

Explain/Elaborate/Evaluate: Being an Experimental Scientist

Copymaster Ex.1 Full Inquiry Rubric

Criteria	Excellent	Could Be Improved	Needs Substantial Improvement
<p>Concept: Questioning, doing inquiry, and communicating results</p>	<p>Inquiry is based on an interesting testable question that can be tested with the equipment available and techniques that can be conducted in this class.</p> <p>Hypothesis and prediction are clearly stated and explained.</p>	<p>Inquiry is based on a testable question that needs additional equipment, techniques, or both to isolate 1 or 2 significant variables.</p> <p>Hypothesis and prediction are briefly stated and explained.</p>	<p>Inquiry is based on a question that is not scientifically testable.</p> <p>Hypothesis and prediction are overly brief and explained poorly or incorrectly.</p>
<p>Design: Design and execution of the inquiry</p>	<p>Experiment is designed with reasonable and logical use of the concepts that are important for the chosen topic.</p> <p>Explanation of the design makes good use of the vocabulary important to the experiment.</p> <p>Experimental design uses appropriate controls.</p> <p>Results are recorded clearly and accurately.</p>	<p>Experiment is designed with reasonable use of the concepts that are important for the chosen topic.</p> <p>Explanation of the design uses minimal vocabulary that is important to the experiment.</p> <p>Experimental design uses appropriate controls, though not all key variables are controlled.</p> <p>Results are recorded accurately.</p>	<p>Experiment is designed without reasonable use of the concepts that are important for the chosen topic.</p> <p>Explanation of the design incorrectly uses vocabulary that is important to the experiment.</p> <p>Experimental design uses inappropriate controls, several key variables are not controlled, or both.</p> <p>Results are recorded inaccurately.</p>
<p>Explanation: Explanation for scientific design and analysis based on the question being asked</p>	<p>Analysis clearly refers to the question, hypothesis, and prediction.</p> <p>Analysis relates 2 or more specific examples taken from the results to demonstrate a clear understanding of the phenomenon that took place.</p>	<p>Analysis briefly refers to the question, hypothesis, and prediction.</p> <p>Analysis uses only 1 reference to a specific example from the results to demonstrate an understanding of the phenomenon that took place.</p>	<p>Analysis lacks reference to the question, hypothesis, or prediction.</p> <p>Analysis does not reference specific examples from the results.</p>

Copymaster Ex.1 Full Inquiry Rubric (continued)

Criteria	Excellent	Could Be Improved	Needs Substantial Improvement
<p>Explanation: Explanation for connections to the unifying principles of biology, technology, culture, history, and ethics</p>	<p>Presentation clearly and accurately explains the inquiry's connections to the unifying principles of biology, technology, culture, history, and ethics.</p>	<p>Presentation generally explains the inquiry's connections to the unifying principles of biology, technology, culture, history, and ethics.</p>	<p>Presentation is overly brief or incorrectly explains the inquiry's connections to the unifying principles of biology, technology, culture, history, and ethics.</p>
<p>Presentation</p>	<p>Presentation is well organized and complete (contains a hypothesis, procedure, results, and analysis). Grammar and punctuation are used correctly, making it easy to understand what the writer meant.</p>	<p>Presentation has some organization, and it is complete (contains a hypothesis, procedure, results, and analysis), but some parts are difficult to locate. Grammar and punctuation are generally used correctly. Sometimes it is difficult to be sure what the writer meant.</p>	<p>Presentation has little organization evident, it is incomplete (missing 1 of the following: hypothesis, procedure, results, and analysis), or both. Grammar and punctuation are frequently used incorrectly. Often, it is difficult to be sure what the writer meant.</p>