5.4.7 Marking criteria for controlled assessment tasks: practical data analysis

Marking criteria are to be applied hierarchically (see section 5.4.2).

Strand	0	1 – 2 marks	3 – 4 marks	5 – 6 marks	7 – 8 marks	AO
D	*	Describe the method and apparatus selected to collect data. Make an appropriate comment about safe working.	Comment on the techniques and equipment selected to collect data, showing some understanding of the need for repeatability. Correctly identify hazards associated with the procedures used.	Describe the techniques and equipment selected to collect an appropriate range of data of generally good quality, including regular repeats or checks for repeatability. Identify any significant risks and suggest some precautions.	Justify the method, range of values, equipment and techniques selected to collect data of high quality. Complete a full and appropriate risk assessment identifying ways of minimising risks associated with the work.	AO2: 6 marks AO3: 2 marks
E	*	Display limited numbers of results in tables, charts or graphs, using given axes and scales.	Construct simple charts or graphs to display data in an appropriate way, allowing some errors in scaling or plotting.	Correctly select scales and axes and plot data for a graph, including an appropriate line of best fit, or construct complex charts or diagrams eg species distribution maps.	Indicate the spread of data (eg through scatter graphs or range bars) or give clear keys for displays involving multiple data-sets.	AO3: 8 marks
		Select individual results as a basis for conclusions.	Carry out simple calculations eg correct calculation of averages from repeated readings.	Use mathematical comparisons between results to support a conclusion.	Use complex processing to reveal patterns in the data eg statistical methods, use of inverse relationships, or calculation of gradient of graphs.	

Strand	0	1 – 2 marks	3 – 4 marks	5 – 6 marks	7 – 8 marks	AO
F	*	Make a claim for accuracy or repeatability, but without appropriate reference to the data.	Correctly identify individual results which are beyond the range of experimental error (are outliers), or justify a claim that there are no outliers.	Use the general pattern of results or degree of scatter between repeats as a basis for assessing accuracy and repeatability and explain how this assessment is made.	Consider critically the repeatability of the evidence, accounting for any outliers.	AO3: 8 marks
G	*	Correctly state whether or not the original prediction or hypothesis is supported, with reference only to common sense or previous experience. The response is simplistic, with frequent errors in spelling, punctuation or grammar and has little or no use of scientific vocabulary.	Comment on whether trends or correlations in the data support the prediction or hypothesis and suggest why by reference to appropriate science. Some relevant scientific terms are used correctly, but spelling, punctuation and grammar are of variable quality.	Explain the extent to which the hypothesis can account for the pattern(s) shown in the data. Use relevant science knowledge to conclude whether the hypothesis has been supported or to suggest how it should be modified to account for the data more completely. Information is organised effectively with generally sound spelling, punctuation and grammar. Specialist terms are used appropriately.	Give a detailed account of what extra data could be collected to increase confidence in the hypothesis. The report is comprehensive, relevant and logically sequenced, with full and effective use of relevant scientific terminology. There are few, if any, grammatical errors.	AO1: 2 marks AO3: 6 marks

* No response, or response not sufficient for award of 1 mark