

## Lab Report Rubric

CATEGORY	4	3	2	1
<b>Title (worth 0.5)</b>	Title includes name, partners' names, date, class and complete scientific descriptive title	One element is missing, however title is a complete scientific descriptive title	One element is missing, however title is a scientific title (however lacking appropriate description) or two elements are missing however title is a complete scientific descriptive title	Two or more elements are missing or title is not present on the lab report
<b>Abstract</b>	Experimental design is a well-constructed test of the stated hypothesis and includes a summary of procedure and results.	Experimental design is adequate to test the hypothesis, but leaves some unanswered questions.	Experimental design is relevant to the hypothesis, but is not a complete test.	Experimental design is not relevant to the hypothesis,
<b>Background and Scientific Concepts</b>	Report illustrates an accurate and thorough understanding of scientific concepts underlying the lab. It includes all required information and relevant examples as well as additional information clearly researched appropriately.	Report illustrates an accurate understanding of most scientific concepts underlying the lab. It includes all required information however is missing relevant examples.	Report illustrates a limited understanding of scientific concepts underlying the lab. Important information is missing or appears flawed and/or relevant examples are not included	Report illustrates inaccurate or juvenile understanding of scientific concepts underlying the lab. Major information is missing and/or relevant examples are not provided.
<b>Purpose (worth 0.5)</b>	The purpose of the lab or the question to be answered during the lab is clearly identified and stated.	The purpose of the lab or the question to be answered during the lab is identified, but is stated in a somewhat unclear manner.	The purpose of the lab or the question to be answered during the lab is partially identified, and is stated in a somewhat unclear manner.	The purpose of the lab or the question to be answered during the lab is erroneous or irrelevant.
<b>Experimental Hypothesis</b>	Hypothesized relationship between the variables and the predicted results is clear and reasonable based on what has been studied. Relevant calculations are included within the hypothesis, and the hypothesis is stated in an "IF, THEN, BECAUSE" statement	Hypothesized relationship between the variables and the predicted results is reasonable based on general knowledge and observations. Calculations are included with minor errors and the hypothesis is stated in an "IF, THEN, BECAUSE" statement	Hypothesized relationship between the variables and the predicted results has been stated, but appears to be based on flawed logic.  Hypothesis is stated in an unclear or undesired fashion with no calculations and/or personal reference.	Hypothesis is incomplete or completely irrelevant to the inquiry.
<b>Variables (worth 2x)</b>	All variables are clearly described with all relevant details, including minimum 5 controlled variables, 1-3 manipulated and 1-5 responding variables	All variables are clearly described with most relevant details including 1-3 controlled variables, 1 manipulated and 1 responding variables	Most variables are clearly described with most relevant details, however 1 variable grouping is incorrect or irrelevant to the lab	Variables are not described OR the majority lack sufficient detail (2 or more of the variable groupings are incorrect or irrelevant)
<b>Materials (worth 0.5)</b>	All materials and setup used in the experiment are clearly and accurately described in list form, with relevant quantitative information	Almost all materials and the setup used in the experiment are clearly and accurately described. The lab write up is missing quantitative information	Most of the materials and the setup used in the experiment are accurately described. 1-3 important lab required materials are missing from the list.	Many materials are described inaccurately OR are not described at all.
<b>Procedures</b>	Procedures are listed in clear steps. Each step is numbered and is a complete sentence. <b>Measurements are included and procedure is completely replicable.</b>	Procedures are listed in a logical order, but steps are not numbered and/or are not in complete sentences and/or <b>measurements are not included and/or procedure is not completely replicable.</b>	Procedures are listed but are not in a logical order or are difficult to follow. Measurements are not included and major steps are missing from the procedures.	Procedures do not accurately list the steps of the experiment and/or no procedure is included in the report.
<b>Drawings / Diagrams</b>	Clear, accurate diagrams are included and make the experiment easier to understand. Diagrams are labeled neatly and accurately, including measurements. A ruler has been clearly used for all diagrams. Diagrams are accurately titled with description of the data explained in the title (ex. <i>Figure 1 – Exterior View of Sheep's Eye</i> )	Diagrams are included and are labeled neatly and accurately. Diagrams are accurately titled with description of the data explained in the title (ex. <i>Figure 1 – Exterior View of Sheep's Eye</i> ) Required measurements are missing, however a ruler has been clearly used for all diagrams	Diagrams are included and are labeled however there may be an issue with the title and/or required measurements are missing and a ruler has not been used throughout the diagram	Needed diagrams are incorrect OR are missing important labels.

<b>Data</b>	Professional looking and accurate representation of the experimental results (both qualitative and quantitative) are included in tables. Tables are accurately titled with description of the data explained in the title. ( <i>Table 1: Calorimetric Data for Combustion of Ethanol</i> ) All units are included in the chart, and the charts are created using a ruler.	Accurate representation of the experimental results are included in tables (both qualitative and quantitative). Tables are accurately titled with description of the data explained in the title. ( <i>Table 1: Calorimetric Data for Combustion of Ethanol</i> ) All units are included in the chart, however it is obvious a ruler was not used to create the chart or the chart is messy.	Accurate representation of the experimental results are included in tables (both qualitative and quantitative) however, tables are not accurately titled and/or missing relevant units. Charts are created using a ruler.	Data tables are not included in the lab, or represented in list form instead of within a labeled chart.
<b>Calculations</b>	All calculations are shown and the results are correct and labeled appropriately.	Some calculations are shown and the results are correct and labeled appropriately. Missing 1-2 parts of the work for the calculations within the lab, however this did not effect the overall outcome.	Some calculations are shown, however 1-2 calculations are incorrect, and directly effect the lab.	Results are inaccurate or mislabeled.
<b>Analysis (worth 2x)</b>	The data (where applicable) is plotted into graphical form to better visualize the resultant trends, and the graphical data is appropriately labeled with relevant titles and calculations.  The relationship between the variables is discussed and trends/patterns logically analyzed (as to why the manipulated variable effected the responding in the way it did – and how)	The data (where applicable) is plotted into graphical form to better visualize the resultant trends, and the graphical data is appropriately labeled with relevant titles and calculations.  The relationship between the variables is discussed and trends/patterns logically analyzed however errors or misunderstandings are present within the analysis.	The plotted data is present, however required labels or calculations are not included on the graphs.  The relationship between the variables is discussed but no patterns, trends or predictions are made based on the data.	The relationship between the variables is not discussed. Graphical analysis was not included when required.
<b>Conclusion</b>	Conclusion includes whether the findings supported the hypothesis, possible sources of error, and what was learned from the experiment.	Conclusion includes whether the findings supported the hypothesis and what was learned from the experiment.	Conclusion includes what was learned from the experiment.	The conclusion is irrelevant or shows little effort and reflection
<b>Extension</b>	A complete description of how the results of the investigation is applicable to either a real life situation or further study is included.	A description of how the results of the investigation is applicable to either a real life situation or further study is included however missing 1-2 major connections	A limited description of how the results of the investigation is applicable to either a real life situation or further study.	Example is incomplete or not relevant to the results of the investigation
<b>Error Analysis (worth 2x)</b>	Experimental errors, their possible effects on the results (both directly nad indirectly) and ways to reduce errors are discussed. Minimum 3 errors analyzed	Experimental errors and their possible effects are discussed, <b>however no possible ways to reduce the errors</b> are discussed OR Less than 3 errors are analyzed completely	Experimental errors are mentioned, however <b>no effects</b> . Possible ways to reduce the errors are included, however effects on the lab due to the errors are not included OR Less than 2 errors are analyzed completely	Only a list of errors is included
<b>Sources</b>	5-10 sources are present in proper MLA format with references present within the document (appropriately)	1-5 sources are present in proper MLA format with references present within the document	5-10 sources are present within a work cites page in MLA format however no references are present within the work	1-5 sources are present within a work cites page in MLA format however no references are present within the work
<b>Mechanics</b>	Lab report is written in past tense, with no personal reference and accurate spelling and grammar.  Lab report required section are ordered according to the rubric.	Lab report is written mainly in past tense, however a few errors in tense are present and/or minimal personal reference in lab.  Lab report required sections are ordered according to the rubric	Lab report is written in present tense with no personal reference within the lab and/or no spelling or grammar errors.  Minor errors in lab report section order	Lab report is written in present tense with personal reference throughout the lab.  Lab report is difficult to follow due to ordering.

Follow Up Questions: