Density of a Gas Exploration **Name: _____**
Week 5 – Lab – 50 pts **Date:_____ Block: 1A 3A 4A 3B**

Purpose: _____

_____(5 pts)

Hypothesis: _____

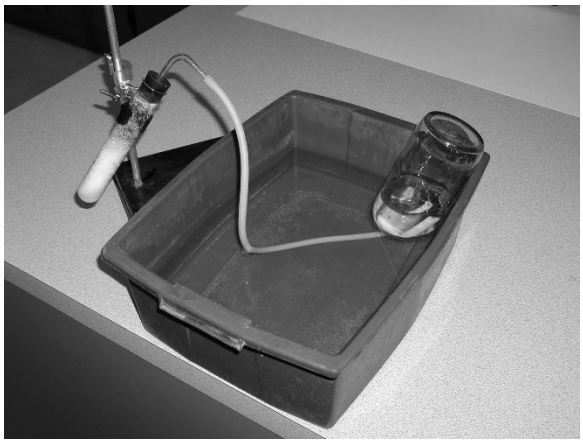
_____(5 pts)

Objectives:

1. Calculate density.
2. Use particle diagrams to represent solids, liquids and gases in a way that is consistent with their densities.

Procedure:

1. Fill a test tube ¼ full of water.
2. Mass test tube with water and a piece of Alka-Seltzer.
3. Clamp test tube to ring stand and check collection set-up. See diagram at right.
4. When ready, drop the piece of Alka-Seltzer into the test tube and immediately stopper the tube.
5. When reaction is finished, remove tube from graduated cylinder. DO NOT REMOVE GRADUATED CYLINDER FROM TUB.
6. Read volume of gas from inverted graduated cylinder.
7. Mass test tube with water and remaining Alka-Seltzer.



Data: (5pts)

	Mass (g)	Volume (mL)	Density (g/mL)
System before			
System after			
CO_2			

Calculations: *Show all work and include units! (5pts)*

Analysis: (10 pts)

1. How does the density of the CO_2 compare to previously discussed densities of solids and liquids? Explain why in 2-3 complete sentences.

2. Draw particle diagrams of solids, liquids and gases that correspond to their densities. *Remember to show conservation of mass!*

Solids	Liquids	Gases

3. If the accepted density of CO_2 is 2.0×10^{-3} g/mL, how close was your experimental value? Explain why your value was above or below in 1-2 complete sentences.

Conclusion Format: *Please write a conclusion paragraph on the next page using the following sentence prompts.*

Sentence 1: *The purpose of this investigation was to …*

Sentence 2: *The hypothesis of this experiment was …*

Sentence 3: *The results show that the calculated density was …*

Sentence 4: *Based upon this data, the original hypothesis is (accepted/rejected) because…*

Sentence 5: *The experimental value calculated is _____ compared to the actual value of …*

Sentence 6: *Sources of error that could explain the deviation from the actual value include …* (you cannot say human or calculation error…think about what could have gone wrong during the experiment!)

Conclusion: (20 pts)