experiments?

- If yes, which ones? What made you change your mind?

- If no, how did you know what the outcome would be?

2. Are chemical changes reversible? Why or why not?

- What about physical changes? Provide examples.