Reactions in a bag lab! Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Formative Criterion C

**Purpose**: To observe changes in matter and chemical reactions to help us understand the law of conservation of mass.

**Materials** : 1 weigh boat, 2 beakers, 1 ziploc bag, 1 graduated cylinder, bromothymol blue (get from teacher), Calcium chloride, Sodium hydrogen carbonate, scale

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| --- |
| **Prediction:** |

**Procedure:**

1. Get materials. Measure out 4 g of calcium chloride using the balance. Describe the appearance below:
2. Drape the plastic baggy over the beaker so one corner is inside the beaker and the other corner is outside the beaker. In one corner of the ziploc bag put the calcium chloride.
3. Measure out 4 g of sodium hydrogen carbonate. Put in the other corner of the Ziploc bag draped over the beaker, don’t let it mix with the calcium chloride. Describe the appearance below:
4. Get 10 ml of bromothymol blue from the teacher, pour it into test tube and add 40 ml of water
5. CAREFULLY place the test tube with the bromothymol blue into the Ziploc bag, make sure it does not spill into the reactants. Seal the bag and **Weigh and record the reactants prior to the reaction.**Weight before reaction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_g
6. Open the bag and pour half of the bromothymol blue onto each side while it is still draped over the beaker. Quickly seal the bag. DON’T LET THE TWO SIDES MIX.

Make detailed observations below:

|  |  |
| --- | --- |
| Sodium hydrogen carbonate & bromothymol Blue | Calcium chloride and bromothymol blue |

1. After making your observations, mix both sides of the baggy’s contents together. Make observations and describe the reactions below. Be detailed.
2. Now weigh the products of your reaction (include your beaker).  
   Weight after reaction:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_g.

**Analysis and final writeup**

**You will create a good copy which must be types and include:**

* Title, name, date
* Predictions
* Brief explanation of the experiment (~ 1 paragraph) *Tip: Include chemical formula for reaction*
* Observations
* Conclusion
  + Write a paragraph describing what happened during the reaction.
    - Was your prediction right or wrong?
    - give evidence from your observations
    - The bromothymol blue changed color in the lab, it is a pH indicator. What is a pH indicator?
  + Write a paragraph discussing what conclusions you can make by looking at the weight before comparted to after the reaction.
    - Explain the law of conservation of mass in your own words
* Staple this sheet to the back of your good copy.

**Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**