

Science Fair Criterion Assessment Explanations

Criterion 1 <u>General</u>	<u>Aspect 1</u> <u>Technical writing</u>	<u>Aspect 2</u> <u>Research and</u> <u>Background</u>	<u>Aspect 3</u> <u>Citations</u>
Complete/2	Writes in narrative voice without grammar or spelling errors.	Background research is thorough. Scientific understanding of topic is clear. All variables in the experiment are explained	Citations in proper APA format. Bibliography is correct and present.
Partial/1	Occasionally uses first or second person. A few grammar or spelling errors. OR Writing is very informal.	Student demonstrates a very basic understanding of topic. All variables are mentioned, but not well explained.	Citations are present, but not in correct format. AND/OR Bibliography is present, but with mistakes.
Not complete/0	Occasionally uses first or second person. A many grammar or spelling errors. AND Writing is very informal.	Student demonstrates very little scientific understanding of topic. Not all variables are mentioned/explained.	Citations are not present. Bibliography is present, but incorrect format OR Citations are present, but incorrect. Bibliography is not present.

Criterion 2 <u>Design</u>	<u>Aspect 1</u> <u>Defining the Problem</u>	<u>Aspect 2</u> <u>Variables</u>	<u>Aspect 3</u> <u>Method</u>
Complete/2	Formulates a focused problem/research question that is testable. Makes a reasonable hypothesis based on background.	Properly identifies the IV, DV, experimental group(s) and control group (if appropriate)	Designs a method for the effective control of variables (constants). Develops a method that allows for sufficient collection of data.
Partial/1	Formulates a problem/question that is incomplete or not testable. OR Hypothesis is not reasonable or based on scientific research	Makes an attempt to identify all variables, but some are incorrect.	Designs a method that attempts to control variables. Develops a method that does not allow for sufficient collection of data.
Not complete/0	Formulates a problem/question that is incomplete or not testable. AND Hypothesis is not reasonable or based on scientific research	Variables are not identified or incorrect.	Designs a method that does not control the variables. Develops a method that does not specify the collection of data.

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Criterion 3 <u>Data Collection</u>	Aspect 1 <u>Recording Raw Data</u>	Aspect 2 <u>Data Processing</u>	Aspect 3 <u>Data Presentation</u>
Complete/2	Records appropriate quantitative and associated qualitative raw data, including units.	Processes the quantitative raw data appropriately and accurately. Formulas are included.	Presents processed data appropriately. Appropriate graph is chosen and set up properly.
Partial/1	Records appropriate quantitative and associated qualitative raw data, but without units or with some mistakes or omissions.	Processes quantitative raw data, but with some mistakes, omissions, or missing formulas.	Presents data appropriately, but with some mistakes or omissions.
Not complete/0	Does not record any appropriate quantitative or qualitative data. OR Raw data is incomprehensible.	No processing of quantitative raw data is carried out. OR Major mistakes are made in processing.	Presents data inappropriately or incomprehensibly.

Criterion 4 <u>Conclusion</u>	Aspect 1 <u>Concluding</u>	Aspect 2 <u>Explanation</u>	Aspect 3 <u>Weaknesses and Suggestions</u>
Complete/2	States a conclusion that supports or rejects the hypothesis. Conclusion is based on data.	Trends and findings are explained thoroughly using scientific research. Applications to the real world are explained.	Evaluates weaknesses and limitations. Suggests realistic improvements. Other potential investigations are mentioned
Partial/1	States a conclusion, but does not refer back to the hypothesis. OR Does not base the conclusion on the data.	Trends and findings are explained, but not thoroughly or without background information. Real world applications are mentioned, but not thoroughly explained	Identifies some weaknesses, but evaluation is weak or missing. Suggests only superficial improvements
Not complete/0	States a conclusion, but does not refer back to the hypothesis. AND Does not base the conclusion on the data.	Trends and findings are mentioned, but not explained. Real world applications are invalid or not present	Identifies irrelevant weaknesses and suggests unrealistic improvements.