INTRODUCTION TO THE CHEMISTRY LAB

USE OF THE BALANCE & PIPET

OBJECTIVE: To learn to use the triple beam and analytical balances; to practice the techniques of "weighing in" and "weighing out" by difference and pipetting.

PROCEDURE: As in the Chemistry 1110 Lab Manual, pages 34 – 36

OBSERVATIONS:

DATA:

Part I:

"Weighing in" by difference

	Analytical Balance, g	Triple Beam Balance, g
Mass of empty 50 mL beaker		
Mass of beaker and glass beads		
Mass of glass beads		

"Weighing out" by difference

	Analytical Balance, g	Triple Beam Balance, g
Mass of vial and glass beads		
Mass of empty vial		
Mass of glass beads		

Weighing by "Taring"

Mass of beads in the beaker by weighing IN =

Mass of beads by Weighing OUT =

Sodium bicarbonate ($NaHCO_3$) weighing exercise

Mass of full vial, g	
Mass of "1/3 empty" vial, g	
Mass of "2/3 empty" vial, g	
Mass of "empty" vial, g	

	Flask #1	Flask #2	Flask #3
Mass of $NaHCO_3$ in each flask, g			

PART II:

Pipetting Exercise:

Mass of empty 50 mL stoppered Erlenmeyer flask = _____ g

Pipetted Volume (mL)	Mass (g) of flask + pipetted water	Mass (g) of **15.00 mL** pipetted water	Absolute value of deviation of each mass of water from the average mass (g)
15.00			
30.00			
45.00			
		Average Mass =	Average Deviation =

Calculation of Average Volume & Deviation delivered by 15.00 mL pipette:

(*Use density of water at a given temperature in the lab manual in the introduction lab, to calculate the average volume and average deviation in terms of volume from the mass terms*)

Volume delivered by 15.00 mL pipette:

Average volume (mL) _____ ± Average deviation(mL) _____

(Remember, average deviation should be based on the number of decimals present in the average volume)