

Excellence in Scientific Research or Engineering Process Projects

AREA	SUBSECTION	MARK OF EXCELLENCE
Clarity	“Curb Appeal”	Clear at first glance what the project investigates. Attention grabbing without cute tricks. Good use of color & organization.
	Explanatory	Without the student, the project display speaks for itself.
	Presentation of Data & Results	Phases of the project are presented in an orderly manner. Data and results are clearly displayed with labels and units as appropriate.
	Objective/Conclusions	The conclusion clearly states whether or not the objective and/or hypothesis was met and why or why not.
Thoroughness	Completion	The project carries out its purposes to completion within the scope of the original aims. The problem has been adequately covered without obvious omissions.
	Replication	The project was repeated at least once, or several trials were done where appropriate and possible.
	Data	Notes, if appropriate, were taken and are complete. Numerical data was taken and data is clearly tabulated and graphed, if appropriate and possible.
Skill	Student’s Skills	The student has the skills required to do the work to obtain the data to support the project: laboratory, computational, design, &/or observational skills.
	Techniques, Tests, &/or Equipment	The student is familiar with the techniques, tests, etc. that were performed including the concepts behind them. Equipment was built by the student or borrowed; or the student worked with it enough to become completely familiar with it.
	Assistance	Considering if the work was done at home, in the school laboratory, in a university setting, etc., the student demonstrates that the skills were learned and acquired with some assistance.
Scientific Thought <i>*Refer to this section for projects using the Scientific Method/Process.</i>	Statement of Problem or Objective	The problem or objective is stated clearly and unambiguously.
	Limitation of Problem or Objective	The problem was sufficiently limited so that it was possible to attack. Working on a very difficult problem without a solution or working on a very simple problem is not indicative of a “good” scientist.
	Procedure	The procedural plan is clear as to what the student actually did. The plan is also appropriate for obtaining a solution to the problem.
	Variables	The variables are clearly recognized and defined. If controls are appropriate, there is recognition of their need and they were used correctly.
	Data	Adequate data was acquired to support the conclusions. Limitations of the data are recognized.
	Research	The student understands how the project could be expanded and how it relates to research. Some references to scientific literature (not simply popular literature) are made.
Engineering Goals <i>*Refer to this section for projects using the Engineering Process.</i>	Objective	The project has a well-defined and clear objective.
	Relevance	The objective has a clear relevance to the need of the potential user.
	Solution	The solution is workable, acceptable to the potential user, and economically feasible.
	Successfully Utilized	The solution can be successfully utilized in the design or construction of some sort of practical end product.
	Acceptable Alternative	The solution is an acceptable alternative to the objective. It represents a significant improvement over previous alternatives.
	Tested	The solution has been tested to see if it will perform under the conditions of use. If this would be difficult, has the problem at least been considered and discussed?
Creative Ability	Question & Approach	The project shows creative ability and originality in the question asked and in the approach to solving the problem.
	Analysis of Data	The data has been handled in a way that shows creative thought and originality.
	Interpretation of Data	Data has been thoroughly thought out with justifications of any trends, conclusions, omission of some data, etc. showing creative ability.
	Equipment	Equipment has been used in a new way OR new equipment construction or design shows creative ability and originality.