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

**Law of Conservation of Mass**

**Purpose:** To understand the Law of Conservation of Mass.

**Hypothesis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Materials: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Procedure:**

1. Take 100mL water and 5g sodium chloride. Record the mass of each reactant to one decimal place in Table 1.
2. Mix the reactants. Stir until mixed completely.
3. When the reaction has stopped, weigh the products. Record the mass to one decimal place in Table 1.
4. Repeat steps 1 – 3 twice more (total of three trials).
5. Take 25mL acetic acid and 1g bicarbonate soda. Record the mass of each reactant to one decimal place in Table 2.
6. Mix the reactants. Stir until mixed completely.
7. When the reaction has stopped, weigh the products. Record the mass to one decimal place in Table 2.
8. Repeat steps 5 – 7 twice more (total of three trials).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | H2O | NaCl | Expected Mass of Product | Actual Mass of Product |
| Trial 1 |  |  |  |  |
| Trial 2 |  |  |  |  |
| Trial 3 |  |  |  |  |

Table 1: Masses of Reactants and Products

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | NaHCO3 (Bicarbonate Soda) | CH3COOH (Acetic Acid) | Expected Mass of Product | Actual Mass of Product |
| Trial 1 |  |  |  |  |
| Trial 2 |  |  |  |  |
| Trial 3 |  |  |  |  |

Table 2: Masses of Reactants and Products

**Data Analysis:** Did you observe any changes to the masses (compare total reactant mass to total product mass)?

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**Conclusion:** Was your hypothesis correct? Why or why not? If you observed a difference of mass between products and reactants, why?

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