

Name _____ Period _____

Objective: The purpose of the 2 experiments you will be performing is to demonstrate a **synthesis reaction**, in which substances chemically combine to form a new substance, and a **decomposition reaction**, in which one substance is chemically broken down into two or more new substances. Your job is to be able to identify which experiment is a synthesis reaction, and which is a decomposition reaction. You will also be expected to identify the reactant(s) and the product(s) of the two reactions.

Lab #1

Making "SLIME"

Materials:

Elmer's Glue	Graduated cylinder
Borax (Sodium tetraborate decahydrate)	Beaker of water
Wooden tongue depressor	Beaker
Ziploc Baggie	2 disposable cups
2 TB Med. Cup (for measuring Borax)	Glass Flask
Apron	

The chemical reaction:



Procedure:

1. Put on an apron and push up your sleeves!
2. Put 6 TB of Borax into **flask** and add 210 mL of water using graduated cylinder. Put hand over the top of the flask and shake the heck out of it until well mixed. Let it settle for a bit. There should be some Borax on the bottom that just won't dissolve. This is what you want. It means the solution you have is saturated and that no more Borax will dissolve into the solution. **Set aside for your table.**
3. Pour one disposable cup (about $\frac{1}{2}$ full) of Elmer's glue and one disposable cup (about $\frac{1}{2}$ full) of water into a zip lock baggie. (Optional: add **1 drop** of food coloring to the water/glue if you want colored slime.) Set aside.
4. Now add disposable cup (about $\frac{1}{2}$ full) of the saturated borax-water solution to the baggie that already has the glue and water in it. Zip up the baggie and knead the contents of the baggie with your fingers. Do this until "Slime" ball has formed. Empty excess fluid from baggie into beaker to be dumped.
5. Open the baggie and take out contents. Knead the "Slime" some more in your hand until it becomes a smooth round ball. (It will become less sticky.)

Observations:

Explain the **properties of the Borax and glue** before they were mixed.

Borax was

The glue was

Properties of the "Slime":

When pulled fast the "Slime" _____.

When pulled slowly the "Slime" _____.

When the "Slime" is laid on a flat surface it

_____.

When you ball up the "Slime" and bounce it on your table it

_____.

Conclusion:

1. What was or were the **reactant(s)** of this lab? What was or were the **product(s)**? ***Give the names and their chemical formulas if they have one.**
2. What evidence did you see supporting that a chemical reaction took place? **Explain.**
3. Do you think this was a synthesis or a decomposition reaction? **Support your answer knowing the definition of these types of reactions.**

Lab #2

Heating Baking Soda

Materials:

Baking Soda

Wood Splint

Bunsen Burner

Stand with test tube clamp

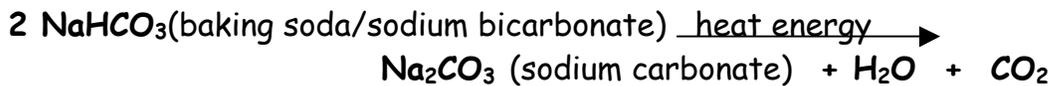
Lg. Test Tube

Goggles

Spatula

Beaker with water (to place splint in)

The chemical reaction:



Procedure:

1. **PUT ON YOUR GOGGLES!**
2. Place 2 scoops of baking soda into the test tube using the spatula. Record observations of the properties of the baking soda in table below.
3. The teacher will light and adjust your Bunsen burner. **SAFETY - This requires that you practice safe behavior. Any indication that you cannot do this will result in you NOT doing this lab!!**
4. Start to heat baking soda and record observations in table below. (**What is forming on walls of test tube?**)
5. After a few minutes, insert a lit wooden splint (put wooden splint into Bunsen Burner flame) into the mouth of the test tube. Put splint in beaker with water provided. Record observations in table below.

Observations:

Step # 2
Step # 4
Step # 5

Conclusion:

1. What was or were the **reactant(s)** of this lab? What was or were the **product(s)**? ***Give the names and the chemical formulas.**
2. (a) What must be present in order to support combustion? (b) Was combustion able to take place inside the test tube after the contents were heated? Why or why not?
3. What evidence did you see that a chemical reaction took place with the baking soda? **Explain.**
4. Do you think this was a synthesis or a decomposition reaction? **Support your answer knowing the definition of these types of reactions.**
5. In both the "Slime" lab and the baking soda lab (and in any chemical reaction) if you were to measure the mass of the reactants, how would that compare to the mass of the products? What law does this represent?