

Commentary on candidate 2 evidence

The evidence for this candidate has achieved the following marks for each section of this course assessment component.

Section	Mark available	Mark awarded	Comments	
1 Aim	1	1	The aim clearly describes the purpose of the investigation.	
2 Underlying biology	3	1	<p>There is only one expanded description/explanation, which is relevant to the aim and at a depth appropriate to National 5 Biology.</p> <ul style="list-style-type: none"> ◆ 'The reaction... high temperatures.' (Explanation of the role of enzymes in the reaction and how they are affected by high temperature.) <p>'Fermentation... waste products'. (No mark awarded as it is unclear whether ethanol and carbon dioxide are produced from the breakdown of glucose or pyruvate.)</p>	
3 Data collection and handling	6	a	0	<p>The brief description of the experiment does not have sufficient detail to allow the nature of the experiment to be visualised.</p> <p>There is no description of what was done after the 'period of time' had elapsed.</p>
		b	1	<p>The raw data is sufficient. An appropriate number of values (4 temperatures), over a suitable range, is used for this experiment. Repeated measurements have also been made.</p> <p>The 'Average' column of the table is considered in section 3d.</p>

Section	Mark available	Mark awarded	Comments	
		c	1	The experimental data is presented in a table. All columns have clear headings with units.
		d	0	The mean values (averages) from the candidate's experimental data are not all calculated correctly. The value for 35°C has been rounded incorrectly.
		e	1	Research data (table and bar graph) that is relevant to the aim and supports the experimental data is included. Both the heading above the bar chart and the information given below the graph indicate why this data is relevant.
		f	0	The source of the research data is not referenced as per the instructions for candidates. It is not given in sufficient detail for it to be retrieved by a third party.
4 Graphical presentation	4	a	1	The graph produced is based on the candidate's experimental data. A line graph is selected which is the appropriate format for this data.
		b	1	Both axes have suitable scales.
		c	0	The y-axis is incomplete as it has no units.
		d	1	The points are plotted correctly and joined with an appropriate line. Although an error was made in calculating one of the averages, the points plotted are accurate for the figures calculated.

Section	Mark available	Mark awarded	Comments	
5 Analysis	1	1	A valid comparison is made between the experimental data and the research data (table and bar graph). A description is given to show that both have similar trends.	
6 Conclusion	1	0	The conclusion given is invalid. The details given in the final sentence are incorrect.	
7 Evaluation	2	2	The use of a dropper to measure the volume of detergent is correctly identified as a factor that could have had a significant effect on the reliability, accuracy or precision of the experiment. An explanation as to why the use of a syringe would minimise this factor is given.	
8 Structure	2	a	0	The title given is not informative.
		b	1	The report is clear and concise.
Total	20	12		