Name: _____ Per____

Stoichiometry Lab:

Purpose: (Write the purpose of this lab after you have gone through the procedure)

Procedure:

1. Weigh approximately 2.50 grams of sodium carbonate in a weigh boat. Record the *exact* mass (line 1). Put the sodium carbonate into a beaker.
2. Dissolve the sodium carbonate in approximately 50 mL of water. Stir the solution to ensure that the solid is completely dissolved.
3. Weigh approximately 2.00 g of calcium chloride in a weigh boat. Record the *exact* mass (line 2). Put the calcium chloride into a beaker.
4. Dissolve the calcium chloride in approximately 50 mL of water. Stir the solution to ensure that the solid is completely dissolved.
5. Pour the solutions together. Rinse the beaker with a wash bottle to ensure that all of the solution has been transferred. Observe the reaction taking place and record your observations (line 3). The two products formed are sodium chloride and calcium carbonate. ***The sodium chloride will remain dissolved in the water, but the calcium carbonate will form a white solid will separate from the solution.***
6. Obtain a filter paper. Write your name on the filter paper using pencil. Weigh the filter paper and record the mass (line 4).
7. Fold the filter paper and place it in a funnel. Wet the filter paper using a wash bottle.
8. Put the funnel in a ring clamp and arrange the height so that the funnel will empty into a beaker. The bottom of the funnel should be touching the side of the beaker.
9. Slowly empty the contents of the reaction beaker into the funnel. Be careful not to overfill the funnel. Rinse the baker with the wash bottle several times to ensure that all of the contents have been transferred.
10. When all of the liquid has been drained from the funnel, discard the liquid waste in the sink. Carefully remove the filter paper and put it in the place designated by your teacher. Allow the filter paper to dry overnight. When the filter paper has completely dried, record the mass of the filter paper and the solid (line 5). Determine the mass of the solid by subtracting the mass of the filter paper from the mass of the filter paper and the solid. (line 5-line 4).

Data Table:

1	Mass of sodium carbonate (g)	
2	Mass of calcium chloride (g)	
3	Reaction observations	
4	Mass of filter paper (g)	
5	Mass of filter paper and solid (g)	
6	Mass of solid (g)	

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Questions:

1. Write the balanced chemical equation for the reaction that took place. **(get this checked by your instructor before you move on)**

2. Answer the following questions using the above balanced chemical reaction.
    a. From the mass of sodium carbonate (line 1) and the molar mass of sodium carbonate, determine the moles of sodium carbonate reacting.

    b. From the mass of calcium chloride (line 2) and the molar mass of calcium chloride, determine the moles of calcium chloride reacting.

3. Answer the following questions.
    a. What is the identity of the solid product?

    b. Based on the actual mass of solid collected (line 6), determine the mass of the liquid product, calcium carbonate.