

## *Experiment Rubric* (Individual or Group, Grades 3 – 5)

**Using the Rubric:** Begin in the left hand column (Required Elements). Mark each category by circling the description that best matches the project, and record that numeric score in the score box. Multiply each score with its weighting factor (wt column) to get a final score. Total the final scores to the bottom.

Required Elements	0	1 Point	2 Points	3 Points	Score	Wt	Final Score
<b>Research Question</b> (A question that explains what was studied.)	:	States a research question; but inaccurate, incomplete, or lacks enough detail.	Accurately states research question; but lacks either cause or effect (x or y) or enough detail to investigate project.	Accurately states research question: includes cause and effect (x and y), and adequate detail to investigate project.		x 2	
<b>Science Content Statements</b> (Scientific description of the project done through literary research.)	L E M	States some science content; but inaccurate, incomplete, or not related to the research question.	Accurately states some science content related to the research question; but incomplete.	Accurately states science content that seems a grade-appropriate effort at describing the topic and research question.		x 1	
<b>Predictions and Hypothesis</b> (Lists the three possible outcomes of the experiment; the hypothesis is the one that is most likely to occur.)	E N T	States one or more predictions; but inaccurate, or incomplete, or lacks enough detail to follow.	Accurately states three predictions, but lacks clear cause and effect (x and y); or no hypothesis given.	Accurately states three predictions that include cause and effect (x and y); and hypothesis stated.		x 1	
<b>Manipulated Variable</b> (Describes the one thing that the students changed.)	N O	States what will be changed but with inaccurate or incomplete details.	Accurately states what will be changed but lacks details (tools, quantities, units, method).	Accurately states what will be changed with enough detail to assure accuracy.		x 2	
<b>Responding Variable</b> (Describes what the students measured.)	T	States what will be measured but inaccurate or incomplete details.	Accurately states what will be measured but lacks details (tools, units, how).	Accurately states what will be measured with enough detail to assure accuracy.		x 2	
<b>Set-Up Conditions</b> (List all of the things that were kept constant.)	P R	Lists some constants; some inaccurate or incomplete.	Lists all constants; lacks detail or description of how the conditions are set up.	Lists all necessary constants with good detail and description of set-up.		x 3	
<b>Materials List</b> (List of all of the items that were used to complete the experiment.)	E S E	Lists partial, confusing, or inaccurate materials; or lacks quantities or measurements.	Lists most materials used; lacks some detail about type, quantities or measurements.	Lists complete set of materials; sufficient detail to duplicate directions.		x 2	
<b>Directions</b> (List of steps in order of exactly what was done.)	N T	Gives partial, confusing or non-sequential directions; or lacks enough detail to follow.	Gives most steps in the procedure; lacks proper sequence or enough detail to follow.	Gives complete list of directions with detail such that the experiment could be duplicated by another.		x 3	
<b>Data Collection</b> (Chart with the data that was measured in the experiment.)	O R	Most data shown; some data missing, or not organized in chart form, or missing units or average.	Proper chart shown with complete data and average; missing some units, labels or fewer than 10 trials.	Proper chart shown with complete data; 10 or more trials and average; all units, labels, and detail present.		x 3	
<b>Graph</b> (Mathematical picture of the data.)		Graph shown; some elements incomplete or inaccurate.	Proper graph shown; most elements complete and accurate.	Proper graph shown; all elements complete and accurate.		x 3	
<b>Results</b> (Tells what happened in the experiment.)	N O T	Lists some results; some statements inaccurate or incomplete.	Lists most results; most statements accurate and complete.	Lists all results accurately and with detail.		x 2	
<b>Conclusion</b> (Did the data support, or fail to support the hypothesis.)		Conclusion statement present but inaccurate or incomplete.	Conclusion statement present and accurate; but incomplete.	Accurately states whether the data supports or fails to support the hypothesis.		x 2	
<b>Real World Uses</b> (Ways that the information might be used.)	S C O	States one or more uses; but incomplete, inaccurate, or lacks details.	States several possible uses with some detail; or more uses with incomplete detail, or uses are not all related to research topic.	States three or more possible uses related to the research question; with good detail.		x 1	
<b>Diary</b> (The science journal.)	R E	Some elements are missing, incomplete or inaccurate.	All elements present; most complete or accurate; dated narrative present.	All elements present, accurate, good detail and few errors; dated narrative present.		x 2	
<b>Display Board</b>	A B	Some elements are missing, incomplete or inaccurate.	All elements present; most complete or accurate.	All elements present and accurate with good detail and few errors.		x 2	
<b>Oral Presentation</b>	L E : :	Students express very limited understanding of the project or science content or seem to have had minimal involvement in it.	Student(s) have some understanding of the project or science content and seem to have had at least a limited involvement in completing the project.	Student(s) have a good understanding of the project and science content, and seem to have had a grade-appropriate involvement in completing the project.		x 2	
					<b>Total Score:</b>		