

Lab Notebook Rubric Experiment:

Author:

Category	Far below threshold (1)	Below the threshold (2)	Meets the threshold (3)	Exceeds the threshold (4)	Score
Introduction/ motivation/ goals	Does not include background or previous work. Does not identify the purpose, the project, the main question(s) or issue being addressed.	Gives very little background or information. May include the main question(s) or issue but does not identify the purpose for addressing them.	Gives a listing of the background information and previous work but does not tie them together well and shows how they lead to the purpose of the present work and the questions being addressed.	Effectively ties background to the research question(s) and purpose that directly leads into the question(s) being addressed and the purpose of the research.	
Figures explaining the background	Only one figure is provided that relates to the background of the experiment or material. The relevance of the figure is unclear or not explained.	One or more figures related to explaining the key concepts of the experiments are included. Only one is well discussed and related to the goals of the project.	Two or more figures related to explaining the key concepts of the project are included. One may not be explained well or relation clear.	At least two figures clearly illustrate and reinforce the key background concepts and are well integrated into the narrative.	
Description of the uniqueness of the material	The uniqueness of the material selected is not addressed, or is very general, such as saying "it hasn't been studied before." Why might we expect it to be interesting?	Attempts to explain the uniqueness of the material, but the rationale for its interest or value is unclear.	It is communicated what is unique about the material that was selected by the group and at least one application of the material is discussed.	It is well communicated what is unique about the material that was selected and potential material applications (and their importance) are discussed.	
Procedure (obj 3 & 4)	There is very limited discussion of the experimental procedure. It is not clear what was done.	What parameters (e.g., temperature ranges, durations, etc.) were varied is clear, but the values where data was taken is not identified in the procedure.	The procedure is mostly thorough and all important measurement parameters are given. Some details of the measurement process may be missing.	Step-by-step discussion of the procedure including sample mounting and the values and ranges of all parameters measured is listed in the procedure.	
What did you learn weekly? (label clearly)	Reflections on weekly lessons learned are minimal or don't clearly explain what was the prior misunderstanding. (Understanding our mistakes is vital.)	There is at least one good discussion of new things that were learned as a result of doing the experiment or preparation for it.	At least two days give a daily reflection about what was learned that day, and prior misunderstandings are mentioned.	Multiple entries include thought reflections that clearly identify what was learned that day, and prior misunderstandings are clearly discussed.	
Graphing of data	Figures are missing information or are inaccurate. Some axes are not labeled with units. Raw/unprocessed data may be missing.	Figures appear technically correct but not visually effective or easy to interpret. Too many gridlines or tick marks may be present. Too many/few sig figs may be used.	Data is accurate and presented in a clear fashion. Graph axes and numbers are large. The number of sig figs are reasonable. Raw data before analysis was also included.	Figures show progression from raw data to analyzed results, with attention to clarity and accuracy.	
Discussion of results	Discussion of the results is very limited, inaccurate or unclear how they same to their conclusions.	Some results are discussed, but the analysis lacks clarity, depth, or a logical connection to conclusions.	The results from the figure are well discussed near the figure AND in a later conclusion section.	The results from the figure are well discussed near the figure and broader implications are discussed or compared to literature.	
What would you do better if you did it again?	There is no discussion of improvements that could be made to the experiment.	Discussion of experimental improvements is limited or unclear and/or it is unclear why the ideas discussed would be improvements.	There is a clear discussion of potential experimental improvements.	Not only was there discussion of why they expect identified changes to improve the experiment; includes evidence of attempted improvements or testing.	
References	Referenced information is insufficient to verify where the information was found.	While a reference list exists within the lab notebook, it's not always clear what information was taken from the sources. Formatting poor.	While references are in a nice list and near where the information is mentioned, it could be more clear exactly what information is taken from the reference.	References are cited inline with short names (such as "NIST"), enabling the reader to easily trace information and a full reference list occurs elsewhere.	
	F: 0-7	C: 15-21 D: 8-14	A: 30-36 B: 22-29	Total Score	