

Project # _____ Name of Student: _____

Total score out of 100: _____

Is this project worthy of a 1st place? _____

Is this project worthy of "Best in Show"? _____

Judges' initials: _____

Secondary Science Fair Rubric Descriptors for Engineering- Circle your choice for each row in the 5 categories.

Creative Ability						
Topic	5	4	3	2	1	0
a. Topic idea is original/innovative	Topic idea is extremely original and innovative.	Topic is innovative and original	Topic idea is moderately innovative	Topic is somewhat innovative.	Very little innovation	This topic has been done over and over again.
b. Creative approach to solving the problem	Researcher was very creative in his/her approach to solving the problem	Researcher demonstrated creativity in his/her approach to problem solving	Researcher demonstrated moderate creativity in his/her approach to problem solving	Researcher was somewhat creative in his/her approach.	Researcher showed very little creativity	No creativity used in approach.
c. Equipment and information services used resourcefully	Student was extremely resourceful in using equipment and information services in the design of the project	Student was resourceful in using equipment and information services in the design of the project	Student was moderately resourceful in using equipment and information services in the design of the project	Student made use of some equipment and information services but could have been more resourceful.	Student used very little in the way of information resources or equipment.	No use of equipment or information services evident.
d. Information in display is interesting	Information is extremely interesting and informative. Wide range of charts, graphs, and pictorial representations found on the display.	Information in display is interesting & informative. Good use of charts, graphs, and pictorial representations found on the display.	Information moderately interesting/inform. Some charts and/or pictures found on display.	Somewhat interesting and informative. Either pictures or charts/graphs missing from display.	Very little interest or information provided. Charts, graphs, and pictures are scant at best.	No information provided in display
e. Research helped answer question in creative way	Very creative use of research to establish a conclusion.	Creative use of research to establish a conclusion.	Moderately creative use of research to establish a conclusion.	Marginal use of creativity in establishing the conclusion.	Very little creative use of research in establishing a conclusion.	No evidence of research found or research not related to question

Engineering						
Topic	5	4	3	2	1	0
a. Project has a clear objective	Objective is both clear and specific. Use of higher level vocabulary is evident.	Objective is both clear and specific and vocabulary used was age- appropriate.	Objective is clear and specific but vocabulary used was inadequate for the age level.	Objective is clearly communicated but lacks specificity	Objective statement is confusing and lacks specificity	No objective evident
b. Objective is relevant to the potential user's needs	Project objective is extremely useful to potential users.	Project objective is useful to potential users.	Project objective is moderately useful to potential users.	Project objective has limited use to potential users.	Project objective has very little use to potential users	Project has no use for potential users.
c. Solution is workable and economically feasible	Solution is very workable and very economically feasible.	Solution is workable and economically feasible	Solution has some workability and is somewhat economically feasible	Solution is workable but not economically feasible.	Solution has limited practicality but is not economically feasible	Neither workable or economically feasible
d. Utilization of the solution in design or construction of an end product	Extremely likely this solution could be used for an end product	Likely this solution could be used for an end product	Somewhat likely this solution could be used for an end product	Parts of the solution could be used for an end product	Very limited use of this solution in the design of an end product	This solution cannot be used to design an end product.
e. Solution is a significant improvement over previous alternatives	Solution is much improved over previous alternatives.	Solution is an improvement over previous alternatives.	Solution is some improvement over previous alternatives.	Solution is marginally improved over previous alternatives.	Solution is a little improved over previous alternatives.	This solution is no improvement over previous alternatives
F. Testing of solution	The project has significant detailed documentation to support the solution has been tested	The project has ample detailed documentation to support the solution has been tested	The project has some documentation to support the solution has been tested	The project has some documentation to support the solution has been tested, but lacks details.	The project has very little documentation to support the solution has been tested.	No documentation evident to support testing.
Thoroughness						
Topic	5	4	3	2	1	0
A .Thorough experiment <ul style="list-style-type: none"> Purpose carried out to completion Coverage of Problem Conclusion based on multiple trials 	All 3 bullets were covered and special attention devoted to details.	All three bullets were adequately covered.	All three bullets were addressed but more detail was needed.	2 out of 3 bullets adequately covered	1 out of 3 bullets adequately covered.	None of the bullets were adequate

b. Project Notes/Logbook Completeness and time	Comprehensive and Detailed logbook provided confirms many hours spent on the project	Logbook is adequate and adequate time was devoted to the project.	Logbook lacks some important details but it is evident adequate time was spent on the project.	Logbook is missing key details. More work could have been devoted to the project	Logbook have very few entries and it is evident little time was spent on the project.	No logbook or project work to support work
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Skill

Topic	5	4	3	2	1	0
a. Student conducts his own work in a suitable location (home, university, lab)	It is evident the project is the work of the student and it was performed in an acceptable location.	It is evident the project is mostly the work of the student but it was performed in an acceptable location.	It is evident the project is only partially the work of the student and it was performed in an acceptable location.	It is evident the student contributed minimal work to the but it was performed in an acceptable location.	It is evident the project was NOT performed in an acceptable location and the student did little work on the project.	It is evident the project is NOT the work of the student or the project was conducted in a highly inappropriate setting.
b Appropriate equipment used skillfully and testing environment was valid. Appropriate number of trials conducted	Appropriate equipment used skillfully (if applicable) and the testing environment was valid. Student conducted more than 3 trials during the experimentation.	Appropriate equipment used skillfully (if applicable) and the testing environment was valid. Student conducted 3 trials during the experimentation.	Appropriate equipment used skillfully (if applicable) and the testing environment was valid. Only 2 trials were conducted during the experiment	Appropriate equipment used skillfully (if applicable) and the testing environment was valid. Only 1 trial were conducted during the experiment	Either appropriate equipment was not used skillfully or testing environment was not valid	No experimentation was conducted.

Interview

Topic	5	4	3	2	1	0
a. Conclusion relevant to hypothesis. Written material reflects understanding of research	Student is very articulate in explaining his conclusion and how it relates to the hypothesis. The interview is backed up with solid written research findings.	Based on the interview, it is evident the conclusion was adequately linked to the hypothesis. Adequate written research provided.	Most of the conclusion was adequately linked to the hypothesis and based on written research.	Some linkage of the conclusion to the hypothesis and some evidence of written research.	Conclusion was offered but was not linked to the hypothesis and little research was provided.	No conclusion was offered or student was very confused about the conclusion.

b. Communication skills <ul style="list-style-type: none"> • Phases of project presented in orderly manner • Clear discussion of findings • Clear description of charts & graphs 	Student excels in all 3 bulleted components of communication skills.	Student adequately communicates all 3 bullets	Student touches on all three bullets of communication skill but lacks details on one of these.	Student covers 2 of the 3 bullets adequately.	Student covers only one of the 3 bullets adequately.	Student is confused on all 3 of the bullets.
c. Awareness <ul style="list-style-type: none"> • Other theories/approaches • Scientific literature in the field 	Student is very articulate in his/her ability to communicate awareness in both bullets.	Student is adequate in his/her ability to communicate awareness of both bullets.	Student can discuss some parts of each bullet but lacks important details.	Student can discuss one bullet adequately but is not familiar with the other bullet.	Student attempts some explanation but is very limited in his/her information.	Student is unable to discuss either bullet or is very confused about both bullets.
d. New information acquired as a result of the project. Discussion of how the project can be revised or expanded in the future.	Student is very articulate in his/her ability to discuss the new information acquired as a result of the project and can elaborate on ways to revise or expand the project in the future.	Student is able to adequately discuss the new information acquired as a result of the project and some ways to revise it in the future.	Student can discuss some of the new information acquired as a result of the project and some limited ways to revise it for the future.	Student is limited in his/her ability to discuss the new information acquired and unsure of ways to revise it for future use.	Student can discuss only a little of the new information acquired.	Student is unable to discuss the new information acquired or the student is very confused with the question.
e. Student work ethic	Based on the interview, it is virtually 100% evident that the student did the majority of the work on this project.	Based on the interview, it appears the student did the majority of the work on this project.	Based on the interview, it appears the student did some of the work but he/she had significant help.	Based on the interview, it appears the student had a great deal of help on the project.	Based on the interview, it appears the student did very little work on this project.	Based on the interview, it appears the student did not work on the project.

Comments for student:

Judge's Choice Recommendation (optional): _____