

Year 11 Statistics Learning Journey

Unit 8 – Probability Distributions

Core knowledge	Reference number	
Binomial Distributions – ‘How do independent events change the binomial distribution? Use two dice throws as an example.’		
Normal Distributions - ‘Why do we need continuous data for this distribution?’		
Standardised Scores - ‘How does a standardised score allow us to make comparisons?’ ‘Why do we compare consistency?’		
Quality Assurance and Control Charts - ‘Why would manufacturing companies use control charts and warning limits?’		
LC Title	Completed	Dirt
Unit 8 LC – Probability Distributions		
<p>Key Vocabulary</p> <p>Probability Distribution – Describes all the possible values and likelihood that a random variable can take within a given range.</p> <p>Binomial Distribution – One type of probability distribution. This depends on the events that are occurring. More events may change the outcome of a specific probability.</p> <p>Standard Deviation – A measure of variability in your data set.</p> <p>Normal Distribution – 68% of data lies within one standard deviation of the mean. 95% of data lies within two standard deviations of the mean and 99.8% of data lies within three standard deviations of the mean. If data is SKEWED, normal distribution is not suitable.</p> <p>Standardised Scores – If you have two data sets, each modelled by a normal distribution, you can compare results from the two sets using standardised scores. The standardised score of a data value is the number of standard deviations above or below the mean that the data value lies.</p> <p>Control Charts – A time series chart used for quality assurance.</p> <p>Warning Limits – Warning Limits are usually set so that 95% of the means of the samples should lie within them. Mean sample mass is normally distributed, so 95% of values lie within two standard deviations of the mean.</p>		