

# Year 11 Statistics Learning Journey

## Unit 4 – Scatter Diagrams and Correlation

Core knowledge	Reference number	
Scatter Diagrams – ‘If older coins weigh less than newer coins, what is the explanatory variable?’		
Correlation - ‘Give an example of non-linear correlation’		
Causal Relationships – ‘Does correlation imply a causal relationship? Why or why not?’		
Line of Best Fit - ‘Should we draw through a mean point?’		
Interpolation and Extrapolation – ‘Give a scenario where extrapolation is not suitable’		
Equation of a Line of Best Fit - ‘Why is this useful to know if extrapolating data?’		
Spearman’s Rank Correlation Coefficient -‘What is the difference between a SRCC of 1, 0 and -1?’		
Calculating Spearman’s Rank Correlation Coefficient -‘Why do we need to ‘rank’ <b>(ordinal data)</b> the data in each set?’		
Pearson’s Product Moment Correlation Coefficient -‘Why would we not use the gradient to calculate this correlation coefficient?’		
LC Title	Completed	Dirt
Unit 4 LC – Scatter Diagrams and Correlation		
<p><b>Key Vocabulary</b></p> <p><b>Associated</b> – When there is a relationship between variables.</p> <p><b>Correlation</b> – An association between two variables that shows an increasing or decreasing trend.</p> <p><b>Explanatory Variable</b> – Independent variable.</p> <p><b>Response Variable</b> – Dependent variable.</p> <p><b>Causation</b> – Indicates that one event is the result of the occurrence of another event.</p> <p><b>Interpolation</b> – Estimated data reading taken from within the values of a data set.</p> <p><b>Extrapolation</b> - Estimated data reading taken from outside of the values of a data set.</p> <p><b>Line Of Best Fit</b> – Also known as the ‘regression line’.</p> <p><b>Spearman’s Rank Correlation Coefficient</b> – Measures the strength of the correlation between two sets of data.</p> <p><b>Pearson’s Product Moment Correlation Coefficient</b> - Measures the strength of linear correlation between two sets of data.</p>		