Spreadsheets, graphs and calculations

A spreadsheet is very much a multipurpose program. You can use one as a ready-made results table and quickly produce a graph from it. You can also use one as a data handling program to sort your results and again produce graphs from it.

These are important things to learn to do - though you don't have to use a spreadsheet for them. There are special graph drawing programs and pictogram making programs that do graphs more easily - though you might feel that your spreadsheet program is easy enough. But at some point, towards the top of the primary school, it is worth moving on to a spreadsheet. At this level, you can use an interesting feature of a spreadsheet - its ability to do calculations and make 'mathematical models'.

A mathematical model allows you try something out - perhaps without actually doing it. If you had, for example, some information about the gravity on the planets and the moon, you could get the spreadsheet to work out how much you would weigh on each of these. First, you would enter the gravity information and then write a 'formula' to do the maths. There is nothing really special about a formula - it's merely algebra. For example, in the spreadsheet here, you only need to enter your real weight in cell C2 to see what you would weigh on the moon in cell C3. Cell C3 calculates your weight on the moon and contains the algebra or formula C2 x B3. This spreadsheet is a mathematical model - it is the alternative to actually going to the moon to weigh yourself.

Spreadsheets have an astonishing range of functions that can help with maths or modelling. They can total or average columns, look for maximum or minimum values and turn any mathematical trick.

The following pages illustrate how you can use a spreadsheet - progressing from easy graph drawing to more difficult 'models'. The ideas show how versatile these programs are in organising, recording and analysing your results - all of which are key features of exploring science.

	A	B	C
1	Body	Gravity	Your weight
2	Earth	1.0	40
3	Moon	0.2	6
4	Mercury	0.4	15
5	Mars	0.4	15
6	Venus	0.9	34
7	Uranus	1.0	40
8	Saturn	1.1	44
9	Neptune	1.5	60
10	Jupiter	2.6	104
11			
12	MAXIMUM	2.6	104
13	MINIMUM	0.2	6.4

See also: