

## Assessment Guidelines – 91581 – Investigate Bivariate Measurement Data

	<b>Achieved (all compulsory)</b>	<b>Merit... Achieved PLUS</b>	<b>Excellence... Merit PLUS</b>
<b>Overview</b>	Evidence is shown of using each component of the statistical enquiry cycle.	Evidence is shown of linking components of the statistical enquiry cycle to the context and supported by referring to evidence such as statistics, data values, trends, or features of the displays.	Evidence is shown of integrating statistical and contextual knowledge throughout the process. This may include reflecting on the process, considering other relevant variables, or evaluating the model(s).
<b>Problem</b>	An appropriate relationship question is posed.	The question is justified in context.	The choice of variables is reflected on and linked to the context and research.
<b>Plan</b>	Variables and data source are identified. The explanatory and response variables are clear.		
<b>Data</b>	Scatter plot(s) is produced with title and labelled axis and regression line fitted.	Residuals plot may be produced.	
<b>Analysis</b>	Features in the data are identified from a visual inspection and described. This should include Trend, Association, Relationship, Scatter, Grouping and Outliers. Other features and unusual points have been identified.	<p>Features are described in context and justified with visual references to the displays and possible contextual reasons for the features are given.</p> <p>Causation may be discussed in context.</p> <p>The appropriateness of the model is justified by discussion of fit throughout the range of x-values in the data or the number of data points. An analysis of the residuals may be used.</p>	<p>Contextual evidence and research is used to support discussion about the features of the data.</p> <p>A discussion may be given as to how other (named) factors will impact the variable.</p> <p>They have reflected on features by discussing their relevance to a wider population.</p> <p>The strength of the model is discussed with consideration for aspects such as the number of data points.</p> <p>Improvements to the model may be considered by looking at alternative models or separating the data into relevant subsets.</p>
<b>Predictions</b>	A prediction is made that is sensible with respect to the context and uses units and sensible rounding.	Predictions are interpreted in context and are justified with discussion on how precise they might be, supported with references to statistical evidence from the analysis.	<p>The choice of variable used for predictions is justified by giving reasons for using the selected one rather than others.</p> <p>Reflection is made on predictions by discussing their relevance to a wider population.</p> <p>The prediction may be made using alternative models and the accuracy of these has been discussed in the context of the investigation.</p>
<b>Conclusion</b>	A conclusion is given that is consistent with the question.	The conclusion is linked to the question with contextual support. Consideration may be given as to ways to extend the investigation (for example sub-setting).	The conclusion shows an extension of the original investigation and research and contextual reasons are made to support findings and justify the extension and how this is linked to the original question.

Final grades will be decided using professional judgement based on a holistic examination of the evidence provided against the criteria in the Achievement Standard.