How To: Understand Graphs

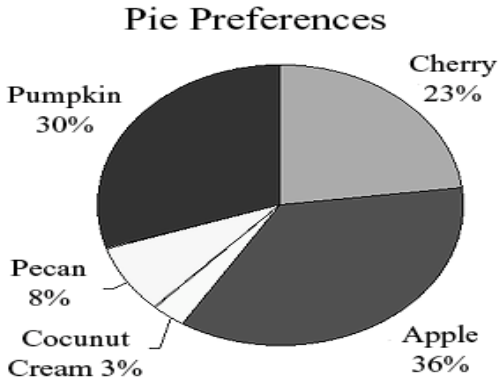
The ability to understand graphs is very important in everyday life. In articles or textbooks you are likely to find graphs and tables. Understanding the article's message depends heavily on being able to interpret many different types of graphs and tables. In science, tables are used to provide information. Data from tables can be graphed to aid interpretation. Graphs give a visual representation of the data that helps to reveal regularities and patterns.

TYPES OF GRAPHS

Graphs are of four basic types: **PIE CHARTS, BAR GRAPHS, LINE GRAPHS,** and **XY-PLOTS**. The type chosen depends on the type of the data displayed.

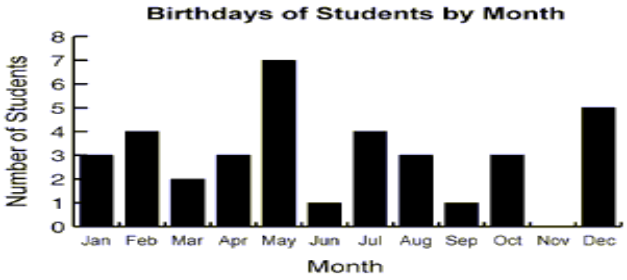
Pie Charts

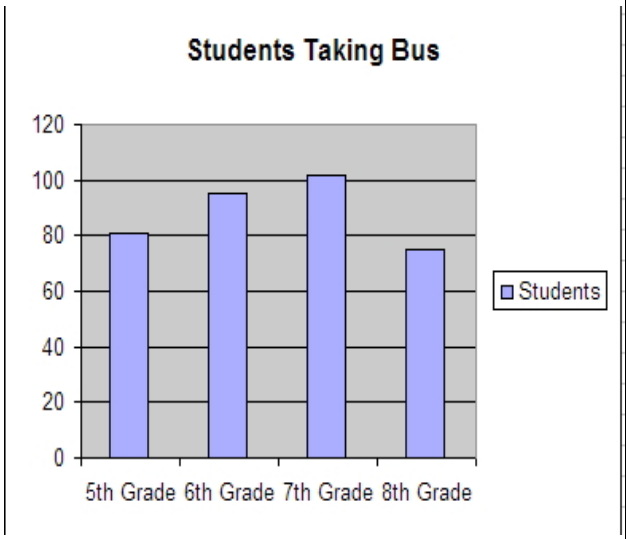
Pie charts show the relationship of parts to a whole. Pie charts are not used as frequently as other types in science.



Bar Graphs

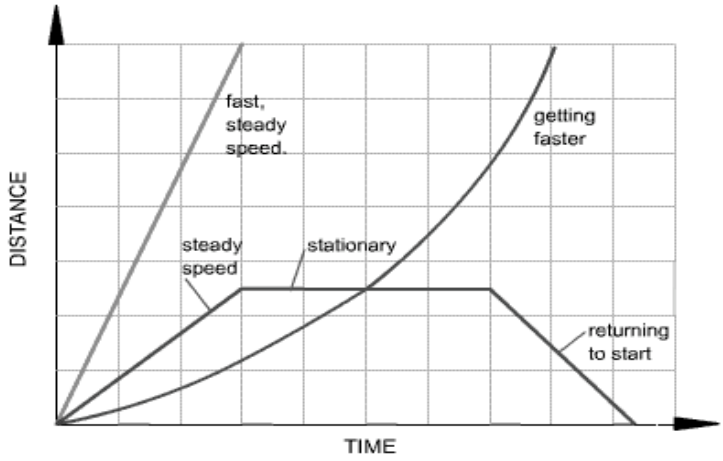
Bar graphs compare relationships of closely related data sets.

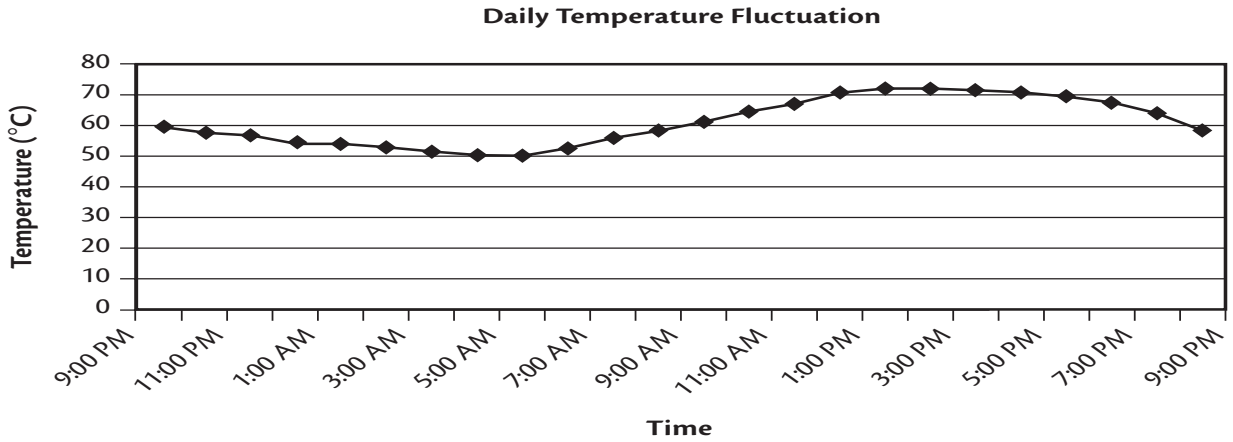




Line Graphs

Line graphs are used a lot in science to show change over time between variables particularly distance, time and speed.





XY-Plots

An XY-plot (also called a scatter plot) demonstrates a mathematical relationship between two variables. This type of plot is especially useful in scientific work. Sometimes it is difficult to decide if a graph is a line graph or an XY-plot. One difference is that in an XY-plot it is possible to determine a mathematical relationship between the variables.