PRESENTER: Statistics!

They're all around us. They're on our food, in the news, in books and on social media. And sometimes, this big jumble of numbers can seem daunting. But I think they're 100% interesting. And if you know how to organise them...

really useful, too.

Take this set of numbers. The maximum daily temperature throughout the month of August.

They're not doing much for me like this, but with some quick maths, I can get solid statistics...

like the mode, median and mean that allow me to interpret what is happening. Or with other data, like the UK population, you can calculate percentage increases and decreases over time.

It's clear that the population has gone up. But expressing the increase as a percentage is a far more useful number. That 0.4% annual population increase can then be instantly compared with other countries.

Suddenly, we can really see which countries' populations are rising the fastest. By taking two pieces of data and looking for a relationship, or a correlation, we can examine trends and make predictions.

Scatter graphs are great for doing this.

Here, you can see the size of population and life expectancy in the UK. There's clearly been a correlation between the two and, as all the dots are forming a clear upward pattern from left to right, we can make a 'line of best fit'. This line should pass close to as many points as possible. And, using that line, we can make a prediction about the UK's population.

Scatter graphs can reveal strong positive, or upward, correlations. For example, the wider the river, the greater the velocity of flow. These graphs can also show strong negative, or downward, correlations.

Try this.

As the distance from the town centre increases, the volume of traffic decreases.

But take care.

Sometimes, a pattern seems to form and there is a line of best fit, but there is no correlation.

Here, I've plotted foot length against average exam score. There's no cause or link between these two factors, so any pattern here is just coincidence.

Being able to use statistics gives you a better sense of the world around you. You just need to know what to do with them.