SACRAMENTO CITY COLLEGE
EST. 1916

Experiment 02

Calibration of a Pipette

Report Form

Name: _____

Date: _____

Class Ticket: _____

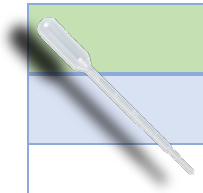
Data

Table 1: Part A – Calibrating a Plastic Pipette Raw Data

Data:	2.0 mL	1.0 mL	0.5 mL	1 drop
Temperature (°C)				
Mass of Empty Beaker at Start (g)				
Mass of Beaker + Water: Trial 1 (g)				
Mass of Beaker + Water: Trial 2 (g)				
Mass of Beaker + Water: Trial 3 (g)				
Mass of Beaker + Water: Trial 4 (g)				
Mass of Beaker + Water: Trial 5 (g)				
Mass of Beaker + Water: Trial 6 (g)				
Mass of Beaker + Water: Trial 7 (g)				
Mass of Beaker + Water: Trial 8 (g)				
Mass of Beaker + Water: Trial 9 (g)				
Mass of Beaker + Water: Trial 10 (g)				

remember your significant digits and units

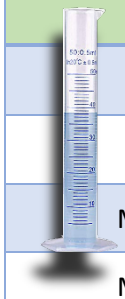
Table 2: Part A – Calibrating a Plastic Pipette Calculations



Data:	2.0 mL	1.0 mL	0.5 mL	1 drop
Temperature (°C)				
Mass of Water: Trial 1 (g)				
Mass of Water: Trial 2 (g)				
Mass of Water: Trial 3 (g)				
Mass of Water: Trial 4 (g)				
Mass of Water: Trial 5 (g)				
Mass of Water: Trial 6 (g)				
Mass of Water: Trial 7 (g)				
Mass of Water: Trial 8 (g)				
Mass of Water: Trial 9 (g)				
Mass of Water: Trial 10 (g)				
Average Mass of Water (g)				
Std Dev for the Average Mass of Water (g)				
Density of Water from Table 3 (g/mL)				
Average Volume of Water (mL)				
Std Dev for the Average Volume of Water (mL)				
Error (mL)				
Percent Error (%)				

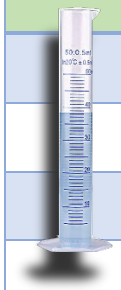
remember your significant digits and units

Table 1: Part B – Calibrating a Plastic Pipette Raw Data



Data:	2.0 mL
Temperature (°C)	
Mass of Empty Beaker at Start (g)	
Mass of Beaker + Water: Trial 1 (g)	
Mass of Beaker + Water: Trial 2 (g)	
Mass of Beaker + Water: Trial 3 (g)	
Mass of Beaker + Water: Trial 4 (g)	
Mass of Beaker + Water: Trial 5 (g)	
Mass of Beaker + Water: Trial 6 (g)	
Mass of Beaker + Water: Trial 7 (g)	
Mass of Beaker + Water: Trial 8 (g)	
Mass of Beaker + Water: Trial 9 (g)	
Mass of Beaker + Water: Trial 10 (g)	

Table 2: Part B – Calibrating a Graduated Cylinder Calculations



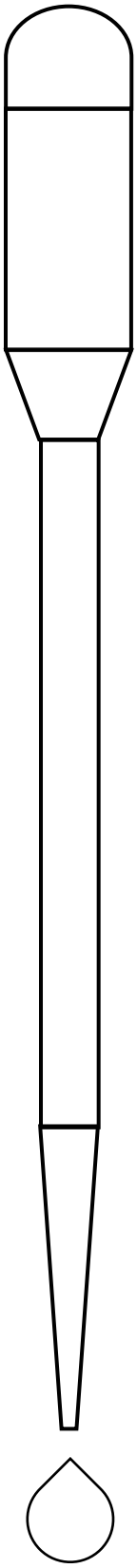
Data:	2.0 mL
Temperature (°C)	
Mass of Water: Trial 1 (g)	
Mass of Water: Trial 2 (g)	
Mass of Water: Trial 3 (g)	
Mass of Water: Trial 4 (g)	
Mass of Water: Trial 5 (g)	
Mass of Water: Trial 6 (g)	
Mass of Water: Trial 7 (g)	
Mass of Water: Trial 8 (g)	
Mass of Water: Trial 9 (g)	
Mass of Water: Trial 10 (g)	
Average Mass of Water (g)	
Std Dev for the Average Mass of Water (g)	
Density of Water from Table 3 (g/mL)	
Average Volume of Water (mL)	
Std Dev for the Average Volume of Water (mL)	
Error (mL)	
Percent Error (%)	

remember your significant digits and units

Pictures of Parts of the Experiment

1. You with your marked pipette

2. Pipette position as you make a drop



Questions

1. When you use this plastic pipette from now on and it says “deliver 2.0 mL,” you will put down that you delivered this amount instead of 2.0 mL. For the schematic of the plastic pipette on the next page, draw its markings for:

    a. *2.0 mL with the average and standard deviation of the mL of water you obtained.*

    b. *1.0 mL with the average and standard deviation of the mL of water you obtained.*

    c. *0.5 mL with the average and standard deviation of the mL of water you obtained.*

    d. *drop with the average and standard deviation of the mL of water you obtained.*

2. How accurate and precise is the 2.0 mL mark on your plastic pipette? How many decimal places should you use when using the pipette to deliver 2.0 mL of water: 2 ml, 2.0 mL, 2.00 mL, 2.000 mL, or 2.0000 mL. Answering this question is the whole point of this lab.

    a. *Accuracy percent error*

    b. *Precision mL*

    c. *2.X? +/- X.X? ml*