Procedure:

1. In a 150 mL beaker, prepare a rock salt & ice bath by putting about equal amounts of ice and rock salt in layers. Place a thermometer in the ice bath and stir the mixture with a stirring rod until the bath reaches at least -10 degrees C.

2.Place about 10 mL distilled water in a 25mL Erlenmeyer flask and add a micro-stir bar. Put a thermometer in the flask.

3.Lower the flask assemblage into the ice bath, make sure the stir-bar is turning and record the temp every 15 seconds as the temp drops rapidly: then once every 30 seconds when the change slows. The solution may freeze and stirring sto but just keep recording until no temp change is occuring or stays constant for a few readings.

4. Drain the water from the ice bath and replace lost ice and/or rock salt.

5. Accurately weigh (at least nearest 0.001g) about 0.3g of soduim choloride and add it to about 9.5 mL of water (accurately measured to 0.01mL). Add micro-stir bar and swirl/magnetically stir to dissolve salt. Again put in the thermometer.

6.Lower the flast assemblage into the ice bath and record the temp every 15 seconds as the temp drops rapidly then once every 30 seconds when the change slows.

Data

Freezing Point of H20		Freezing Point of H20/NaCl solution	
Temp C	Time	Temp C	Time

Graphs: (Will be included w/ answers)

Questions:

1. The accepted melting point of water is 0.00 degree C. Calculate the percent error.

2.Calculate the change in T (Celsius) and the molality (m), in mol(solute)/kg(solvent) from your data.

3. Calculate the freezing point depression constant, Kf, for water using the formula Change in T(C) = I Kf x m. Assume the value of I = 2.

4 Determine the percent error for the experimental Kf.