

IB Physics Extended Essay guide - EE checklist

Criterion A

	Absent	Partial	Complete
The essay has a title page with the title of the essay, the student code, research question, subject of the EE and the word count of the essay			
The essay has a table of contents with page numbers			
The essay has an introduction that outlines the focus of the essay, the research methodology and the main argument of the essay			
The body of the essay includes the research question, the background research, variables, procedure and the processed data			
The essay has a conclusion that summarises and explains the findings of the essay			
The research question includes both the independent and dependent variables (including the range of the independent variable), details of the reaction or system under investigation and the chosen methodology			
A hypothesis is included that is relevant to the topic and research question and is grounded in the relevant scientific theory			
The experimental variables are explained in sufficient detail			
The chosen methodology is justified			

and allows for the collection of sufficient quantitative and qualitative data and is explained in detail			
A risk assessment has been carried out that takes into account the relevant health and safety concerns as well as any ethical or environmental considerations (this can be placed in the appendix)			
SI units are used throughout the report			
Tables, figures, sketches, images and graphs are labelled using Figure 1, Table 1, etc			
The font size is 12 with 1.5 line spacing. The font used is Arial (recommended but not mandatory)			
The word count of the essay is within 4000 words			
Appendices, if included, do not contain information central to the main argument of the essay			
The EE does not contain any identifiable information			

Criterion B

	Absent	Partial	Complete
The background research includes relevant scientific theory that is directly related to the research question			

The background research demonstrates full understanding of the theories and concepts related to the research question			
The background research should include relevant physics equations, correct units and symbols, and appropriate diagrams (e.g. free-body, circuit, or ray diagrams).			
The background research includes relevant terminology that demonstrates understanding of the topic			
The background research refers to relevant scientific journal articles related to the topic in addition to textbooks and websites			
In-text citations are used where required to ensure academic honesty			

Criterion C

	Absent	Partial	Complete
Quantitative raw data is presented in a data table, together with units and absolute uncertainties			
The raw data is recorded to the appropriate number of decimal places or significant figures			
Qualitative data is included if relevant to the investigation			
The processed data is clearly presented (with example			

calculations) and the calculations have been checked for accuracy			
The data processing has been carried out taking into account the number of decimal places or significant figures in the raw data			
Plotted graphs have a title, labelled axis, error bars and a best-fit line			
Errors and uncertainties have been propagated correctly and reported to the appropriate precision			
An R^2 value has been calculated using appropriate graphing software			
Any outliers in the data are dealt with appropriately			

Criterion D

	Absent	Partial	Complete
There is a clear discussion of whether or not the processed data answers the research question			
There is a discussion concerning the validity and reliability of the data			
The conclusion is justified through comparison to the established scientific context, including references			
The trend(s) or patterns in the data are explained using the relevant scientific context, including references			

The hypothesis has been discussed (if applicable)			
The variation, or spread of the data, has been considered			
If a theoretical or literature value exists the percentage error has been calculated (if applicable)			
The main type of error in the investigation (random or systematic) has been identified			
If calculated, the R^2 value has been discussed with reference to the best-fit line			
Relevant weaknesses related to the methodology have been identified and discussed			
Relevant weaknesses related to the control variables have been identified and discussed			
Relevant limitations related to the methodology have been identified and discussed			
Evidence supporting the identified weakness and limitations is included			
The impact of the weaknesses and limitations on the quality of the data has been explained			
Realistic and relevant improvements to the weaknesses and limitations identified have been explained			

Criterion E

	Absent	Partial	Complete
The 500-word reflective statement has been completed after the viva voce			
The PRF form is completed together with the three formal reflection sessions and the 500-word reflective statement			
The 500-word reflective statement is evaluative rather than descriptive and includes specific examples			
The 500-word reflective statement includes examples that provide evidence of student growth throughout the EE process			