

Project #: _____ Judge: _____

OVERALL SCORE COMPUTATION

Transfer each section's score to the appropriate box below. Add these scores together to find the Total Overall Score for this project.

A Scientific Thought/ Engineering Goals	+	B Creative Ability	+	C Thoroughness	+	D Skill	+	E Clarity	+	F TEAM Projects ONLY	TOTAL OVERALL

A. Scientific Thought/Engineering Goals

Select whether the project is an **experiment**, a **study**, or an **innovation**. Determine the level of the project by matching the description with the project. Circle the deserving number of points out of a **maximum of 30 points** (25 points for team projects).

SCORING RANGE →	ACCEPTABLE Level 1	GOOD Level 2	VERY GOOD Level 3	EXCELLENT Level 4	EXCEPTIONAL Level 5
EXPERIMENT (Scientific Thought) Investigation undertaken to test one or more hypotheses.	<i>Duplication and reporting of an experiment to test a previously confirmed hypothesis</i>	<i>Extension of a known experiment via modification of its procedure, data collection, analysis, or application.</i>	<i>A new approach to the design, modification, or application of an existing experiment with control of some variables.</i>	<i>A new experimental approach to a research problem in which most of the significant variables are controlled.</i>	
STUDY (Scientific Thought) A collection and analysis of data showing evidence of a correlation or pattern of scientific interest. Variables are identified and controlled.	<i>Study and presentation of printed material related to the basic issue.</i>	<i>Study of material collected through compilation/expansion of existing data & observation. The study attempts to address a specific issue.</i>	<i>Study based on new observations and research of a previously studied topic. Appropriate analysis of data/correlations made.</i>	<i>A new approach to the study of a problem which correlates information from a number of sources. The report also offers new insights or solutions to the problem.</i>	
INNOVATION (Engineering Goals) The development and evaluation of models or innovative devices using techniques or approaches from the field of technology or engineering.	<i>Building models or other devices that duplicate existing technology; minimal reporting.</i>	<i>Makes improvement to an existing technology or uses an existing technology for new applications.</i>	<i>Design and build an innovative adaptation of an existing technology for a new application.</i>	<i>Build a novel technology or integrate technologies to form an innovative system that has commercial or human benefit.</i>	

SCIENTIFIC THOUGHT – Issues to Consider

- Is the problem stated clearly/unambiguously?
- Was the problem sufficiently limited to allow plausible attack?
- Was there a procedural plan for obtaining a solution?
- Are the variables clearly recognized and defined?
- If controls were needed, did the student(s) recognize their need and were they correctly used?
- Are there adequate data to support the conclusions?
- Does the student recognize the data's limitations?
- Does the student understand the project's ties to related research?
- Does the student understand what further research is warranted?
- Did the student cite scientific literature or only popular literature?

ENGINEERING GOALS – Issues to Consider

- Does the project have a clear objective?
- Is the objective relevant to the potential user's needs?
- Is the solution workable? Acceptable to the potential user? Economically feasible?
- Could the solution be utilized successfully in design or construction of some end product?
- Is the solution a significant improvement over previous alternatives?
- Has the solution been tested for performance under the conditions of use? Testing might prove difficult, but should be considered.

SCORE for Section A: (30 points max for Individual; 25 points max for Team)	Individual 1 2 3 4 5 6	Individual 7 8 9 10 11 12	Individual 13 14 15 16 17 18	Individual 19 20 21 22 23 24	Individual 25 26 27 28 29 30
	Team 1 2 3 4 5	Team 6 7 8 9 10	Team 11 12 13 14 15	Team 16 17 18 19 20	Team 21 22 23 24 25

A Score:

SCORING RANGE →	ACCEPTABLE Level 1	GOOD Level 2	VERY GOOD Level 3	EXCELLENT Level 4	EXCEPTIONAL Level 5
B. Creative Ability <ul style="list-style-type: none"> Does the project show creative ability & originality in the questions asked? The approach to solving the problem? The analysis/interpretation of the data? The use of equipment? The construction or design of new equipment? Creative research should support an investigation and help answer a question in an original way. Creative contribution promotes an efficient/reliable way to solve a problem. Is it gadgeteering OR real creativity? 					B Score:
SCORE for Section B: (30 points max for indiv.; 25 points max for Team)	Individual 1 2 3 4 5 6 Team 1 2 3 4 5	Individual 7 8 9 10 11 12 Team 6 7 8 9 10	Individual 13 14 15 16 17 18 Team 11 12 13 14 15	Individual 19 20 21 22 23 24 Team 16 17 18 19 20	
C. Thoroughness <ul style="list-style-type: none"> Was the purpose carried out to completion within the scope of the original intent? How completely was the problem covered? Are the conclusions based on a single experiment or replication? How complete are the project notes? Is the student aware of other approaches or theories? How much time did the student spend on the project? Is the student familiar with scientific literature in the studied field? 					C Score:
SCORE for Section C: (15 points max for Individuals; 12 points max for Team)	Individual 1 2 3 Team 1 2	Individual 4 5 6 Team 3 4 5	Individual 7 8 9 Team 6 7 8	Individual 10 11 12 Team 9 10	
D. Skill <ul style="list-style-type: none"> Does the student have the required lab, computation, observational and design skills to obtain supporting data? Where was the project done? Did the student receive help from parents, teachers, scientists, or engineers? Was the project done under adult supervision, or did the student largely work alone? Where did the equipment come from? Was it built independently by the student? Was it obtained on loan? Was it part of a lab where the student worked? 					D Score:
SCORE for Section D: (15 points max for Individuals; 12 points max for Team)	Individual 1 2 3 Team 1 2	Individual 4 5 6 Team 3 4 5	Individual 7 8 9 Team 6 7 8	Individual 10 11 12 Team 9 10	
E. Clarity <ul style="list-style-type: none"> How clearly does the student discuss the project and explain the project's purpose, procedure, and conclusions? Make allowances for nervousness. Watch out for memorized speeches that reflect little understanding of principles. Does the written material reflect individual understanding of the research? Are the important phases of the project presented in an orderly manner? How clearly is the data presented? How clearly are the results presented? How well does the project display explain itself? Was the presentation done in a forthright manner, without cute tricks or gadgets? Did the student do all the exhibit work or did someone help? 					E Score:
SCORE for Section E: (10 points max.)	1 2	3 4	5 6	7 8	
F. Teamwork (TEAM PROJECTS <u>ONLY</u> – 16 pts max.) <ul style="list-style-type: none"> Are the tasks and contributions of each team member clearly outlined? Was each team member fully involved with the project and is each member familiar with all aspects of the project? Does the final work reflect the coordinated efforts of all team members? 					F Score:
SCORE for Section F:	1 2	4 5 6	7 8 9 10	11 12 13	