Interpreting Research Data Related

to *[type context here]*

In this exercise, you will use data already collected by a researcher to help **evaluate this research question**:

*[Type the research question here.]*

This research involves one independent variable and one dependent variable:

* Independent variable: *[Type the independent variable here.]*
* Dependent variable: *[Type the dependent variable here.]*

**Experimental Procedure:**

*[Insert the explanation of the experimental procedure.]*

*[Insert a graphic (if necessary) to supplement the explanation of the experimental procedure.]*

*[Insert any additional explanation of the experimental procedure or how data were collected.]*

The data for all three trials are provided in the following table:

*[Insert the raw data that students must reorganize in their table, graph, or chart.* ***Note:*** *Data may be presented in the form of a table, but do not organize the data by the level of the independent variable.]*

In the space below, **create a table, graph, or chart** that makes the data easier to understand.

**Answer the research question**: *[Insert the research question here.]*

Here are some things you should write about:

* Describe in detail any relationships between the *[type the independent variable here]* and the *[type the dependent variable here]*.
* Describe how the data support your conclusions. Refer to specific data.
* Explain why the researcher repeated the procedure three times. What does this additional information tell us?

Scoring Plan

**Data Representation**

|  |  |
| --- | --- |
| Student reorganizes data using a table, graph, or chart that improves interpretability of raw data. | 1 pt. |
| Data are grouped in a single table, graph, or chart by level of *[type the independent variable here].* | 1 pt. |
| All data are represented in the table, graph, or chart (either averaged or as individual data points) and at least 2/3 of data are reported correctly. | 1 pt. |

**Measurement Error Observations**

|  |  |
| --- | --- |
| Inconsistency of *[type the dependent variable here]* obtained for each level of *[type the independent variable here]* is represented in the table, graph, or chart. If average values are reported, awareness of inconsistency is implied. | 1 pt. |
| Student’s narrative references above inconsistency of *[type the dependent variable here]* measurements. | 1 pt. |
| Student notes inconsistency is small compared to the effect of *[type the independent variable here]* on the *[type the dependent variable here]*. | 1 pt. |

**Major Findings**

|  |  |
| --- | --- |
| Student correctly identifies **overall** effect of the *[type the independent variable here]* on the *[type the dependent variable here]*. | 1 pt. |
| Student cites specific data to support this conclusion. Numerical values of **both** the independent and dependent variables must be cited. | 1 pt. |
| Student correctly describes specific effect of *[type the independent variable here]* on the *[type the dependent variable here]* (Example: Notes the dependent variable changed in the same direction each time the independent variable increased in value). | 1 pt. |
| Student cites specific data to support this conclusion. Numerical values of **both** the *[type the independent variable here]* and the *[type the dependent variable here]* must be cited. | 1 pt. |