Graphing Basics

Purpose: To understand and construct a graph from information in a data table.
- A graph shows relationships that may be difficult to see in a data table
- A graph shows the relationship between two kinds of data, called **variables.**
  - The **independent variable** is the one the experimenter determines and changes during the experiment in order to look for the effect it has on the dependent variable.
  - The **dependent variable** is not controlled by the experimenter, but depends on the conditions of the investigation
  - **The independent variable is ALWAYS plotted on the x- axis and the dependent variable is ALWAYS plotted on the y-axis.**

Example #1: You are performing an experiment in which you measure the temperature of the room every hour for 24 hours.
Independent variable _____
Dependent variable_____

Example #2: You are measuring pressure at various depths in the ocean.
Independent variable_____
Dependent variable_____

Example #3: The speed of a downhill skier is measured every 30 seconds.
Independent variable_____
Dependent variable_____

Time (min)	Temp. (^{0}C)
0	10
15	27
30	71
45	72
60	21
75	22
90	15

Decisions to Make When Creating a Graph
- What is the independent variable?
- Decide what you will count by on the x-axis based on the values of the independent variable in the data table.
- What is the dependent variable?
- Decide what you will count by on the y-axis based on the values of the dependent variable in the data table.
- Now graph the data on graph paper, don't forget **LABELS ON EACH AXIS IN WORDS AND UNITS AND A TITLE AT THE TOP OF YOUR GRAPH. Always! TALUNK=Title, Axis, Labels, Units, Numbers, Key**

Checkpoint: I will be checking your graphs for accuracy.