Hi, this tutorial covers distributions. Before we look at any distributions, let's make sure we have a good working definition of what a variable is. So a variable is a measurable factor, characteristic, or attribute of an individual or a system. So some examples of variables are shoe size, first name, change in pocket, gender, race, number of books in backpack, religious affiliation, age, temperature, zip code.

So all of these variables can take many different shapes and types. But these are all examples of variables. All right, so let's now define the word distribution. So distribution is a way of displaying or describing how all possible data values of a variable occur.

Distributions can be a table, a graph, or even a formula. And we'll look at an example of each of those. OK, so let's start with a distribution that's in the form of a table. So what this represents is the heights of students, and we have certain intervals here.

These heights are all measured in centimeters, and then we have associated frequencies. So what that meant is that there were two students that had a height between 150 and 155 centimeters. We had six people within this range, nine people within this range, and so forth.

So again, this is a good way of describing how all of the possible data values in this study occurred. All right, another type of distribution can be in the form of a graph. So specifically, this graph is a histogram.

So what we can tell in this case is the heights of black cherry trees, so we could see that it looked like three trees were between 60 and 65 feet tall. We can see this large bar, so this would be the modal interval would be between 75 and 80 feet. OK, so just a good way of displaying how that data showed up.

Another graph that you're going to see, this might look a little strange, but this is what is known as the normal distribution. So the normal distribution is this bell shaped curve, and it takes these certain values. The y scale on this normal distribution actually measures what's called density. But generally, when you're dealing with the normal distribution, we won't always have a y-axis there.

So this is just another type of distribution that you'll see as you continue studying statistics, and it is a very important distribution in this study of stats. So I thought I'd presented now. And then finally, we can look at a formula that represents a distribution, so this is in the form of a formula or an equation.

This actually represents what's called the binomial distribution.

So by plugging in certain parameters into this formula, you can end up getting the probability of a certain data value occurring. So again, this is just another way that your variable can be distributed. So just to recap, distributions can be in the form of either a table, a graph, or even a formula. So that has been the tutorial on distributions. Thanks for watching.