

Group 9_Jan 30_datasheet		
1 Temperature Measurement		
Distilled water temperature	21.6	deg C
2 Pipette Technique (use balance with 0.001 g resolution)		
Density of water at that temperature	998	kg/m3
Actual mass of 990 μ L of pure water	0.98802	g
	Yeonsoo	Erin
Mass of 990 μ L of water (rep 1)	0.991	0.996
Mass of 990 μ L of water (rep 2)	0.989	0.991
Mass of 990 μ L of water (rep 3)	0.991	0.994
Mass of 990 μ L of water (rep 4)	0.991	0.991
Mass of 990 μ L of water (rep 5)	0.99	0.993
Average of the 5 measurements	0.9904	0.993
Standard deviation of the 5 measurements	0.00080	0.00190
Precision		
Percent coefficient of variation of the 5 measurements (%)	0.08078	0.19107
Accuracy		
average percent error for pipetting	0.24089	0.50404
3 Measure Density		
Molecular weight of NaCl	58.44	g/mol
Mass of NaCl in 100 mL of a 1-M solution	5.844	g
Measured mass of NaCl used	5.864	g
Measured mass of empty 100 mL flask	22.578	g
Measured mass of flask + 1M solution	126.223	g
Mass of 100 mL of 1 M NaCl solution	103.645	g
Density of 1 M NaCl solution	1036.450	kg/m3
Literature value for density of 1 M NaCl solution	1039.110	kg/m3
percent error for density measurment	0.256	%
4 Prepare red dye standards of several concentrations (100 mL)		
Stock is 10 g/L red dye # 40	Stock volume (mL)	absorbance
reverse osmosis blank	0	0.000000
1 mg/L red dye #40	0.01	0.000761
2 mg/L red dye #40	0.02	0.090645
5 mg/L red dye #40	0.05	0.149885
10 mg/L red dye #40	0.1	0.384039
20 mg/L red dye #40	0.2	1.041757
50 mg/L red dye #40	0.5	2.420764
100 mg/L red dye #40	1	3.269826
200 mg/L red dye #40	2	3.464555
Inclusion of the 100 mg/L and 200 mg/L values	With	Without
Slope	41.653059	20.111676

[illegible]

Intercept	-6.975450	0.826638
Correlation coefficient	0.896181	0.997925
Absorbance of unknown	1.166356	1.166356
Calculated concentration of unknown	41.606850	24.284014
(Volatge of the unknown)	-0.980379	V

mg/L				