What happens when you mix an acid and a base… pure mayhem and utter destruction? Hmmm let’s try it.

1. PUT ON GOGGLES! Use the graduated cylinder to add 50mL (100g) of vinegar to the plastic beaker.

2. Use a small piece of litmus paper to record the pH of the vinegar.

2. Put the beaker onto the balance scale and record its starting mass. Remove from the balance and put aside.

3. Use a small piece of filter paper and mass out 5g of baking soda (NaHCO3). Remove from the balance.

4. Place the beaker back onto the balance and add the baking soda to it. Add the 5g of baking soda to the original mass of just the beaker and vinegar and record. Observe what happens.

5. Wait a minute, then use another small piece of litmus paper to record the pH of the vinegar + baking soda.

6. Record the ending mass of the vinegar + baking soda beaker.

Name: lab partner(s):

pH of vinegar:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pH of vinegar + baking soda: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

starting mass of vinegar + beaker: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

starting mass of vinegar + beaker + baking soda: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ending mass of vinegar + beaker + baking soda: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Here is the “science” of what just happened:

CH3COOH + NaHCO3 🡪 NaCH3COO + CO2 + H2O

(vinegar) (baking soda) (sodium acetate) (carbon dioxide) (water)

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1. Circle the “products” and draw a box around the “reactants” in the above equation.

2. Label the following parts of the equation above: salt, water, acid, gas, base

3. Is the equation balanced? If not, add coefficients to balance it.

4. Describe any change in **pH** that occurred. Be sure to include the following terms in your explanation: acid, base, pH, neutralization.

Compare the starting mass of the beaker, vinegar and baking soda with the ending mass. Describe any change in **mass** that occurred. Why do you think there was a change in mass? Be sure to use the “law of conservation of matter” in your explanation.