

Experiment 01
Basic Techniques
Report Form

Name: _____

Date: _____

Class Ticket: _____

Data




Table 1: Part A – Using a 3.0 mL Plastic Pipette to Measure Volume

Data:	Trial 1	Trial 2	Trial 3
Mass of Beaker			
Temp of Water			
Mass of Beaker + Water			
Mass of Water*			
Volume of Water	2.0 mL	2.0 mL	2.0 mL
Show Your Calculations On An Attached Sheet			
Density of Water			

*Mass of Water for Trial 2 = (Mass of Beaker + Water for Trial 2) – (Mass of Beaker + Water for Trial 1)




Table 2: Part B – Using a Graduated Cylinder to Measure Volume

Data:	Trial 1	Trial 2	Trial 3
Mass of Grad. Cyl.			
Temp of Water			
Mass of Grad. Cyl. + Water			
Mass of Water			
Volume of Water	20.0 mL	20.0 mL	20.0 mL
Show Your Calculations On An Attached Sheet			
Density of Water			

remember your significant digits and units



Table 3: Part C – Using a Beaker to Measure Volume

Data:	Trial 1	Trial 2	Trial 3
Mass of Beaker			
Temp of Water			
Mass of Beaker + Water			
Mass of Water			
Volume of Water	2.0×10^1 mL	2.0×10^1 mL	2.0×10^1 mL
Show Your Calculations On An Attached Sheet			
Density of Water			

Table 4: Summary Results Table

Data:	Volume Measured with 3.0 mL Pipet			Volume Measured with Graduated Cylinder			Volume Measured with Beaker		
Temperature									
Correct Density of Water at this Temperature									
Experimental Average Density of Water									
Standard Deviation									
Ranking Precision (1 = most precise)	1	2	3	1	2	3	1	2	3
Percent Error									
Ranking Accuracy (1 = most accurate)	1	2	3	1	2	3	1	2	3

remember your significant digits and units

Questions

1. In mL, what is the volume of liquid in the burette pictured in **Figure 1**? Be sure to use the correct number of significant digits. Remember to always read one more digit than the markings on the scale.



Figure 1

2. For the burette pictured in **Figure 1**, where would you expect it to rank as far as accuracy and precision in comparison with the other three pieces of labware? Why?
3. We could have performed this experiment with ethylene glycol ($d = 1.10 \text{ g/mL}$) instead. If you measured out equal masses of ethylene glycol and water, which would have the greater volume?