Name	Henry Jeckyll		Date	10/31/2006

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Experiment 1
Are the Densities of Coke and Diet Coke Different?

Objectives:

To learn how to use pipettes, burettes, and graduated cylinders.

To learn how to use an analytical balance.

To measure and compare the densities of Coke and Diet Coke and verify that density is an intensive property.

Part 1	Are the Densities of Coke and Diet Coke Different?

Sample 1 used: Coke

Sample Temperature: 21.7 °C

	Pipette		Grad. Cylinder		Burette	
	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
Mass of Empty Beaker (g)	25.6905	26.8801	30.2965	28.3715	27.7561	28.4398
Mass of Beaker + Liquid Sample (g)	30.8925	32.0561	35.4533	33.5427	32.8800	33.4878
Mass of Liquid Sample (g)	5.2020	5.1760	5.1568	5.1712	5.1239	5.0480
Volume Delivered (ml)	5.00	5.00	5.01	4.98	5.02	5.00
Calculated Density (g/ml)	1.0404	1.0352	1.0293	1.0384	1.0207	1.0096

Sample density calculation:

Pipette, Trial 1:   Mass of liquid = 30.8925 - 25.6905 = 5.2020

Density = mass / volume
Density = 5.2020 / 5.00
Density = 1.0404 g/ml

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Class Average Data for Part 1:

Sample	Average Density ± Standard Deviation (g/ml)		
	Pipette	Grad. Cylinder	Burette
Coke	1.041 ± 0.006	1.04 ± 0.02	1.03 ± 0.01
Diet Coke	0.995 ± 0.003	0.97 ± 0.05	0.980 ± 0.003

Part 2	Does the size of the sample affect the density?

Sample I used: Coke

Volume assigned: 18 ml

	Trial 1	Trial 2
Mass of Empty Beaker (g)	22.4317	20.9840
Mass of Beaker + Liquid Sample (g)	41.2687	39.5016
Mass of Liquid Sample (g)	18.8370	18.5176
Volume Delivered (ml)	18.22	17.95

Sample	Density (g/ml) determined from the plot
Coke	1.033
Diet Coke	0.0997

NOTE: All the numbers in this sample report are made up and are not actual data. Do not expect your actual lab data to be the same as the numbers used here.