

Experiment 1 - GRAPHS AND GRAPHING

REPORT SHEET

Name: _____

Directions

STEP 1: Create the three graphs in Excel as described in your lab manual, then send the completed Excel file (s) to your instructor either via email or through canvas. Ask your instructor which delivery system is preferred.

STEP 2: Answer the following questions pertaining to the graphs you have already created in Excel. The labeling format mimics the questions as asked in the Lab manual.

Exercise/Graph 1. Temperature

2) Write the equation of the line in terms of °C and °F.

3) What is the slope of the line including the **unit**?

4) Read the value of the x and y intercepts from the graph. Report these values with units! Notice that in this graph, the origin (0,0) of the graph is NOT at the lower left corner of the page, because both x and y may have negative values.

5) Check your equation by using it to calculate the Celsius equivalent of 212°F, and then reading the corresponding value off of the graph.

Exercise/Graph 2.

- 2) Determine the slope of the resulting line, complete with **units**. This is k , the proportionality constant.

- 3) Write the equation for the relationship between density and temperature for oxygen, in terms of D and $1/T$.

Exercise/Graph 3.

- 2) Calculate the slope of the line, with units.

- 3) Write the equation of the line in terms of D and %.

- 4) From the graph, read the density of a 4.80% glucose solution. Pay attention to significant digits!

- 5) Use the equation of the line to calculate the % by mass of a glucose solution whose density is 1.0652 kg/L.