



Conservation of Mass Lab



Name: _____

Period: _____

Pre-lab Questions:

1. Prediction (*Circle one of the choice*):
I think the mass of the reactants (Baking Soda & Vinegar) will **increase**, **decrease**, or **remain the same** after being mixed together.
2. What is the difference between an “**open**” system (Trial 1- in the cup) & an “**closed**” system (Trial 2-in the plastic bag)?
3. What challenges to accuracy may you possibly encounter while conducting the lab activity?

Directions for Trial 1:

1. **Set the balance to 0**
2. **Fill a clean plastic cup with 20mL of vinegar (use your graduated cylinder)**
3. **Measure the mass of your cup with vinegar**
4. **Measure the mass of your cup with baking soda – 2.1g (empty small cup)**
5. **Record your starting mass (3 + 4) in the data table**
6. **Dump the baking soda into the big cup. Do not stir.**
7. **Record the ending mass of the cup in the data table (on the next page).**
8. **Calculate the amount of mass changed.**

Data Table #1:

	Starting Mass (g)	Ending Mass (g)	Amount Changed (g)
Trial 1 (Open System)			

Directions for Trial 2:

1. Fill a clean plastic cup with 20mL of vinegar.
2. Add one spoonful of baking soda into a clean plastic bag.
3. Gently place the plastic cup with vinegar in the plastic bag. **DO NOT** spill the vinegar.
4. Try to push all air out of the bag.
5. Seal the bag & place it on the balance without spilling the vinegar.
Record the starting mass.
6. Without opening the bag, tip the plastic cup, mixing the vinegar with the baking soda.
7. Still without opening the bag, record the ending mass of the contents of the plastic bag.
8. Calculate the amount of mass changed.
9. Clean up the area. Put the materials back into the plastic bin for the next class.

Data Table #2:

	Starting Mass (g)	Ending Mass (g)	Amount Changed (g)
Trial 2 (Closed System)			

Post-lab Questions:

1. State the reactants & products of this reaction:
 - a. -The reactants are:
 - b. -One of the products formed is:

2. Compare the starting & ending mass in Trial 1, the “**open**” system, to Trial 2, the “**closed**” system. What was the same? What was different?

3. What is the law of conservation of mass? Please explain how law of conservation of mass relates to this lab activity.