

**Graphing Resource Sheet**

Graphs are an important tool in maintaining and analyzing data collected in the biomedical sciences. Graphs provide an important visual that allow a scientist or health care professional to spot trends in data or predict data that is not measured on the graph.

Use the following guidelines to help you organize and assemble a basic line graph:

* Identify the variables
	+ The independent variable, the value controlled by the experimenter, is graphed on the X-axis (horizontal).
	+ The dependent variable, the value that changes with the independent variable, is graphed on the Y-axis (vertical).



* Determine the scale of the graph
	+ Determine an appropriate scale that fits the range of values.
	+ Spread the graph to fit the page and make sure it is easy to read.
* Number and Label each axis
	+ Chose a label that clearly describes the data to be graphed.
* Plot the data points with dots
* Draw the graph
	+ Determine whether a trend can be established by connecting individual points or by drawing a curve or line that best fits the data points.
* Provide a key if necessary
	+ If your graph includes more than one data set and hence, multiple lines, provide a key to identify each data set.
* Title the graph
	+ Your title should clearly describe the relationship displayed in the graph.

Experiment with creating graphs using Microsoft Excel. Data can quickly be entered into an Excel worksheet and converted to a graph in many forms (not just lines). Bar graphs, pie charts, and scatter plots can all be used to show comparisons and demonstrate relationships in data sets.

Complete the following About.com tutorial to learn more about creating line graphs in Excel - <http://spreadsheets.about.com/od/excelcharts/ss/line_graph.htm>. This tutorial is available for multiple versions of Microsoft Excel. If you are not sure which version you are using, ask your teacher.