

PRESENTER: Sometimes it feels like we're under attack from numbers. But it's only data. You just need to know how to handle it.

That's the power of geography.

It's all about matching the right data with the right kind of graph then, suddenly, something useful can emerge. When I see this data, about life expectancy in the UK, I know I'm going to want to see how it changes over time. So I can turn it into this - a line graph with time along the horizontal X axis and life expectancy on the Y axis.

Bar charts can present groups of data.

For example, what UK university students end up doing six months after their studies.

There's a whole family of bar charts.

The straightforward version, like this, simply places groups of data along the X axis - employment, further study, and so on, and amounts on the Y axis. They're great for comparing groups of data and identifying variations within them.

Then there are more deluxe models.

We can break down that information into different disciplines - arts, social science, engineering and maths - and compare them with each other. Or combine the data into a divided bar chart showing, by discipline, what graduates were doing, this time as a percentage.

You can even take two kinds of graph...

and put them together.

Geographers often do this when looking at a country's climate, combining rainfall on a bar chart and temperature on a line graph to reveal connections between them both. But if you've got a lot of data about one variable, like the ages of all the UK population, it could be more useful to organise all that data into consecutive ranges.

For that, we need a histogram. They look a bit like bar charts, but histograms only have a range for one variable along the X axis.

Here, it's age ranges. And the Y axis shows the distribution of that variable - in this case, the amount of people who fit into each age range. And seeing distribution allows us to spot patterns in the data.

And if we want to see how a total group is divided up then a pie chart does a great job.

Pie charts can't show data changing over time, but they can present a snapshot of a situation.

And, suddenly, all of this becomes...this.

Interesting, exciting, clear information about life expectancy, employment and economies and so much more.

Graphs give you power!