

# Scientific Inquiry Rubric – Investigations

	1 Below Standard	2 Developing (Approaching Standards)	3 Proficient (Meets Standards)	4 Well Developed (Exceeds Standards)
Introduction and Background	One or two components (title, question, or hypothesis) are not attempted.	A title is present but is not relevant to the investigation. The question is present but is NOT testable. The prediction is present but does not show a relationship between the variables.	The title does NOT correctly state the independent variable or the dependent variable but is relevant to the investigation. The question does NOT ask how the independent variable will affect the dependent variable. The hypothesis predicts the effect that changing the independent variable will have on the dependent variable, but does NOT explain the reason for the prediction (no "because..." statement is present).	The title correctly states the independent variable. The question asks how the independent variable will affect the dependent variable, and is testable. The hypothesis predicts the effect that changing the independent variable will have on the dependent variable, and explains the reason for the prediction using scientific reasoning ("because...") that is supported by background research.
Investigative Design	At least 2 of the 5 components of the ID are indicated correctly. The materials are missing and no summary was attempted.	3 or 4 of the 5 components of the ID are stated correctly, but two or more components have issues. Materials are listed, and a procedure is described, but many steps are missing or incomplete.	All 5 components of the ID are stated correctly, but either MORE THAN ONE IV is changing at a time or there are NOT multiple trials. Materials are listed, and a step by step procedure is described, but some steps are missing or incomplete or inconsistent.	All 5 components of the ID are stated correctly, and only ONE independent variable is allowed to change at a time, and the procedure is described in enough detail to repeat the investigation, and details seem consistent with the procedure overall.
Data Analysis	Data table(s) and graph(s) do not include the components. Trends in data are not identified and summarized.	Data table(s), graph(s), and other representations of data include some of the components. Trends in data are not identified and summarized.	Data table(s) and graph(s) include most of the characteristics. Some trends or patterns in data are identified and summarized. Data may be shown in a way that does NOT answer the original question.	Data table(s) and graph(s) are accurate and include labels (titles, correct units of measure), are easy to interpret, and are relevant to the original question. Trends in the data are identified and summarized. Data are shown in a way that answers the original question.
Discussion and Conclusion	The Conclusion/Discussion is incomplete. The claim is unsupported or irrelevant.	Discussion/Conclusion makes a claim (i.e., the hypothesis is or is not supported...), supports the claim with evidence and uses reasoning—in the form of connections to scientific concepts—to relate claim and evidence. No relevant scientific concepts are included. No scientific sources are cited within the text. No "Next Steps" are included.	Discussion/Conclusion makes a claim (i.e., the hypothesis is or is not supported...), supports the claim with evidence and uses reasoning—in the form of connections to scientific concepts—to relate claim and evidence. Relevant scientific concepts (content knowledge) are not fully explained. Scientific sources are not cited within the text. "Next Steps" are included.	Discussion/Conclusion makes a claim (i.e., the hypothesis is or is not supported...), supports the claim with evidence and uses reasoning—in the form of connections to scientific concepts—to relate claim and evidence. It is important that the Discussion/Conclusion refer to relevant scientific concepts (content knowledge) to explain why the claim and evidence are related. Scientific sources supporting the claim should be referred to and cited in the discussion. Reflections and "Next Steps" are included.
Organization and Presentation	The proper format was not followed. Vocabulary was limited. There were many errors in spelling, grammar, and mechanics which caused confusion. The reference page was missing.	The proper format was followed inconsistently. Vocabulary was limited. There were many errors in spelling, grammar, and mechanics. The reference pages were incomplete.	The proper format was used consistently. Vocabulary use was clear and accurate. There were some errors in spelling, grammar, and mechanics. Reference page was included and was completed properly.	The proper format was used consistently. Use of content vocabulary was clear and accurate. There were no errors in spelling, grammar, and mechanics. A Reference page was included and completed properly.