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| --- | --- | --- | --- | --- | --- |
| **Criteria** | **0** | **1** | **2** | **3** | **Score** |
| **Hypothesis** | No attempt made to underline text. | Incorrect sentence underlined (prediction). | Part/all of hypothesis plus other text (prediction). | Only and all of hypothesis (not prediction). |   |
| **Variables** | No attempt to list variables. | Neither variable listed is correct. | Only ONE variable is correct OR only one of the multiple correct variables listed. | BOTH variables correctly identified AND multiple variables listed if appropriate. |   |
| **Graph** | No attempt to graph. | Chose wrong type of graph OR chose correct type BUT no axes labels OR data graphed does not match what was provided (<50% correct). | Chose appropriate graph type AND scale for axes. One axis mislabeled OR no units on either axis. Graphed data is mostly correct (50-75%). | Chose appropriate graph type AND scale for axes, both axes are labeled and have units, AND data points graphed correctly (75-100%). |   |
| **Data Interpretation** |   |   |   |   |   |
| **Claim** | No claim. | Claim is incorrect or vague/incomplete (neither variable stated) but related to question. | Claim is correct, related to question, BUT includes evidence OR is unclear (one variable not stated). | Claim is correct, related to question, no extra information, AND is clear (all variables stated). |   |
| **Evidence** | No evidence or reference to data. | Evidence provided but inappropriate for or unrelated to claim. | Provides some but not all evidence related to claim; references graph/table. Only **qualitative** (overall trend). | Provides **quantitative** evidence related to claim AND includes units. References specific parts of graph/table. |   |
| **Reasoning** | No reasoning or inappropriate reasoning. | Makes a general statement linking evidence/trend to claim OR explains the underlying science concept (does not do both). | Makes a general statement linking evidence/trend to claim AND attempts to explain the underlying science concept but vague in explanation. | Strongly explains WHY the evidence supports that claim AND fully/correctly explains the underlying science concepts. |   |
| **Next steps OR Application** |   |   |   |   |   |
| **Local Application** | No attempt to identify local application. | Local application provided BUT is inappropriate for question. | Local application may be appropriate, but is not well justified. | Local application clearly shows connection to original research question and is well justified for new study.  |   |
| **Future Questions** | Did not attempt to identify future questions to be investigated. | Identified a question, but not one that could be addressed with research. | Identified a question that can be addressed with research, BUT the question asks for a yes/no answer, is phrased as a prediction, OR is not closely related to current study. | Identified one or more strong scientific questions that can be addressed by future research. Questions are related to current study and do not have a yes/no answer. |   |
| **Future Research Design** | Did not attempt to identify future data to be collected. | Attempted to identify ONE part of a future research design (variables, methods, data table, constants, OR control). | Attempted to identify TWO parts of a future research design (variables, methods, data table, constants, AND/OR control). | Attempted to identify THREE or more parts of a future research design (variables, methods, data table, constants, AND/OR control). |   |