



Name _____ Date _____ Period: _____

Title: _____

BACKGROUND:

When a physical change occurs, only the state, shape or size of the substance changes. Chemical changes, however, result in the formation of new substances with different properties.

PURPOSE: To work collaboratively in the lab and to use lab equipment effectively in the lab. To carry out 7 experiments to determine if the observed change is a physical or chemical change.

MATERIALS AND APPARATUS

Calcium Chloride solution	Iron Nail	Copper Wire	Water
Copper (II) sulphate solution	Sodium hydroxide	Magnesium	Zinc
Hydrochloric Acid	Sodium bicarbonate	Wood's Metal	

SAFETY

- Before lighting the Bunsen burner, tie back long hair and secure loose clothing. designated waste beaker. Never leave flame unattended.
- Safety symbols in this lab are:









PROCEDURE

Perform each of the following activities as stated in the observation chart.

Carefully describe the physical properties of the reactants before mixing them together in your observations table.

Carefully observe and describe what happens after mixing. Determine if it was a physical or chemical change. Dispose of chemicals as instructed by your teacher.

STATION	Starting Substances	Two Physical Properties of Starting Substances	Observations After Mixing	Physical OR Chemical Change	All Evidence (Clues to P or C change)
<p>1 Put 5mL of copper (II) sulphate into a test tube. Add an iron nail to the test tube and observe periodically during the rest of the lab.</p>	Copper Sulfate	- -			
	Iron Nail	- -			
<p>2 Hold a piece of copper wire with tongs in the flame of a Bunsen burner until red. Remove from flame, examine, then heat it again.</p>	Copper wire	- -			
<p>3. Hold a piece of magnesium ribbon with tongs in the flame of a Bunsen burner until it catches fire. Do not look directly at the flame.</p>	Magnesium Ribbon	- -			
<p>4. Measure out 5mL of calcium chloride in a graduated cylinder. Pour into a test tube. Rinse the graduated cylinder with water. Measure out 5mL of sodium hydroxide. Pour into the same test tube.</p>	Calcium chloride	- -			
	Sodium Hydroxide	- -			

<p>5. Put a small scoop of sodium bicarbonate into a test tube. Add 10 drops of acid to the test tube.</p>	<p>Sodium bicarbonate</p>	-			
	<p>Hydrochloride Acid</p>	-			
<p>6. Place a small piece of zinc in a test tube. Measure out 5mL of hydrochloric acid in a graduated cylinder. Add this acid to the test tube with the zinc.</p>	<p>Zinc</p>	-			
	<p>Hydrochloride Acid</p>	-			
<p>7.</p> <ul style="list-style-type: none"> Place a small piece of Wood's metal in a test tube. Add 5mL of water. With test tube tongs boil over a Bunsen burner for 30 seconds. Cool the test tube by running cold water on the outside of the test tube. Empty the woods metal into the sink. Remove and return to teacher when done observing. 	<p>Wood's metal (in water and contact with heat)</p>	-			

CONCLUSION:

1. How did you identify a physical change from a chemical change?

ANALYZE:

Look at each of the following situations and identify as CHEMICAL or PHYSICAL, then explain why.

1. A bridge is rusting.
WHY?

2. Glass shattering.
WHY?

3. Mix food colouring and water.
WHY?
