

Formal Inquiry Rubric

	4	3	2	1
<p>Introduction/ Purpose</p> <p>Inquiry 1</p> <p>CCSS Science 1,2</p> <p>Research: W-10-7.1 W-10-7.2 W-10-7.3</p>	<ul style="list-style-type: none"> - States overall purpose for the inquiry activity in clearly written and technically correct language. - Includes basic background information - The problem to be investigated is stated in the form of a testable question - Demonstrates the difference between dependent and Independent variables 	<ul style="list-style-type: none"> - States overall purpose for the inquiry activity - Includes basic background information - The problem to be investigated is stated in the form of a question - Demonstrates the difference between dependent and Independent variables 	<ul style="list-style-type: none"> - Only three of the previously listed criteria are present. 	<ul style="list-style-type: none"> - Two or more of the previously listed criteria are present.
<p>Hypothesis</p> <p>Inquiry 2</p> <p>CCSS Science 2</p>	<ul style="list-style-type: none"> - The hypothesis is substantiated with compelling evidence from the student’s background research. 	<ul style="list-style-type: none"> - Formulates a realistic hypothesis to the outcome of the inquiry which is supported by some evidence. 	<ul style="list-style-type: none"> - A realistic hypothesis is listed, but that hypothesis is not supported by compelling evidence. 	<ul style="list-style-type: none"> - A hypothesis is listed, but it is not realistic nor is it supported by compelling evidence.
<p>Procedure Planning</p> <p>Inquiry 4, 5, 6</p> <p>CCSS Science 6</p>	<ul style="list-style-type: none"> - Assembles a list of materials required for the inquiry - Designs a realistic methodology for controlling and measuring experimental variables and controls - Develops a clearly written step by step procedure for conducting the inquiry 	<ul style="list-style-type: none"> - Assembles a list of materials required for the inquiry - Designs a realistic methodology for controlling and measuring experimental variables - Develops a written step by step procedure for conducting the inquiry 	<ul style="list-style-type: none"> - The list of materials provided is not complete or sufficient to carry out an inquiry - Methodology is reasonable and appropriate for testing the hypothesis - Procedure is not clear 	<ul style="list-style-type: none"> - The list of materials provided is not complete or sufficient to carry out an inquiry - Methodology is flawed or will not be appropriate for testing the hypothesis - Procedure is missing or difficult to follow
<p>Experimental Method (Planning Your Procedure)</p> <p>Inquiry 3, 7</p> <p>CCSS Science 3</p>	<ul style="list-style-type: none"> - Carries out the developed plan/procedure in a timely and efficient manner - Collects & records critical data from the inquiry procedure in a neatly organized manner - Uses all equipment appropriately - Cleans and returns all materials to their proper place 	<ul style="list-style-type: none"> - Carries out the developed plan/procedure in a timely manner - Collects & records critical data from the inquiry procedure - Uses all equipment appropriately 	<ul style="list-style-type: none"> - Procedure is modified “on the fly” or steps are skipped - Some data and/or observations are missing - Equipment is handled in a careless manner. 	<ul style="list-style-type: none"> - Procedure is not followed - Data and/or observations are not recorded or are scattered in different places - Equipment is handled in an unsafe manner
<p>Data Presentation</p> <p>Inquiry 8, 9</p>	<ul style="list-style-type: none"> - Data tables, figures, graphs, etc. are accurately and neatly drawn and labeled. - Summary of results is clear and correctly reflects the data collected and/or observations made. 	<ul style="list-style-type: none"> - Designs & constructs appropriate and accurate data tables, figures, graphs etc. for the presentation of inquiry related data - Summarizes results based on collected data 	<ul style="list-style-type: none"> - Data is represented in tables, figures, or graphs, but these are not clearly labeled or accurately produced. - Summary is weak and doesn’t accurately reflect the data collected. 	<ul style="list-style-type: none"> - Tables, figures, or graphs are not present or are poorly constructed or labels are missing. - Summary is non-existent.

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<p>Data Analysis</p> <p>Inquiry 11</p> <p>CCSS Science 7</p> <p>Research: R-10-15.2 W-10-8.1</p>	<ul style="list-style-type: none"> - Accurately identifies patterns and/or trends in the data that relate to the inquiry - Clearly links the data with the initial hypothesis 	<ul style="list-style-type: none"> - Able to identify patterns and/or trends in data that relate to the inquiry - Relates initial hypothesis to the collected results of the inquiry 	<ul style="list-style-type: none"> - Identifies some patterns or trends in the data but does not accurately relate these to the initial purpose of the inquiry - Does not accurately relate the trends or patterns in the data to the initial hypothesis. 	<ul style="list-style-type: none"> - Identifies patterns or trends in the data which are not supported by the data. - Does not identify trends or patterns in the data which support the initial hypothesis
<p>Conclusion and Discussion</p> <p>Inquiry 10, 12</p> <p>CCSS Science 8, 9</p> <p>Research: W10-6.4a&b W-10-8.2 R-10-15.4 W-10-6.4a&b</p>	<ul style="list-style-type: none"> - Hypothesis is restated - Cites compelling evidence which supports or refutes the initial hypothesis based on data collected - Reflects on areas of improvement, making suggestions on how to improve the inquiry in the future. - Analyzes errors that may have occurred and estimates how these may have impacted on the inquiry - Relates inquiry results to background research, citing clear connections between the two. 	<ul style="list-style-type: none"> - Hypothesis is restated - Assesses whether to accept or reject hypothesis based on data collected - Reflects on areas of improvement - Analyzes errors that may have occurred - Relates inquiry results to background research 	<ul style="list-style-type: none"> - Hypothesis is not restated. - Incorrectly relates accuracy of hypothesis to the data collected. - Reflection does not suggest areas of improvement - Error analysis leaves out major sources of error. - Connection between inquiry results and background research is weak. 	<ul style="list-style-type: none"> - Hypothesis is not restated. - Hypothesis is not evaluated in light of the data collected. - Reflection is missing. - Error analysis fails to identify any sources of error. - Connection between inquiry results and background research is not present.
<p>Writing Organization</p> <p>Inquiry 13</p> <p>CCSS Science 4, 5</p> <p>Research: W-10-6.1 W-10-1.3 W-10-6.3 W 10-3.4</p>	<ul style="list-style-type: none"> - Demonstrates mastery of proper grammar, punctuation, capitalization and spelling - Writing enhances the quality of the evaluation of the hypothesis in light of the data and observations collected. 	<ul style="list-style-type: none"> - Demonstrates understanding of proper grammar, punctuation, capitalization and spelling - Minor errors do not interfere with the intent of the inquiry 	<ul style="list-style-type: none"> - Writing, grammar, punctuation, capitalization and spelling are sometimes appropriate, but occasionally incorrect. - Errors detract from the intent of the inquiry. 	<ul style="list-style-type: none"> - Writing, grammar, punctuation, capitalization and spelling are inappropriate throughout the report. - Errors obscure the intent of the inquiry to the point at which the purpose, procedure and conclusions of the inquiry are not clearly explained.
<p>Resources Cited</p> <p>CCSS Science 10</p> <p>Research: W-10-6.5</p>	<ul style="list-style-type: none"> - Quality and types of sources enhance the topic and give credibility to the research. - Numbers and types of resources cited exceed the number required. - MLA format for sources is followed correctly. 	<ul style="list-style-type: none"> - Includes required number and types of resources - Lists and cites sources using standard MLA format 	<ul style="list-style-type: none"> - Missing some sources. - MLA format is not correctly followed. 	<ul style="list-style-type: none"> - Sources are not cited or are not clearly identified.

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