“Ch-ch-ch-ch-changes!”  
*First person to name the reference correctly gets a ticket!* ☺

BACKGROUND:   
Changing the state or shape of matter is an example of a **physical change**. Physical changes alter the form of a substance, but not its chemical composition or identity. Crushing a can and tearing paper are examples of physical changes. In a **chemical change**, however, the molecules in a substance combine or break apart to form a new substance. Burning wood and rusting iron are examples of chemical changes. Matter can be described based on its **physical** and **chemical** **properties**. In this lab, students will describe four substances based on their properties and the changes they undergo.

MATERIALS: Baking Soda Vinegar Baking Powder Corn Starch Goggles Sugar Spatula Stirring Rod

Disposable Pipets Water Transparency Iodine solution

PROCEDURES:

|  |  |
| --- | --- |
| 1 | Place baking power into each square in the row labeled Baking Powder. Do not place any liquids on the first box with Baking Powder. This will be used as a control. |
| 2 | Use a clean dropper for each part and make sure you clean your stirring rod each time you use it. Record your observations for every part in Data Table #1 below |
| 3 | Add water onto the second square a few drops at a time, observe, and record your observations. Use a stirring rod to stir if necessary. |
| 4 | Add vinegar onto the third square a few drops at a time, observe, and record your observations. Use a stirring rod to stir if necessary. |
| 5 | Place 5 drops of iodine solution to the fourth square of baking powder. Record the results in the table below. Use a stirring rod to stir if necessary. Caution: Be careful when handling iodine. It will stain your skin and clothes. |
| 6 | Repeat steps 3-5 for each of the substances. Clean the spatula (or spoon) for each substance. |
| 7 | Fill in Data Table # 2 with physical or chemical change under the Change column, and the property or clue you observed that made it a chemical or physical change under the Property column (reactivity or solubility). |

DATA: **Data Table 1: Qualitative Observations**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Unmixed | Mixed with  Water | Mixed with Vinegar | Mixed with  Iodine |
| Baking Powder |  |  |  |  |
| Baking Soda |  |  |  |  |
| Cornstarch |  |  |  |  |
| Powdered Sugar |  |  |  |  |