Numeracy Information Factsheets

SUBJECT: Which graph, chart or diagram do I need?

KEY-WORDS: data, graph, chart,

LINK-WORDS: pie-chart, bar chart, histogram, scatter-graph, line graph, distance-time graph

NOTES

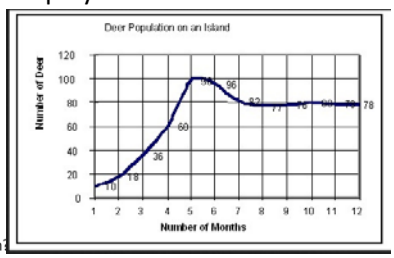
There are loads (and I mean loads) of different types of charts and graphs - choosing the most appropriate is not always easy. You should always start by considering what type of data you have and what you would like to show.

We need a separate NIFty to go into detail on DATA and on drawing the different charts and graphs, but to decide on your graph, think about what you are hoping to tell the reader.

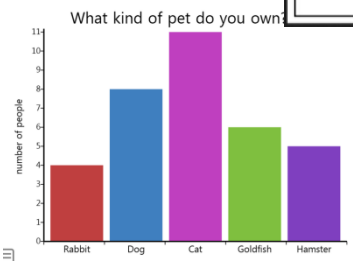
If you are merely showing groups of data to compare them, then go for a bar-chart or pie-chart. A pie-chart will better show how things compare in a group, but won't show you how many there are. A bar-chart will show how many there are in each group. Showing results over time leads to a line graph. Comparing two data sets that are linked to try and make sense of the link leads to a scatter graph.

EXAMPLE

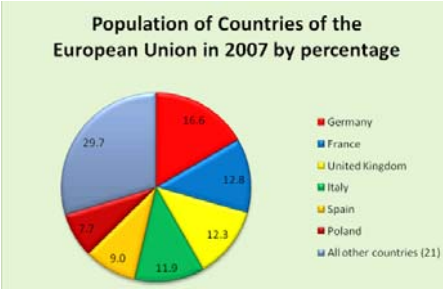
Line graphs are used to display data or information that changes continuously over time. Line graphs allow us to see overall trends such as an increase or decrease in data over time.



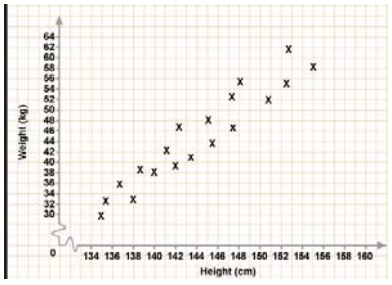
Bar graphs are used to compare facts. The bars provide a visual display for comparing quantities in different categories or groups. Bar graphs help us to see relationships quickly. However, bar graphs can be difficult to read accurately. A change in the scale in a bar graph may alter one's visual perception of the data.



Pie charts are used to compare the parts of a whole. They represent data visually in the same proportion as the numerical data in a table. They are best used for displaying data when there are no more than five or six sectors, and when the values of each sector are different. Otherwise they can be difficult to read and understand.



Scatter graphs show the relationship between two sets of quantitative data (called the correlation). Results are plotted against each other to visualise the relationship by looking at the "trend". An upward trend is a POSITIVE correlation; a downward trend is a NEGATIVE one. Very useful for plotting experimental results. A "line of best fit" (regression line) can be plotted to try and set a rule for the relationship (eg plotting a straight line). DO NOT JOIN UP THE POINTS.



Dos

PRACTISE – a lot!
Experience will help make the decision easier.

DON'Ts

Don't just go for a bar-chart because its easy – think of the message you're trying to convey. Does your drawn graph actually give the right message – clearly?

RELEVANT SUBJECTS

Any science / social science subject – everywhere!

EXAMPLES and LINKS