

Statistical Inference

For **Outcome 2, to meet each Assessment Standard**, the candidate must successfully demonstrate **all** of the skills attached to that Assessment Standard:

Skill	Making assessment judgements	Additional Guidance on making assessment judgements
2.1 Specifying the problem and planning the investigation		
2.1.1	introduced and explained the background and context of the investigation	This is the “plain” English setting of the scene.
2.1.2	discussed appropriate statistical approaches considered, including rationale behind decisions made	When dealing with bivariate data there is only one possible approach, and this must be acknowledged.
2.1.3	formulated the statistical question	Formulating the statistical question means stating the problem using statistical vocabulary linked to the introductory statement. The vocabulary might include the following: association, difference, correlation, significance, evidence, relationship.
2.2 Selecting relevant data		
2.2.1	identified the population to be sampled	
2.2.2	considered sampling strategies, outlining reasons for chosen sampling method and giving a clear description of how the sample(s) was identified and selected	If it is not possible to use an appropriate sampling strategy, candidates must describe how appropriate sampling might be undertaken.
2.2.3	discussed and shown awareness of issues/problems when selecting the data	If no problems / issues are experienced candidates must discuss potential issues they might have experienced.
2.3 Presenting and analysing the data		
2.3.1	clearly presented the data using appropriate statistical diagrams	One diagram may be sufficient.
2.3.2	analysed the data using appropriate statistical calculations	When using bivariate data the minimum required calculations will be of the line of best fit and of r or R^2 .
2.4 Communicating the conclusion		
2.4.1	clearly communicated their conclusion based on an analysis of the data with clear linkage between the statistical inference and conclusion	Candidates must make clear reference to results obtained from the sample and what can then be inferred about the parent population.

Hypothesis Testing

For **Outcome 2, to meet each Assessment Standard**, the candidate must successfully demonstrate **all** of the skills attached to that Assessment Standard:

Skill	Making assessment judgements	Additional Guidance on making assessment judgements
2.1 Specifying the problem and planning the investigation		
2.1.1	introduced and explained the background and context of the investigation	This is the “plain” English setting of the scene.
2.1.2	discussed appropriate statistical approaches considered, including rationale behind decisions made	When dealing with bivariate data there is only one possible approach, and this must be acknowledged.
2.1.3	made a clear statement of the null and alternative hypotheses	Unlikely to appear in the introduction.
2.2 Selecting relevant data		
2.2.1	given a clear description of how the relevant data was identified and selected	Discussion of sampling strategy is not required in this unit.
2.2.2	discussed and shown awareness of issues/problems when selecting the data	If no problems / issues are experienced candidates must discuss potential issues they might have experienced.
2.3 Presenting and analysing the data		
2.3.1	clearly presented the data using appropriate statistical diagrams	One diagram may be sufficient.
2.3.2	justified the rationale for choosing the correct type of statistical test(s)	When dealing with bivariate data there is only one possible approach, and this should be acknowledged. It is expected that candidates discuss the underlying assumptions of the test eg normal or skewed; parametric or non-parametric.
2.3.3	analysed data using appropriate statistical techniques and test(s)	The hypothesis test must include a clear statement of the hypotheses.
2.4 Communicating the conclusion		
2.4.1	clearly communicated their conclusion based on an analysis of the data with clear linkage between hypothesis and conclusion	Candidates must make clear reference to results obtained from the data, explaining what this means in the context of the investigation. This is the “plain” English summary of the investigation.