Name Class Date

## **Physical & Chemical Changes Stations**

<u>Physical change</u> ~ a change that alters the form, state of matter, or appearance of a material but doesn't make the material into another substance

<u>Chemical change</u> ~ a change in matter that produces a new substance with new properties often indicated by: gas formation (bubbles,) energy release as light or heat, a precipitate is formed, and/or a color change occurs.

- 1. Begin at the station your teacher assigns you. Stay here until you are told to move.
- 2. Follow directions given in the chart to create or observe the changes.
- 3. Identify the change as either a physical change or chemical change. Circle or highlight your choice. Do not do anything with the "Why" column yet.
- 4. Wipe off the counters, rinse the lab equipment, and make sure you put all of your trash in the trash bucket before leaving your station.
- 5. After you've completed all stations, sit back down and complete the rest of the activity by explaining why you labeled each change the way you did. This should be done independently. Use key words that you see in the above definitions.

	Station # / Event	Type of Change	Why? (to be done at your seat, on your own)	
Oegin at Station 2D	1. Follow directions at this station.	The crayon had a:  Physical Change  or  Chemical Change	The crayon underwent a physical change because the size and shape of the crayon changed. The crayon that was on the paper is the same substance that was in your hand. Hard to reverse but is still a physical change.	
	2a. Vinegar and milk: follow directions posted at this station.	Don't write anything here.	Don't write anything here.	
	2b. Vinegar and milk: follow directions posted at this station.	Physical Change or Chemical Change	This is a chemical change because the white substance that is in the paper towel is a new substance. It is the PRECIPITATE that forms in this reaction.	
	3. Eat a Starburst candy and put the wrapper in the trash bucket.	Physical Change or Chemical Change	Physical Change – the breaking up and changing form of the candy in your mouth reversed by spitting out the candy and pushing it back together Chemical Change – the breaking down and digesting of the candy	
	4. Measure 10 mL of water into the test tube; drop in a piece of Alka Seltzer.	Physical Change or Chemical Change	The bubbles that are produced are an indicator that a chemical change occurred. The bubbles contain carbon dioxide, a gas produced which is a new substance.	

No one should

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5. Make a cootie catcher.	Physical Change or Chemical Change	The only thing that changed with the paper is the size or shape of the paper. This is easily reversed by unfolding the paper.
6. Measure 10 mL of vinegar; pour into a cup; add ½ spoon of baking soda.	Physical Change or Chemical Change	The bubbles that are produced are an indicator that a chemical change occurred. The bubbles contain carbon dioxide, a gas produced which is a new substance.
7a. Sharpen the pencils.	Physical Change or Chemical Change	The pencil underwent a physical change because the size and shape of the pencil changed. The pencil that was shaven off is the same substance that was in your hand. Hard to reverse but is still a physical change.
7b. Cut the apple and observe the difference in the inside/outside appearance.	Physical Change or Chemical Change	The air reacts to the flesh of the apple and oxidation occurs. The brown substance is a new substance.
8. Fill the cup no more than half way with water; stir in ½ spoonful of lemonade mix. Stir. Taste.	Physical Change or Chemical Change	This is only a mixture of two different substances. The sugar molecules are dissolved in the water and no new substance is formed. This can be reversed by allowing the water to evaporate to separate this mixture.
*Note: Stations 9a and 9b are at	t the same spot and are	the same type of change! Think!
9a. Observe the ice melting.	Physical Change or Chemical Change	The ice is solid and is melting to a liquid. This is a physical change because no new substance is formed, it only changes states. It can be reversed by cooling the liquid to freeze again.
9b. Observe the popcorn before and after popping.	Physical Change or Chemical Change	The water inside the popcorn kernel heats up and turns into a gas. As more heat is added, the gas begins to expand until it bursts its container (the kernel). Popcorn is the result. Hard to reverse, but still a physical change.

Think of other changes you observe on a daily basis. Write them in the chart below.

Physical Changes	Chemical Changes		

Name	_Class	Date	