**CHEMICAL & PHYSICAL CHANGES LAB Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| When a physical change occurs, only the form of the substance changes. Chemical changes, however, result in the formation of new substances with different properties. Some general signs of a chemical change include a change of color or odor, the formation of a precipitate (solid), the formation of a gas, and a change in heat or light. In this lab, you will perform different activities and, based on your observations, determine whether a chemical or physical change has taken place. |

**SAFETY**

* Before lighting the match, tie back long hair and secure loose clothing.
* Do not ingest any chemicals.
* Hydrochloric acid is a strong acid.
* Safety goggles and aprons must be worn at all times during the lab.

**PROCEDURE**

Perform each of the following activities and carefully observe what happens. After each activity, complete your data table according to the instructions in *Observations and Conclusions*.

**Station 1- When finished with the station leave used test tubes in the rack. Ms Giehll will clean the test tubes. Let Ms Giehll know if all test tubes are used.**

1. Crushing chalk – Use a mortar and pestle to crush a piece of chalk.
2. Mixing crushed chalk with water – In a test tube, mix a small amount of the crushed chalk with water.

**Station 2- Leave the used match on the watch glass**

1. Burning a candle- Notice what is happening to the wick ( use caution with the open flame)
2. Melting Wax- Notice what happens to you candle as the wick burns (use caution with the open flame)

**Station 3 – When finished with the station clean the test tubes.**

**5.**  Dissolving sucrose in water – In a test tube, dissolve a small amount of sucrose in water.

**6**. Mixing CaCl2 and Na2CO3 solutions – In a test tube, combine several drops each of the calcium chloride and sodium carbonate solutions.

**Station 4 –When finished with the station leave used test tubes in the rack. Ms Giehll will clean the test tubes. Let Ms Giehll know if all test tubes are used.**

**7.** Magnesium and Hydrochloric acid (HCl) – Place a piece of magnesium in a test tube. Add several drops of HCl into a test tube.

**8.** Alka-seltzer and Hydrochloric acid- Place a piece of Alka-seltzer in a test tube and add 5 drops of HCl.

**Station 5 - When finished with this station leave your cup on the orange tray.**

**9.** Copper (II) chloride (CuCl2) and aluminum foil- Label a cup with your initials. Place a small piece of aluminum foil in the cup. Add CuCl2 to the cup so that it completely covers the aluminum

**10.** Glow Stick- Bend and then shake a glow stick. One per person.

**Station 6- When finished with this station, clean your beaker with water.**

**11. Mixing Sodium Carbonate and acetic acid -** Add on spoonful of sodium carbonate (baking soda) to a beaker. Add 40mL of acetic acid (vinegar) to the beakers.

**OBSERVATIONS & CONCLUSIONS**

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| --- | --- | --- | --- |
| **Station** | **Activity Title** | **Chemical or Physical** | **Evidence** |
| **1** | **Crushing chalk** |  |  |
| **1** | **Mixed crushed chalk with water** |  |  |
| **2** | **Burning a candle** |  |  |
| **2** | **Wax melting** |  |  |
| **3** | **Dissolving Sucrose in Water** |  |  |
| **3** | **Mixing CaCl2 and Na2CO3** |  |  |
| **4** | **Mg and HCl** |  |  |
| **4** | **Alka seltzer and HCl** |  |  |
| **5** | **CuCl2 and Al** |  |  |
| **5** | **Glow Stick** |  |  |
| **6** | **Baking soda and vinegar** |  |  |

On the basis of your observations for each activity, indicate whether a chemical or physical change has occurred. In the last column, describe what evidence helped you reach this conclusion.