Graphing Rules and Help

Graphing is an important procedure used by scientists to display the data that is collected during a controlled experiment.

* + - 1. A graph contains five major parts:  
         a. Title  
         b. The independent variable  
         c. The dependent variable  
         d. The scales for each variable  
         e. A legend

**The Title**: depicts what the graph is about. By reading the title, the reader should get an idea about the graph. It should be a concise statement placed above the graph.

**The Independent Variable**: is the variable that can be controlled by the experimenter**. It usually includes time (dates, minutes, hours), depth (feet, meters), temperature (Celsius).** This variable is placed on the *X axis (horizontal axis).*

**The Dependent Variable**: is the variable that *is directly affected by the independent variable. It is the result of what happens because of the independent variable*. Example: How many oxygen bubbles are produced by a plant located five meters below the surface of the water? The oxygen bubbles are dependent on the depth of the water. *This variable is placed on the Y-axis or vertical axis.*

**The Scales:** for each Variable: In constructing a graph one needs to know where to plot the points representing the data. In order to do this a scale must be employed to include all the data points. This must also take up a conservative amount of space. It is not suggested to have a run on scale making the graph too hard to manage. The scales should start with 0 and climb based on intervals such as: multiples of 2, 5, 10, 20, 25, 50, or 100. The scale of numbers will be dictated by your data values.

**The Legend**: is a short descriptive narrative concerning the graph's data. It should be short and concise and placed under the graph.