Name_____ (print) Lab Section (M 1:30, W 1:30, F 12:30) (circle one)

Narme Partner _____ (print Date Turned In _____ Date did Expt _____

This lab report form is worth 70 % of the lab report grade. 30% of this lab report grade is from my signing this lab report form in class and you signing out of the lab at the end of lab. Your signatures are proof that you performed this experiment in the lab. [This Lab Report is due on: 9/16/13M at 1:45 pm, 9/18W at 1:45 pm, & 9/20F at 12:45 pm (total # pts this lab 105 pts = 70% of grade, 30 % grade from being in lab and doing experiment) (For Monday class because I am presenting a paper at the National ACS Meeting in Indiana, attendance to the lab will constitute your viewing my YouTube Video for this lab and inputting the experimental values given in the video into your data spaces. All other sections will follow normal rules. Other sections, you should input your actual experimental results instead of the YouTube results.) (5 pts for completely filling out the above, name, etc.)

Chemical and Physical Changes

Part 1. Was it a Physical Change or Chemical Change? (starting on page 31 in book, part C Procedure)

A. Appearance of solid sodium hydrogen carbonate (2)	
Appearance of HCl(aq) (2) (describe)	
Addition of HCl to solid	
b. Did it dissolve? (3)	[(yes) or (no)] [circle one]
Did it fizz? (3)	[(yes) or (no)] [circle one]
What does the product look like? (3)	
Evaporation	
c. What did it look like when dry? (2) (This solid is **Sample 1**.)	

Addition of HCl to heated sample and to fresh sample

	Sample 1 (from above)	**Sample 2 (fresh NaHCO3)**
d. Did it dissolve? (4)	[(yes) or (no)] [circle one]	[(yes) or (no)] [circle one]
Did it fizz? (4)	[(yes) or (no)] [circle one]	[(yes) or (no)] [circle one]
What did the final product look like? (4)		
Did the two samples behave the same or differently? (4)	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	[(same) or (different)] (circle one)
Are the solids the same? (4)	xxxxxxxxxxxxxxxxxx	[(yes) or (no)] [circle one]
e. Did the dissolving of sodium hydrogen carbonate in hydrochloric acid involve a chemical change? (4)	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	[(yes) or (no)] [circle one]

Part 2. Composition of a Salt. (starting on page 32 of lab book) (You are purifying your solid and then determining the identity of your salt.)

a. Purification of Salt (page 32, part a)

1) (3) Mass of impure salt (include units and proper decimal places) _____
(use top loading balance, balance in room, **not** balance in back room)

2) Filtration of Insoluble Solids

a. (2) Did all the solid you weighed out dissolve? Was the solution colored or clear?

b. (3) Describe any left-over insoluble solids and the filtrate (liquid) produced.

3) Decolorization (Adsorption)

a. (2) Was the filtrate (solution) colored or clear?

b. (3) What was the function of the charcoal?

b. Identification Using Qualitative Tests (page 33, pat b) (8)

Solution	your purified salt (unknown)	NaCl solution
Flame Test Colors		
Ions tested with flame test (cation/anion?)	[(cation) or (anion)] [circle one]	
same or different?	[(same) or (different)] (circle one)	
Precipitate Color		
ion tested with precipitate test (cation/anion?)	[(cation) or (anion)] [circle one]	
same or different?	[(same) or (different)] (circle one)	

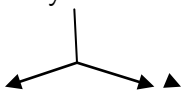
c. Conclusion (for part 2)

(8) Check the box corresponding to the salt you have. M = unknown cation, X = unknown anion (From above you will be able to tell whether M=Na or not and whether X is Cl or not)

☐ NaCl ☐ MCl ☐ NaX ☐ MX

Complete the chemical equation (from part 1) in the space below. (16 pts)

$NaHCO_3$ (aq) + H Cl (aq) → _____ (a salt) (aq, when dissolved in water) when water is evaporated, s) + _____ (a weak acid which spontaneously dissociates to produce) (aq)



_____ (l) + _____ (gas) (g)

Names and Formulas. Give the name or the formula of the following substances, as appropriate. (16) (See page 94 of your lab book for a list of formulas and names. See page 95 for how to name. Left side is the Cation and the Anion is the right side in both formula and name.)

1. Potassium bicarbonate

2. Silver nitrate

3. NaI

4. ammonium phosphate

5. $SrSO_4$

6. Na_3PO_4

7. Magnesium carbonate

8. iron(II) sulfate