



Charts and Graphs



You will find this and more of this in:

<http://www.twingroves.district96.k12.il.us/ScienceInternet/ChartsGraphs.html>

[Return to "How to do an Experiment"](#)

DISPLAYING DATA:

Tables, charts and graphs are convenient ways to clearly show your data. Be sure to consider how to best show your results with appropriate graph forms. You might want to consult with your science teacher. Be sure to give your charts and graphs an appropriate title that explains what the data measures. On line and bar graphs, the x and y axes must be appropriately labeled with correct unit of measure (in metrics where applicable).

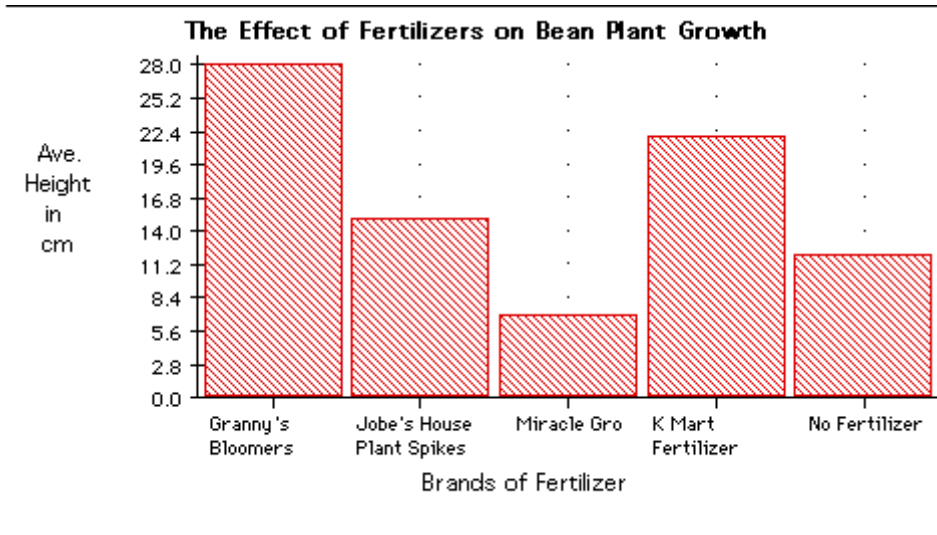
The easiest way to create a graph is to enter your data into a spreadsheet program (Microsoft Works, ClarisWorks, Excel, etc.). These programs will generate graphs from the data you enter. The examples of graphs included below were done in Microsoft Works but could easily be replicated in any spreadsheet program.

There are three basic graph forms. The [bar graph](#), the [line graph](#), and the [circle \(or pie\) graph](#). Notice how each of the following examples are used to illustrate different kinds of data. Choose the best graph form to express your results. Check out the [Reminders](#) before leaving.

A bar graph:

A bar graph is used to show relationships between groups. The two items being compared do not need to affect each other. It's a fast way to show big differences. Notice how easy it is to see what was done in the experiment below with bean plant growth and different brands of fertilizer.

A typical chart or table for this graph might look like this:

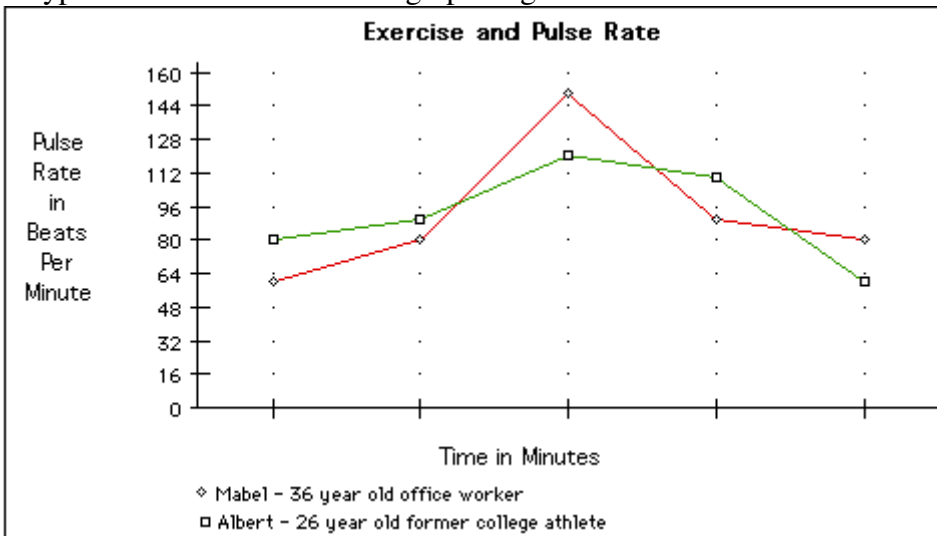


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A line graph:

A line graph is used to show continuing data; how one thing is affected by another. It's clear to see how things are going by the rises and falls a line graph shows. This kind of graph is needed to show the effect of an independent variable on a dependent variable. In the sample below, the pulse rate of a person is shown to change over time. As time continues, the pulse rate changes.

A typical chart or table for this graph might look like this:

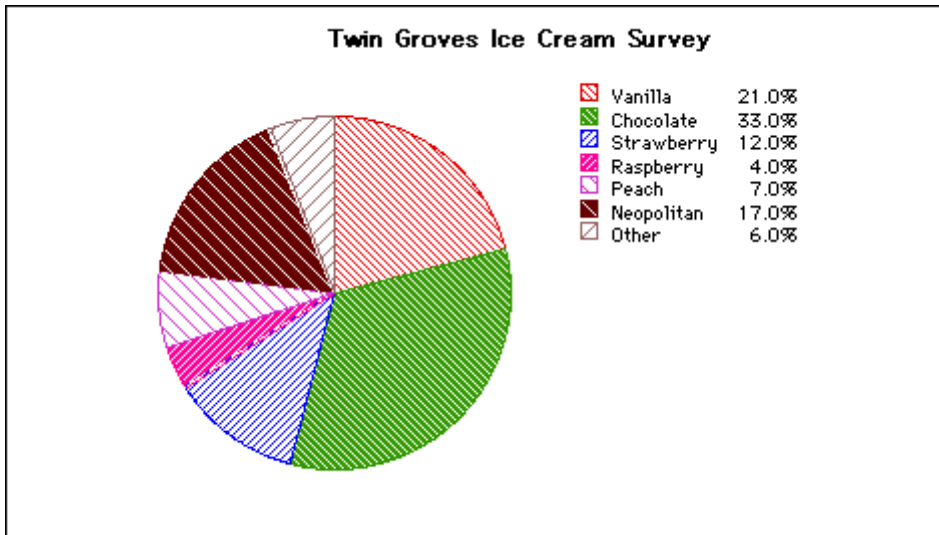


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A circle (pie) graph:

A circle graph is used to show how a part of something relates to the whole. This kind of graph is needed to show percentages effectively.

A typical chart or table for this graph might look like this:



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Reminders:

1. All measuring is to be done accurately and consistently using metrics where applicable.
2. Keep a detailed daily record or log book for measurements, changes and problems.
3. Take photographs, make diagrams or drawings of various phases of your experiment.
4. Observations and measurements should be organized in tables or charts that are clearly labeled.
5. Results should be graphed using one of the three methods described above.
6. Don't become discouraged; work diligently and repeat an experiment, if necessary.

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