

Name: \_\_\_\_\_

### **Law of Conservation of Matter/Mass Lab**

**Lesson Essential Question:** What is Matter and the Law of Conservation of Matter/Mass?

**General Objective:** Explore the Law of Conservation of Matter/Mass

**Materials for First Experiment:**

- 2 small plastic cups
- vinegar (acetic acid)
- baking soda (sodium bicarbonate)
- scale/triple beam balance

***SAFETY NOTE: Safety goggles must be worn.***

**Explore:**

1. Fill one cup halfway with vinegar.
2. Fill a second cup halfway with baking soda.
3. Put both cups in the plastic bag. Take care NOT to spill the contents of either cup.
4. Determine the mass of the cups and their contents, and the plastic bag. Write the values in your data table.
5. Seal the plastic bag.
6. Without opening the bag, pour the vinegar into the cup of baking soda.
7. Without opening the bag, record the mass of the contents of the plastic bag. Take care not to break the seal of the plastic bag.

**Explain:**

Initial Mass (g)	Final Mass (g)	Change in Mass (g)

1. Describe what happens when the vinegar was poured into the cup of baking soda.
2. Why was it important that the bag stayed sealed for this lab?
3. Did this lab demonstrate the Law of Conservation of Mass or not? Explain

## Law of Conservation of Matter Lab

Design an investigation to demonstrate the law of conservation of mass using any household objects you have available to you. Remember, the Law of Conservation states that the mass of the reactants will be the same as the products after a chemical reaction. Be specific in your procedures so another person or group could reproduce your investigation and gather the same data and observations. Once the procedures are written, conduct your investigation. Be sure to collect data and observations during each trial. If you change your procedures along the way, make adjustments to your procedures on paper.

### **Materials:**

### **Procedures:**

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### **Results:**

Initial Mass (BEFORE)- (g)	Final Mass (g)	Change in Mass- (AFTER)- (g)

**Explanation of Results (if the mass before and after was different, there is not an issue with the law but with your experiment...WHICH IS OKAY! Just make sure to infer why this could have happened) :**

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