

Lab: _____	X not	0 not done	1 incorrect	2 incomplete	3 complete & correct	4 above & beyond	
Purpose <i>A clear and short declarative statement that identifies the precise reason for doing the investigation and the general approach that will be used.</i>		Response missing, illegible, or response lacks statement of problem and approach for investigation.	Response states incorrect problem and/or invalid approach for investigation.	Response correctly states problem or provides valid approach but not both.	Response both correctly states problem and provides valid approach.	Response accomplishes Level 3 and goes beyond in significant way, e.g. describing imitations of approach or design, or describing relevant controls and variables.	× 1 =
Background Concepts <i>A brief survey of the literature to provide background information about your experiment.</i>		Background concepts missing or illegible.	Background concepts are not well explained—either flagrantly plagiarized or very terse— and have no bibliography.	Background concepts are explained in complicated language (often copied from the source) or are not cited in the bibliography.	Background concepts are explained fully in easy-to-understand language and all sources of information are cited.	Response accomplishes Level 3 and goes beyond in a significant way, e.g. extensive research, additional diagrams, many sources are cited, or additional background concepts included.	× 1 =
Procedure <i>Response reflects recognition and application of relevant procedures performed completely, accurately, and safely.</i>		Response missing, illegible, or no attempt indicated to recognize and apply relevant procedures.	Response indicates incorrect or inappropriate choice and/or application of procedures.	Response reflects appropriate choice and application of procedures but does not fully describe steps or some steps are omitted.	Response reflects choice & performance of appropriate procedures completely and accurately. Actions are listed as steps.	Response accomplishes Level 3 and goes beyond in significant way, e.g. identifying alternative procedures to effectively carry out test.	× 2 =
Apparatus Sketch <i>Include a labeled drawing of the equipment and set-up used. Be sure to label everything that was measured.</i>		Drawing missing, illegible, or not included.	Drawing is difficult to read or is missing significant parts and misses important aspects of the experiment.	Drawing is missing key labels; is sloppy; is misleading.	Drawing is neat, easy-to-read, and completely labeled.	Drawing accomplishes Level 3 and goes beyond in a significant way, e.g. drawing is particularly clear, colorful, or adept at communication.	× 1 =
Data <i>Response logically records and displays accurate data. Where needed, uncertainties are included.</i>		Response missing, illegible, or no record of data included.	Response reports data but records are illogical and/or contain major errors in the data.	Response reports data logically and may contain minor errors but records are incomplete.	Response logically reflects complete and accurate data; minor errors in data may exist. Units are included.	Response accomplishes Level 3 and goes beyond in significant way, e.g. information in the organization or display of data.	× 1 =
Analysis Questions <i>Answer all questions included with the lab.</i>		Questions are not answered or are illegible.	Responses are incorrect.	Minimal thinking is shown; answers may be short, unclear, or generalized.	Answers show quality thinking.	Responses accomplish Level 3 and goes beyond in a significant way.	× 2 =
Sample Calculations <i>Include a neat and clear example of how you calculated each part of the lab.</i>		Sample calculations are not included or are illegible.	How'd you get this?	Major steps omitted, equations are plugged into without description; calculations might not include units.	Sample calculations clearly show how all numbers are calculated with units.	Sample calculations accomplish Level 3 and go beyond in a significant way.	× 1 =
Table Of Results <i>This should be a short table that shows the final results from all of your calculations.</i>		Table Of Results is not included or is illegible.	Data shows misleading information; trendlines have R^2 close to 0; equations don't apply to data.	Results are inaccurate; experimental error likely; equations relate variables in the experiment; R^2 value is probably low; insufficient number of data points found.	Results are precise and accurate; R^2 is sufficiently high to make a conclusion from. Units are included.	Response accomplishes Level 3 and goes beyond in a significant way, e.g. R^2 particularly high.	× 2 =
Sources Of Errors <i>List the types of errors and explain how they entered the lab. Justify the uncertainties that were listed.</i>		Sources Of Errors are not included or are illegible.	Sources Of Error are incorrect.	Sources Of Error are listed but are not explained or accounted for.	All sources of error are identified and accounted for.	Response accomplishes Level 3 and goes beyond in a significant way.	× 1 =
Graphs <i>Graph your data as instructed. Make sure your axes are labeled with units, and a best-fit line is drawn where appropriate.</i>		Graphs missing, illegible, or not included.	Graphs are incorrect—wrong data, wrong axes, wrong units, scale is difficult, etc.	Graphs are missing important components, and may be difficult to read.	Graphs are neat and easy to read, with labeled axes with units, best-fit lines, equations, and R^2 values clearly displayed.	Graphs accomplish Level 3 and goes beyond in a significant way.	× 1 =
Conclusion <i>Response summarizes data, draws conclusions from these results, and evaluates them relative to the problem. The conclusion should answer (1) what was found out and (2) how it is known to be true.</i>		Response missing, illegible, or no analysis or interpretation of data included.	Response incorrectly summarizes data which results in flawed conclusions, or accurately summarizes data but does not attempt to draw 1 conclusions from these results.	Response draws some conclusions from correctly summarized data but the conclusions and evaluation are incomplete. Response tells findings or how findings are known to be true but not both.	Response indicates a valid evaluation of the problem based upon comprehensive conclusions. Response tells what was found out and how it is known to be true.	Response accomplishes Level 3 and goes beyond in significant way, e.g. explaining unexpected results, judging the value of investigation, suggesting additional investigations, etc.	× 3 =

Technical <i>Is the document free from spelling and grammar errors? Does it read well? Is the text clear?</i>		No response; illegible or incoherent response.	Response is unclear and technical errors prevent audience from understanding.	Parts of presentation are clear but clarity is missing in places; technical errors may exist but do not prevent the audience from understanding.	Presentation is clear and easy to understand, with few minor errors.	Response accomplishes a "3" and enhances communication in some significant way; no technical errors.	$\times 1$ $=$
Presentation <i>How does the lab report look? Please double-space. Typed is usually easier to read than hand-written.</i>		<i>Not applicable</i>	You can read this?	A real rush job.	Looks OK.	Beautiful.	$\times 2$ $=$

Name: _____

Possible:

Total: