

EVIDENCE OF SCIENCE PROCESS SKILLS

	8 or 7 or 6	5 or 4 or 3	2 or 1 or 0	Points Awarded
Science Process Skills	Exhibits a thorough understanding and the application of the scientific method. The student has acquired scientific skills.	Exhibits a lesser understanding of the scientific method. Demonstrates minimal acquired scientific skills.	Demonstrates little to no understanding or application of scientific skills.	
Scientific Approach: Overall	Has a well-designed problem and a clearly stated hypothesis. Uses a logical, orderly method for solving the problem. Problem was solved using scientific principles. Method was appropriate and effective.	Has an adequately defined problem AND/OR clearly stated hypothesis, AND/OR method was appropriate, but not clear.	Little to no evidence of a scientific approach. Experimentation was not performed, i.e. was a demonstration or exhibition.	
Scientific Approach: Variables	The independent (experimental) variable(s) have been thoroughly defined. Those significant variables not manipulated have been controlled.	The independent (experimental) variable(s) have not been thoroughly defined. Not all significant variables have been controlled.	The independent (experimental) variable(s) have not been defined. Few or no significant variables have been controlled.	
Scientific Approach: Control/Comparison Group	A control (known standard) was present OR when a control group is not possible a comparison was made among trial groups.	An attempt for control or comparison was made.	No control or comparison group present.	
Accuracy of Data and Observations	An adequate sample size and/or sufficient repetitions were performed to gather enough data to reach a reliable conclusion. Data collected is numerical and metric, if applicable. Observations were carefully recorded and accurate. Data are reproducible.	Data is not numerical and metric when applicable, AND/OR data collected is marginal. Observations were inadequate or inaccurate.	Little to no data collected.	
Data Analysis and Discussion	The data has been analyzed and its importance has been discussed. Appropriate application of mathematical and statistical methods is used. Logical inferences were made.	The data has been analyzed but not discussed OR the discussion did not demonstrate adequate analysis. The inferences made were illogical.	No data analysis was made or the inferences were illogical.	
Validity of Conclusion	Conclusion is consistent with data and observations and is supported by the data collected. Conclusion referred to purpose and hypothesis.	Conclusion is present but not supported by the data and/or the conclusion did not refer back to the purpose and hypothesis.	No conclusion or no valid conclusion was present.	
Originality	Demonstrates a novel approach and/or idea. Exhibits a creative approach to problem-solving. Has the potential to dramatically impact a field of science.	Some creativity and/or originality demonstrated.	No originality or creativity demonstrated.	

COMMUNICATION

DISPLAY

Information: Experimental	3	2	1	Points Awarded
	Gives complete explanation of the project. Display includes graphics, charts, and/or pictures with clear labels and legends.	Adequate information is present, but not thorough.	Missing pertinent information.	
Artistic Qualities	3	2	1	
	Display board is neat, organized, and appealing. No spelling errors are present.	Display board is neat, but not well organized. Spelling errors are present.	Display board was carelessly prepared; sloppy.	

ORAL PRESENTATION

Presentation Quality	3	2	1	
	Student: clearly and concisely summarizes the project with information that is relevant and pertinent; exhibits a thorough understanding of the science relevant to project; can explain their conclusion related to their data; recognizes the potential impact in science, society, and/or economics; and has ideas for further research.	Information given is adequate, but presentation is difficult to follow OR student does not exhibit a thorough understanding of their topic area.	Information jumbled, irrelevant; presentation is unclear.	
Dynamics	3	2	1	
	Speaks fluently with good eye contact; polite; dynamic; and interested in their project.	Student was polite and interested in their project. Moderate eye contact, relied heavily on note cards.	No eye contact; read from note cards. Did not seem interested.	

EXPERIMENTAL LOG – The parts of the written report should be evaluated for their merits as further evidence of scientific process skills.

Abstract	2	1	0	
	Abstract present; contains a concise summary, procedure, and conclusion in 200 words or less. The proper format was used.	One or two parts of the abstract is (are) missing or inadequate.	Abstract is missing or is entirely inadequate.	
Safety Sheet	2	1	0	
	Safety sheet identifies all of the major safety hazards, precautions taken, and any necessary endorsement sheets. Proper forms were used.	Safety sheet is present, but not all major hazards have been identified OR precautions are missing.	Safety sheet is not present or any necessary endorsement sheets are missing.	
Title Page & Table of Contents	2	1	0	
	Title page is clear and concise. The table of contents is complete and includes pagination.	One or two elements is (are) missing.	The title page and/or table of contents is/are missing.	
Acknowledgements	1		0	
	Credit has been given to those who helped with the project.		Acknowledgements are missing.	
Purpose and Hypothesis	2	1	0	
	The testable question (purpose) has been identified and a prediction has been made.	The testable question has been identified OR a prediction has been made, but not both.	Neither a testable question nor a prediction is present.	

EXPERIMENTAL LOG – The parts of the written report should be evaluated for their merits as further evidence of scientific process skills.

Background Research (Review of Literature)	5 or 4	3 or 2	1 or 0	
	Background research is in depth and the information is pertinent and supports the experiment. The background research is adequately cited. Background research is clearly focused and identifies a contribution to the field of study.	Background research is inadequate OR citations are not sufficient.	Little or no use of citations and/or information is not pertinent to the experiment.	
Materials	2	1	0	
	All materials are listed or discussed and measurements are in metric, if applicable.	Not all materials are listed or discussed or measurements are not in metric, when applicable.	No materials are listed or discussed.	
Procedure	3	2	1 or 0	
	Procedure is complete and easily followed; all steps are included. Measurements are in metric, if applicable. Someone unfamiliar with the project should be able to duplicate the project.	Procedure is present, but not complete, is confusing, or measurements were not in metric, if applicable.	Procedure is missing.	
Results	3	2	1 or 0	
	Results (quantitative data) are organized in tables or graphs and can be easily read by someone not familiar with the work. Someone unfamiliar with the project should be able to understand the results.	Results are less organized, not quantitative, or are difficult to understand.	Results are inadequate or not present.	
Conclusion	3	2	1 or 0	
	A concise evaluation and interpretation of the data and/or results is present.	Conclusion is present, but is inconsistent with data collected.	No conclusion is present.	
Reference List (Bibliography)	2	1	0	
	Quality, quantity, and variety of sources are adequate for topic. Sources listed are cited within Background Research. Most sources are current.	Quality, quantity, and/or variety of sources are less than adequate, or sources were not all cited within Background Research. MLA format was not followed.	No Reference List present.	
Technical Aspects	3 or 2	1	0	
	Good grammar and spelling are evident. Font size and type are appropriate.	Two or three of the required elements are missing.	More than three elements are missing.	
Neat and Orderly	2	1	0	
	Project is neat and follows proper order.	Project is neat or property ordered, but not both.	Project is neither neat nor ordered.	

JUDGES' NAMES – PLEASE PRINT

Total Points
