

Title	
4	The title clearly states both the independent and dependent variables.
3	The title is clearly connected to the investigation, but does not mention the dependent or independent variable.
2	The title is present but does not relate directly to the investigation.
1	Not attempted.
Question	
4	The question asks how the independent variable affects the dependent variable and is testable.
3	The question is testable, but does not state how the independent variable affects the dependent variable.
2	The question is present, but is not testable.
1	Not attempted.
Hypothesis	
4	The hypothesis predicts the effect of changing the independent variable on the dependent variable and the reason for the prediction using scientific reasoning that is supported by cited background research.
3	The hypothesis predicts the effect of changing the independent variable on the dependent variable but does not explain the reason for the prediction (no "because..." statement is present.)
2	The prediction is present but does not show a relationship between the variables.
1	Not attempted.
Investigative Design	
4	All five (5) components of investigative design are clearly stated.
3	Three (3) or four (4) of the five (5) components of investigative design are clearly stated.
2	At least two (2) of the five (5) components of investigative design are clearly stated.
1	Not attempted or only one (1) of the five (5) components of investigative design is clearly stated.
Procedure	
4	Materials are listed and a detailed, logical step-by-step procedure is described.
3	Materials are listed and logical step-by-step procedure is described, but some steps are missing or incomplete.
2	A logical step-by-step procedure is listed, but many steps are missing or incomplete.
1	Not attempted or summarized.

Data/Results (Tables and Graphs; Data Analysis)

- 4 Data table(s) and graph(s) -- or other representations of data -- are accurate, easily understood and include titles, labels, appropriate placement of variables and correct units of measure. Trends or patterns in the data are identified and summarized.
- 3 Data table(s) and graph(s) -- or other representations of data -- include most of the above listed components. Some trends or patterns in the data are identified and summarized.
- 2 Data table(s) and graph(s) -- or other representations of data -- include some of the above listed components. Trends or patterns in the data are not identified nor summarized.
- 1 Not attempted.

Discussion/Conclusion

- 4 Discussion/Conclusion makes a claim (i.e., the hypothesis is or is not supported), supports the claim with evidence and uses reasoning -- in the form of connections to scientific concepts -- to relate claim and evidence. The Discussion/Conclusion refers to relevant scientific concepts (content knowledge) to understand why the claim and evidence are related. Scientific sources supporting results should be referred to and be part of the discussion. Reflections and "Next Steps" are included in the Discussion/Conclusion.
- 3 Most parts of Discussion/Conclusion are complete and accurate.
- 2 Some parts of Discussion/Conclusion are complete and accurate.
- 1 Not attempted.

Literature Cited

- 4 A variety of sources are cited; they are clearly related to the topic and they are at the appropriate level.
- 3 A limited variety of sources are cited; they are mostly related to the topic and most are at the appropriate level.
- 2 Only one (1) type of source is cited; the relation to the topic is unclear and/or the level may not be appropriate.
- 1 Not attempted.