

Extended essay: Example commentary		
DP subject: (subject-focused essay)	Chemistry	
DP subjects: (interdisciplinary essay)		Interdisciplinary framework:
Research question:	How do variations in the concentration of hydrogen peroxide affect the intensity and the longevity of the light emitted by the chemiluminescent oxidation of luminol?	
Assessment details		
Criterion	Mark awarded	Commentary
A: Framework for the essay [Maximum possible mark: 6]	5	<p>The research question is relevant to the topic of investigation and is clearly presented. The scope of the essay addresses the research question, but the conclusion stresses the optimal concentration of H_2O_2, rather than the relationship between this and the luminescence and longevity. (5 marks)</p> <p>The research method is suitable for the research question and is explained and applied effectively, with minor flaws. (5 marks)</p> <p>While some structural conventions are in place, there is information that ideally belongs in the appendix. Preliminary steps (synthesis of luminol, test of phone application, choice of H_2O_2 concentration), safety concerns and the bibliography should come before the appendix. (4 marks)</p>
B: Knowledge and understanding [Maximum possible mark: 6]	5	<p>Research materials are used to establish knowledge of the subject matter. An explanation of findings is attempted, though the anomalous points from the graph deserve further insight. (5 marks)</p> <p>Relevant terminology is used accurately to demonstrate understanding of the subject matter, with some flaws (e.g. average values cannot be more precise than raw ones). (5 marks)</p>
C: Analysis and line of argument [Maximum possible mark: 6]	4	<p>There is some analysis that is partially effective. The explanation of the graphs is to some point descriptive, and uncertainties are not specifically addressed. (4 marks)</p> <p>A line of argument links the research question and research findings. The conclusion, however, does not specifically refer to the terms of the research question. (4 marks)</p>
D: Discussion and evaluation [Maximum possible mark: 8]	5	<p>A balanced discussion of the significance of the findings is supported by appropriate evidence, though further consideration is needed when addressing unexpected results, such as light intensity with H_2O_2 concentration of 1:10 and 1:12, and some general discussion of uncertainties is expected when the longevity trend is formulated. (5 marks)</p> <p>An evaluation of the effectiveness of the essay is present, mainly based on relevant procedural issues. (5 marks)</p>

Criterion	Mark awarded	Commentary
E: Reflection [Maximum possible mark: 4]	2	Reflection on the extended essay learning experience is mainly descriptive and includes some specific examples. (2 marks) Reflection sometimes shows evidence of growth, but there is no clear evidence of transfer of learning. (1 mark)
Total marks awarded	21/30	This essay demonstrates a practical approach to a topic that could be further expanded. It is mostly descriptive, with some analysis that does not make the most of the findings.