

\*Please, Do Not Write on Experiment  
Directions!! \*\*

## White Before Your Eyes

Problem Question:

How is a Physical Change of Matter or a Chemical Change of Matter determined based on the Changes they UNDERGO.

### MATERIALS

- baking powder
- baking soda
- carton, egg, plastic-foam / or cups
- cornstarch
- eyedroppers (3)
- iodine solution
- spatulas (4)
- stirring rod
- sugar
- vinegar
- water

### SAFETY INFORMATION



Table 1: Observations

Substance	Unmixed	Mixed with water	Mixed with vinegar	Mixed with iodine solution
baking powder	COPY Into your science Notebook (LARGER)			
baking soda				
cornstarch				
sugar				

Table 2: Analyzing Data

Substance	Mixed with water		Mixed (vinegar)		Mixed (iodine solution)	
	Change	Property	Change	Property	Change	Property
baking powder	COPY Into your science Notebook (LARGER)					
baking soda						
cornstarch						
sugar						

## PROCEDURE

1. Use Table 1 to describe the appearance of four substances and write down your observations. (In Data Table 1. - Under "Unmixed")
2. Using a spatula, place a small amount of baking powder into three cups of your egg carton. Use just enough baking powder to cover the bottom of each cup.
3. Use an eyedropper to add 1 drops of water to the baking powder in the first cup. Stir with the stirring rod. Record your observations in Table 1 in the column labeled "Mixed with water."
4. Use a clean dropper to add 20 drops of vinegar to the second cup of baking powder. Stir. Record your observations in Table 1 in the column labeled "Mixed with vinegar." Clean your stirring rod.
5. Use a clean dropper to add five drops of iodine solution to the third cup of baking powder. Stir. Record your observations in Table 1 in the column labeled "Mixed with iodine solution." Clean your stirring rod. **Caution:** Be careful when using iodine. Iodine will stain your skin and clothes.
6. Repeat steps 2-5 for each of the other substances (baking soda, cornstarch, and sugar). Use a clean spatula for each substance.

## ANALYZE THE RESULTS

1. **Examining Data** What physical properties do all four substances share?

2. **Analyzing Data** In Table 2, write the type of change—physical or chemical—that you observed for each substance. As well as, How you know

by explaining the evidence observed and the meaning of the evidence

3. **Evaluating Results** -

a. Write how your data proves or disproves the educated guess in your hypothesis.

\*Include a statements for all 4 substances when mixed with water, vinegar, and Iodine.

\*Write in complete sentences\*\*  
\*Do Not use "it" or "and"