

# Controlled Investigation Rubric



Project/Topic: \_\_\_\_\_

Student Name: \_\_\_\_\_ Date: \_\_\_\_\_

CATEGORY	4	3	2	1
Question/Purpose	The purpose of the investigation or the question to be answered is clearly identified and stated.	The purpose of the investigation or the question to be answered, but is stated in a somewhat unclear manner.	The purpose of the investigation or the question to be answered is partially identified, and is stated in a somewhat unclear manner.	The purpose of the investigation or the question to be answered is erroneous or irrelevant.
Experimental Hypothesis	Hypothesized relationship between the variables and the predicted results is clear and reasonable based on what has been studied.	Hypothesized relationship between the variables and the predicted results is reasonable based on general knowledge and observations.	Experimental design is relevant to the hypothesis, but is not a complete test. Most variables are clearly described with most relevant details.	No hypothesis has been stated.
Experimental Design	Experimental design is a well-constructed test of the stated hypothesis. All variables are clearly described with all relevant details.	Experimental design is adequate to test the hypothesis, but leaves some unanswered questions. Most variables are clearly described with most relevant details.	At least one accurate fact was used to support your position.	Experimental design is not relevant to the hypothesis. Variables are not described OR the majority lack sufficient detail.
Replicability	Procedures appear to be replicable. Steps are outlined sequentially and are adequately detailed.	Procedures appear to be replicable. Steps are outlined and are adequately detailed.	All steps are outlined, but there is not enough detail to replicate procedures.	Several steps are not outlined AND there is not enough detail to replicate procedures.
Drawings/Diagrams	Clear, accurate diagrams are included and make the experiment easier to understand. Diagrams are labeled neatly and accurately.	Diagrams are included and are labeled neatly and accurately.	Diagrams are included and are labeled.	Needed diagrams are missing OR are missing important labels.
Data	Professional looking and accurate representation of the data in tables and/or graphs. Graphs and tables are labeled and titled.	Accurate representation of the data in tables and/or graphs. Graphs and tables are labeled and titled.	Accurate representation of the data in written form, but no graphs or tables are presented.	Data are not shown OR are inaccurate.

## Controlled Investigation Rubric cont.

CATEGORY	4	3	2	1
Analysis	The relationship between the variables is discussed and trends/patterns logically analyzed. Predictions are made about what might happen if part of the lab were changed or how the experimental design could be changed.	The relationship between the variables is discussed and trends/patterns logically analyzed.	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.
Conclusion	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.	No conclusion was included in the report OR shows little effort and reflection.
Error Analysis	Experimental errors, their possible effects, and ways to reduce errors are discussed.	Experimental errors and their possible effects are discussed.	Experimental errors are mentioned.	There is no discussion of errors.
Summary	Summary describes the skills learned, the information learned and some future applications to real life situations.	Summary describes the information learned and a possible application to a real life situation.	Summary describes the information learned.	No summary is written.
Scientific Concepts	Report illustrates an accurate and thorough understanding of scientific concepts underlying the lab.	Report illustrates an accurate understanding of most scientific concepts underlying the lab.	Report illustrates a limited understanding of scientific concepts underlying the lab.	Report illustrates inaccurate understanding of scientific concepts underlying the lab.
Background Sources	You consistently used gestures, eye contact, tone of voice and a level of enthusiasm in a way that kept the attention of the audience.	A few reputable background sources are used and cited correctly. Material is translated into student's own words.	A few background sources are used and cited correctly, but some are not reputable sources. Material is translated into student's own words.	Material is directly copied rather than put into student's own words and/or background sources are cited incorrectly.
Spelling, Punctuation	No errors in spelling, punctuation and grammar in the report.	Few errors in spelling, punctuation and grammar in the report.	Several errors in spelling, punctuation and grammar in the report.	Many errors in spelling, punctuation and grammar found throughout the report.
Appearance/ Organization	Lab report is typed and uses headings and subheadings to visually organize the material.	Lab report is neatly handwritten and uses headings and subheadings to visually organize the material.	Lab report is neatly written or typed, but formatting does not help visually organize the material.	Lab report is handwritten and looks sloppy with cross-outs, multiple erasures and/or tears and creases.

**Total Score \_\_\_\_\_ / 56 points**