**The National Orthodox School /Shmaisani**

**Subject: Chemistry**

**Name: Title: Physical& Chemical Changes**

**Date: Grade-Section: 7CS**

**Objectives:**

**To compare between physical and chemical changes.**

**To name signs of chemical reactions**

What’s in a Change?

The words change and reaction are thrown around a lot in science, but what does each of these terms really mean? Making observations and understanding what’s happening can help us understand what’s taking place. A physical change, such as a state change or dissolving, does not create a new substance, but a chemical reaction does. In a chemical reaction, there is a change in the composition of the substances; in a physical change there is a difference in the appearance or simple display of a sample of matter without a change in composition.

Is the reactant actually changing, or it is changing into a different form? In the activities below, we will observe and determine a physical change vs a chemical reaction.

1. Watch this video <https://www.youtube.com/watch?v=MOgUpI4c2yk>

Quick Check: What is dry ice? ***Dry ice is a special type of ice, made up of frozen carbon dioxide at around -80ºC***

2. Record observations from dry ice experiments into Table 1.

3. Watch this [**video**](https://www.youtube.com/watch?v=VZl1u5RglWA) on the Reaction in a Bag activity.

Table 1

|  |  |  |  |
| --- | --- | --- | --- |
| Reactants | Observations | New substance formed? | Type of Change  (Chemical or Physical) |
| Dry ice and Water | ***Dry ice sublimes, it changes directly into the gas form*** | ***no*** | ***physical*** |
| Baking soda (sodium bicarbonate) and vinegar (acetic acid) | ***When the reactants are mixed, they starting fizzing.***  ***The size of the bag increased because of gas production.***  ***The bag exploded at the end*** | ***Yes*** | ***Chemical*** |

**Activity 2**: Watch [this **video**](https://www.youtube.com/watch?v=yIJ2qnUOOwQ) and fill out this worksheet.

1. A change in appearance only, when a new substance is not formed, is called what kind of change? ***Physical change***

1. When a new substance is formed and chemical bonds form or break, it is called what kind of change? ***Chemical change***

1. What are 3 examples of physical changes?

a. ***Cutting hair***

***b. changing state of matter***

***c. Ripping papers***

1. What are 5 signs of a chemical change?

a. ***Change in temperature***

***b. Change in color***

***c. Explosion***

***d. Odor***

***e. Fizzing or bubbles***

1. What is an example of a chemical change?

***Student can give any example***