Experiment Rubric 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. Multiply each score with its weighting factor to get a final score. Total the final scores at the bottom.

Required Elements	0	1 Point	2 Points	Weight	Score
Science Background Research (Students write a summary of science content related to their project building towards development of a testable question.)	ELEMENT NOT PRESENT OR NOT SCORABLE	Summary of science content is present, but components are inaccurate or not present	Summary of science content is accurate and related to topic; summary is based on a wondering that led to a testable question	**x 5**	
Research Question (A question that explains the predicted effect of the **independent** variable on the **dependent** variable)		States a testable question, but inaccurate, incomplete, or lacks enough detail	Accurately states testable question that includes independent variable (cause) and dependent variable (effect) and provides ample detail to investigate project	**x 5**	
Prediction (An educated guess/prediction based on information you already know; states the most likely outcome; also known as a hypothesis)		Restates the most likely outcome but lacks details and/or reasoning for making the prediction; *the If…then…because" is missing*	Restates the most likely outcome using the *"If…then…because"* format; includes details and reasoning for making the prediction	**x 2**	
Independent Variable (Describes the one thing students are changing)		States what will be changed but with inaccurate or incomplete details	Accurately states what will be changed and how it will be changed with enough detail to assure accuracy (ex. quantity, scale, temperature, etc.)	**x 3**	
Dependent Variable (Describes the one thing students will be measuring)		States what will be measured but with inaccurate or incomplete details	Accurately states what will be measured and how it will be measured with enough detail to assure accuracy (time, distance, temperature, etc.)	**x 3**	
Control Group (Describes the one thing that does not receive treatment and is used for comparison)		Identifies the Control Group partially or inaccurately	Accurately and completely identifies the Control Group that did not receive treatment	**x 3**	
Constants/Set-Up Conditions (A list of factors that do not change in the set-up and as trials are conducted during your experiment)		Lists some constants; some inaccurate or incomplete	Lists all necessary constants with good detail and description of set-up	**x 3**	
Materials List (Detailed, bulleted list of **ALL** items that were used to complete the experiment – think recipe) **No brand names		Lists partial, confusing, or inaccurate materials or lacks quantities or measurements	Lists complete set of materials and sufficient detail to duplicate directions (quantities, metric measurements, tools etc.)	**x 3**	
Procedures (Detailed, numbered list of steps in order of exactly what was done; enough details so that it can be duplicated – think recipe)		Gives partial, confusing, or non-sequential directions; or lacks enough detail to follow	Gives complete list of procedures with detail such that the experiment could be duplicated; uses metric measurement and includes safety considerations	**x 3**	
Data Collection (Data table with measurements from each trial of the experiment with final averages)		Most data shown; some data missing, or not organized in chart form, or missing units or averages	Proper data table shown with complete data; 10 or more trials and averages; all units, labels, and detail present	**x 3**	
Graph (Mathematical picture of the averages from the data table)		Graph shown; some elements incomplete or inaccurate	Proper graph shown (based on project type); all elements (axis's, title, appropriate scale, etc.) complete and accurate	**x 3**	
Results (Written description of the data; written using mathematical language)		Lists some results; some statements inaccurate or incomplete	Lists the results using mathematical language and data from the data table accurately and with detail	**x 3**	
Explanation (Summary of findings that evaluate the experimental procedure and provides scientific reason that supports experiment findings; revisits/addresses prediction)		Explanation statement present but inaccurate or incomplete	Explanation is accurate and provides specific scientific detail related to experiment	**x 3**	
Real World Uses relating to Research (Ways the information might be used outside of the experiment)		States one or more uses but is incomplete, inaccurate, or lacks details	States one or more possible uses (outside of the experiment) related to the research question with accuracy and complete detail	**x 3**	
Science Journal (Record of directions, observations and data collected throughout the process; information detailed enough to be replicated accurately)		Some elements are missing, incomplete or inaccurate	All elements present, accurate, good detail and few errors; dated narrative present	**x 3**	
Display Board or other Presentation Format (Projects presented in a digital format must be converted to a display board if chosen to represent school in the District Science Showcase.)		Some elements are missing, incomplete or inaccurate	All elements present and accurate with good detail and few errors	**x 2**	

Comments:

Total Score
/100