

Lab summary scoring rubric

Name:

Lab Title:

Background

Use the introduction in the lab manual to get on the right track. Do NOT just copy the information. You need to give enough information so that an uneducated person reading the report would have enough background to understand what was going on. This section should be referenced – give credit where credit is due.

Scoring Rubric for Background

Vocabulary/Terms	All relevant terms that will be used in the paper should be introduced and explained.	/2
Paraphrasing	Wording must be in the writer's language, especially when the introduction from a lab manual is used.	/2

Hypothesis

Write a declarative statement of expected results

Scoring Rubric for Hypothesis

Prediction	The prediction portion of the hypothesis must answer the given question including the effect of the manipulated (changed) variable on the responding (dependent) variable.	/2
Prediction Reason	A hypothesis must give a cause-effect reason for the prediction.	/2

Procedure

The steps followed in the activity should be written in concise, numbered statements. This may also include a labeled drawing of the apparatus and/or a flow chart. If the lab has different sections, write separate procedures for each section.

Materials	A list of the minimum materials needed to perform the procedure .	/1
Controlled Variables	At least two controlled variables are identified or implied in the procedure or the materials list	/1
Manipulated Variable	Only one manipulated variable is identified or implied in the procedure or data table (if given). The manipulated variable must have at least three conditions to be credited.	/1
Responding Variable	The responding variable is identified or implied in the procedure or data table (if given).	/1
Record Measurements	The procedure states or implies measurements are recorded periodically or gives a data table. 1. If artificial data for the responding variable is given, no value point may be awarded. 2. The phrase 'take measurement' cannot be used to mean record.	/1
Trials are Repeated	More than one trial for all conditions is planned, or implied in a data table, to measure the responding variable.	/1
Experimental Control	Procedure includes some reference to a control.	/1
Extra Validity Measure	The procedure includes a validity measure not included in the scenario investigation (e.g. more controlled variables, better measuring technique, increased sample size, control for sample bias).	/1
Logical Steps	The steps of the procedure are detailed enough to repeat the procedure effectively. (Examples of illogical steps: no ending time indicated, states <i>Set up as diagrammed</i> , but diagram is inadequate, and/or recording vague data or results.)	/1

Data/Observations

This section should include data tables and graphs, as well as written statements about what happened while running the experiment. Cover different sections of the experiment separately. Remember to number your tables and graphs and refer to the numbers in your writing. Use the table-making tools in your word processing program or use a straight edge when making tables, and make sure they are large enough to fit all of the data. Always title and label tables and graphs correctly and use proper units of measurement. Graphs from the lab manual may be copied onto new graph paper, drawn electronically, or photocopied and added into this section of the lab report.

Graph and data tables format	Titled, units are labeled on axis, manipulated variable on x axis, responding variable on y axis, appropriate scale.	/2
Description of data	A brief sentence or two describes what the tables and graphs show. It can't be assumed that the reader will know what to look for. Explain the highs, lows and averages.	/2
Sketch of experimental and control setups	These may be hand drawn and may appear in the procedure.	/2

Analysis/Discussion

This is the heart and soul of your report. No report will receive a passing grade without an analysis. This should be written as paragraphs. If there are questions in the lab manual or on the instruction sheet, use those as guides as to what to include in the analysis section. This is the place to identify the independent and dependent variables, controls, and constants. You should explain what the observations mean and analyze any possible sources of error. If the data point to an illogical conclusion, discuss the factors that contributed to the outcome. If you have any ideas for ways to improve the experiment, mention them here.

Analysis of data	What does the data mean? What influenced your outcomes? What outcomes were not what you expected and why?	/2
Error analysis	If someone were to repeat your experiment, what might cause them to get different results? If you were to improve upon the process, what would you do next time? What extraneous variables effected your experiment?	/2
Application of outcomes	All questions presented in the lab instructions are answered in narrative form. This should flow as part of your analyses rather than be in question/answer format.	/2

Conclusion

This is a brief statement that reflects the purpose and hypothesis. It should answer the question in the purpose and state whether the hypothesis is accepted or rejected.

Conclusive statement correctly answers the investigative question (or correctly states whether the hypothesis/prediction was correct): <ol style="list-style-type: none"> A vague conclusive statement cannot be credited, but other value points can be credited. A response with an incorrect conclusive statement or no conclusive statement may not be credited any value points. 	/1
Supporting data should <u>at least</u> be over the entire range of the conditions investigated. Thus, the minimum reported data are the lowest and highest conditions of the manipulated variable for quantitative data (responding variable when the manipulated variable information is descriptive).	
Supporting Data for low end of range:	/1
Supporting Data for high end of range:	/1
Explanatory language , separate from the conclusive statement, is used to connect or compare the supporting data to the conclusive statement:	/1