
Ms. Young

Science _____

_____ October 2016

Law of Conservation of Mass

Objectives: To observe the Law of Conservation of Mass

Materials: 1 balloon, weighing paper, 125-mL Erlenmeyer flask, scoopula, TBB, graduated cylinder, sodium bicarbonate, acetic acid, funnel

Procedure Part A:

1. Record the mass of the empty Erlenmeyer flask
2. Record the mass of the empty balloon
3. Measure 15 mL of acetic acid
4. Pour into the Erlenmeyer flask
5. Mass the flask and acetic acid. Record.
6. Calculate the mass of the acetic acid ONLY. Record in your data table. *Hint: Use subtraction!*
7. Mass 5g of sodium bicarbonate
8. Pour the sodium bicarbonate into the balloon. *NOTE: You will need to problem solve on this step!*
9. While one student holds the flask, another must slip the open end of the balloon over the mouth of the flask, while keeping the sodium bicarbonate from entering the flask.
10. Add the masses in the PART A data table.

Procedure Part B:

11. Tip the balloon upright, allowing the sodium bicarbonate to drop into the flask and allow the reaction to fully complete. Swirl your reaction a little bit to make sure all of the sodium bicarbonate reacted.
12. After the reaction is completed, mass the system (balloon, flask, and products). Do not let any gas escape from the system while you measure the mass!
13. Record your findings.

Procedure Part C:

14. Open the balloon to let the gas escape.
15. Measure the mass of the balloon, flask, and products.
16. Record
15. Follow clean up instructions posted on the board!



Data for PART A:

Material	Mass (g)
Erlenmeyer Flask (empty)	
Balloon (empty)	
Acetic acid (mass of acid ONLY)	
Sodium bicarbonate (mass of sodium bicarbonate ONLY – not the weighing paper)	
Total Mass of all objects	

Data Procedure B

Material	Mass (g)
Mass of entire system AFTER reaction stops	

If everything went PERFECT during your lab, you will notice something about these two numbers!

Data Procedure C

Material	Mass (g)
Mass of entire system AFTER you released the gas from the balloon.	

This number should be slightly lower than your mass in part A!



