

Name: _____ Date: _____ Period: _____

Group Members _____

Physical and Chemical Properties and Changes Lab

Station 1 Color Station

Instruction: Describe the color of the following substances.

<u>Substance</u>	<u>Color</u>
1. Sulfur	_____
2. Ammonium dichromate	_____
3. Salt	_____
4. Sugar	_____

Question:

1. Can color be a useful property to describe and identify a substance?

- a. Why or why not?

2. Based on your observation, is **COLOR** a: *physical property* or *chemical property* (Circle one)

- a. How can you

tell? _____

Station 2 Ability to Rust Station

Instruction: Describe the appearance of the nail in each container.

Container 1:

Container 2:

Question:

1. Based on your observation, is the **ABILITY TO RUST** a: *physical property* or *chemical property* (Circle one)

- a. How can you

tell? _____

Station 3 Malleability & Ductility Station

Copper can both be malleable and ductile.

Question:

1. How are you going to classify copper, an element or a compound? _____
 - a. Why? _____

2. Based on your observation, are **MALLEABILITY AND DUCTILITY** a: *physical property* or *chemical property* (Circle one)
 - a. How can you tell? _____

Station 4 Viscosity Station

Instruction: Lift the fish line above each liquid substance on the graduated cylinder. Make sure that they are of the same level. Drop it inside the graduated cylinder and record the time it takes to reach the bottom of the graduated cylinder.

Questions:

1. Which has the highest viscosity? _____
2. Which has the lowest viscosity? _____
3. Based on your observation, is **VISCOSITY** a: *physical property* or *chemical property* (Circle one)
 - a. How can you tell? _____

Station 5 Reactivity Station

Note: Use the goggles before you perform the instruction.

Instruction: Place one piece of calcium shot inside the test tube and add about 5 mL of water. Record your observation in the space below.

Dispose the content of the test tube on the waste beaker provided for station and rinse the test tube with water before returning to its place .

Observation: _____

Question:

1. Based on your observation, is the **REACTIVITY OF CALCIUM IN WATER** a: *physical property* or *chemical property* (Circle one)
 - a. How can you tell? _____

Station 6 Reactivity Station

Note: Use goggles before you perform the instruction.

Instruction: Place 3 mL of sodium hydroxide solution to the test tube. Add a drop of phenolphthalein. Shake it a little bit and then add 5 drops of hydrochloric acid solution and record your observation.

Dispose the content of the test tube on the waste beaker provided for station and clean the test tube.

Observation: _____

Question:

1. Based on your observation, is the **REACTION OF SODIUM HYDROXIDE AND HYDROCHLORIC ACID** a:
physical change or *chemical change* (Circle one)
 - a. How can you tell? _____

Station 7 States of Matter Station

Instruction: Study the station card provided and answer the following questions:

1. Describe the molecular arrangement of
 - solid _____
 - liquid _____
 - water vapor _____
2. Is there a change in the composition of ice, water, and water vapor?

3. Based on your observation, is the **STATE OF MATTER** a: *physical property* or *chemical property* (Circle one)
 - a. How can you tell? _____

Station 8 Solubility Station

Instruction: Put a spatula of salt in the plastic cup and add 10 mL of water and stir. On another cup, put a spatula of cornstarch and add 10 mL of water and stir.

Dispose the content of the test tube on the waste beaker provided for station and throw the plastic cup.

Question:

1. Is salt soluble in water? _____
2. Is cornstarch soluble in water? _____
3. Based on your observation, is the **SOLUBILITY** a: *physical property* or *chemical property* (Circle one)
 - a. How can you tell? _____

Station 9 **Reactivity Station**

Note: Use your goggles before you perform the instruction.

Instruction: Put spatula of baking powder in a cup and add 10 mL of vinegar. Record your observation.

Dispose the content of the test tube on the waste beaker provided for station and throw the plastic cup.

Observation: _____

Question:

1. Based on your observation, is the **REACTION OF BAKING POWDER AND VINEGAR** a: *physical change* or *chemical change* (Circle one)
 - a. How can you tell? _____

Station 10 **Density Station**

Instruction: Observe the regular soda and diet soda inside the beakers.

Questions:

1. Which is denser, regular soda or diet soda? _____
2. What is responsible for the differences in their densities? _____

3. Based on your observation, is the **DENSITY** a: *physical property* or *chemical property* (Circle one)
 - a. How can you tell? _____

Station 11 **Flammability Station**

Note: Use your goggles before you perform the instruction.

Instruction: Use the crucible tongs to pick up one item at a time. With the lighter provided, attempt to light the paper, then aluminum strip on fire.

Question:

1. Which items were flammable? _____
2. Based on your observation, is the **FLAMMABILITY OF PAPER/ALUMINUM** a: *physical change* or *chemical change* (Circle one)
 - b. How can you tell? _____