

# Seeing Graphs & charts change 'live'

If students can see how a graph or chart changes as the data changes then this can help them understand what the graph or chart is actually showing. In this resource pack is an **EXCEL** file called **changinggraphs**. It is a simple tool to show how graphs and charts change when the data changes. The idea is that if they can see the chart or graph change dynamically then they start to have a clearer idea of what is actually happening. This is only meant to be a brief activity to help reinforce how graphs and charts work and what they can do.

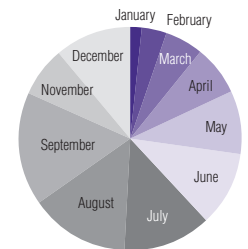
Along the bottom of the spread sheet marked by tabs are a number of tables with a graph or chart next to them. These have data already in them that you can use but you can also change the data and the graph or chart will automatically re-draw. I recommend that you use these with a data projector if possible so the whole class can see what is going on.

## You can select the ones most suitable for your class or adapt them as needed.

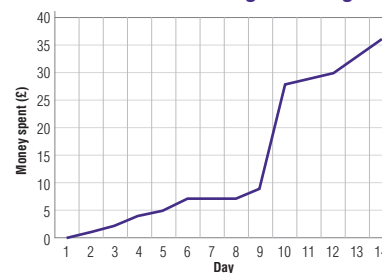
- If you put very large numbers in to the tables the graphs can redraw in very peculiar ways. I would suggest that you have a play beforehand.
- On the *Birth day* pie chart I suggest that you collect the data and then fill it in one by one and the will see the chart redrawing each time you could change this to last test grade if you wish.
- On the *phone bill* file, you can talk about is how the line must always go up, you could put in the value for one day lower than the previous and ask "what is wrong with this one". The data I have put in shows a few days in the middle where they do not use their phone and then one day when they use a great deal of money. ( I guess that you could show a £5 discount if the class really wanted the line to drop)
- *Energy Usage* is essentially the *Birth day* file with a more scientific slant the starting data is not 'true'.
- In *Efficiency* (this could also be used directly in the energy topic) the students vary the efficiency value and then see the two bars 'useful' and 'wasted' change. A very simple graphical representation of the idea of efficiency.

Month	Number of students with a birthday in that month
January	1
February	2
March	3
April	4
May	5
June	6
July	7
August	8
September	9
October	0
November	4
December	6

Birth month pie chart



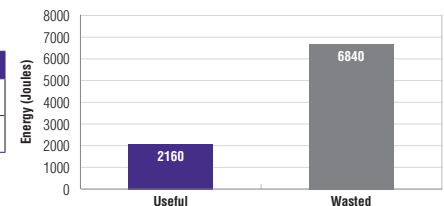
Phone bill during a fortnight



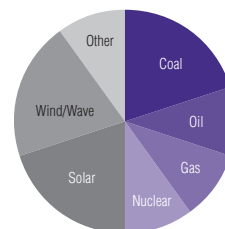
Day	Money spent so far (£)
1	0
2	1
3	2
4	4
5	5
6	7
7	7
8	7
9	9
10	28
11	29
12	30
13	33
14	36

Efficiency

	Data
Type in your efficiency here	24 %
How much energy input	9000 Joules



Energy usage in the UK



Energy Source	Percentage of energy supply
Coal	20
Oil	10
Gas	10
Nuclear	10
Solar	20
Wind/Wave	20
Other	10