

Judging Form

Project Number _____

Project Name: _____

Note: Evaluate all projects on the Communication rubric.

Choose the appropriate project rubric (case study, innovation or experiment) and evaluate the content

Circle appropriate descriptors and then decide on an overall level by noting tendencies

Compare projects and decide on a rank order. If marks will help break a tie, use the ranges provided

This rubric is a work in progress. Use it as a guide. Exercise your own good judgment!

Communication: (rate for all types of projects)

	Level 1 (25-29)	Level 2 (30-34)	Level 3 (35-39)	Level 4 (40-50)
Visual Display	<ul style="list-style-type: none"> Several project elements are unclear or are not neatly executed. Key elements are missing or illogically placed. 	<ul style="list-style-type: none"> Some project elements may lack clarity or are not neatly executed. Some elements may be illogically placed 	<ul style="list-style-type: none"> All main project headings are logically placed on the board All main parts of the project are neat. Attractive display 	<ul style="list-style-type: none"> All main project headings are clear and neatly executed All project elements are logically placed Project is very attractive and draws attention
Oral Presentation	<ul style="list-style-type: none"> Audible at times Little or no eye contact Reads board Disorganized in sequence 	<ul style="list-style-type: none"> Difficult to hear at times Some eye contact Mostly reads from the board Disorganized in presentation at times 	<ul style="list-style-type: none"> A loud and clear voice is used throughout the presentation Regular eye contact is made The student refers to their board or notes from time to time The presentation is clear and logical 	<ul style="list-style-type: none"> Loud, clear and enthusiastic voice throughout Consistent eye contact Effectively uses the board to support their narrative by pointing to tables, charts etc. Clear logical narrative
Logbook	<ul style="list-style-type: none"> Missing altogether, or only has a few entries Containing little relevant detail 	<ul style="list-style-type: none"> Some entries with some detail Lacking a sufficient entries to support the narrative 	<ul style="list-style-type: none"> Dated entries are numerous Entries are organized and describe important project events 	<ul style="list-style-type: none"> Contains many detailed, dated entries Chronological order Notes, research and extra testing since school fair
Prefair Report	<ul style="list-style-type: none"> Missing or very incomplete 	<ul style="list-style-type: none"> Little information beyond the title of the project 	<ul style="list-style-type: none"> Provides a summary that includes the purpose and results 	<ul style="list-style-type: none"> A complete abstract: Purpose, brief description of procedures, results and conclusions

The Case Study Project: Gathers, organizes and analyzes existing data to answer a question

	Level 1 (25-29)	Level 2 (30-34)	Level 3 (35-39)	Level 4 (40-50)
Research and Originality	<ul style="list-style-type: none"> Little existing published material is presented Purpose is unclear 	<ul style="list-style-type: none"> Some existing published material is presented An identifiable purpose is stated 	<ul style="list-style-type: none"> A literature review is undertaken – many sources are used. The purpose of the study is clearly stated 	<ul style="list-style-type: none"> A literature review is undertaken – many sources are used and carefully organized. The purpose of the study clearly evolves from the review.
Analysis of Findings	<ul style="list-style-type: none"> Little or no description of methods used to complete the study Little or no analysis of information 	<ul style="list-style-type: none"> Some description of methods used to complete the study Some rudimentary charts or graphs are used to support the narratives. 	<ul style="list-style-type: none"> Thoroughly describes methods used to complete the study Data generated from the research is systematically presented via graphs and charts and analyzed using appropriate statistics 	<ul style="list-style-type: none"> Thoroughly describes several methods used to complete the study Substantial amounts of data supporting a meaningful narrative are presented clearly with the use of charts, graphs and appropriate statistics
Conclusions	<ul style="list-style-type: none"> No insights developed from the presented material 	<ul style="list-style-type: none"> Conclusions are presented that may only partially support the narrative 	<ul style="list-style-type: none"> Conclusions follow logically from the data that is presented. 	<ul style="list-style-type: none"> Logical conclusions Inconsistencies are addressed
Applications and Relevance	<ul style="list-style-type: none"> Unable to present implications of work or direction for further development 	<ul style="list-style-type: none"> Presents rudimentary ideas on how the findings are meaningful or applicable 	<ul style="list-style-type: none"> Applications are suggested and spin-off, future studies are identified 	<ul style="list-style-type: none"> Real world applications are identified Implications for future study are described in some detail.

Judging Form

The Experiment: Tests a scientific hypothesis by manipulating at least one independent variable while controlling others

	Level 1 (25-29)	Level 2 (30-34)	Level 3 (35-39)	Level 4 (40-50)
Research & Originality	<ul style="list-style-type: none"> Little background research Replicates a known experiment 	<ul style="list-style-type: none"> Some readily available background research Modifies a known experiment 	<ul style="list-style-type: none"> Considerable amount of research on the variables and concerns – a good back story Devises and carries out an original experiment 	<ul style="list-style-type: none"> Extensive research providing history and context of the concepts studied. Devises and carries out an original experiment – introduces a novel approach to the topic.
Format/ Design	<ul style="list-style-type: none"> Lacks several <i>essential</i>* elements of an experiment Only 1 or 2 data points per condition 	<ul style="list-style-type: none"> Lacks one or <i>important</i>** elements of an experiment 3 or 4 data points per condition 	<ul style="list-style-type: none"> Contains all <i>essential</i>* elements and most <i>important</i>** elements 5 or more data points per condition 	<ul style="list-style-type: none"> All elements are presented in a logical manner. 10 or more data points per condition
Variables	<ul style="list-style-type: none"> Poorly defined independent and dependent variables Control variables unidentified 	<ul style="list-style-type: none"> Only two levels of the independent variable Dependent variable is measured Awareness of the need for controls or a fair test 	<ul style="list-style-type: none"> Three or four levels of the independent variable Dependent variable measured meaningfully Extraneous variables identified and controlled 	<ul style="list-style-type: none"> Five or more levels of the indep. Var. More than one independent variable Dependent variables yield numerical results All significant extraneous variables are identified and controlled.
Results	<ul style="list-style-type: none"> Tables and graphs are missing or poorly related to variables tested (difficult to understand) 	<ul style="list-style-type: none"> Simple results may or may not relate to purpose A table and or a graph are present. They may help illustrate the data. 	<ul style="list-style-type: none"> Clear results directly related to purpose or hypothesis Tables and graphs are clear, well organized and properly labeled Appropriate statistics are present 	<ul style="list-style-type: none"> Extensive data bearing directly on purpose or hypothesis Tables and graphs are completely consistent with purpose Higher level statistics: should include a notion of variability as well as central tendency (mean, median, mode).
Conclusions	<ul style="list-style-type: none"> Simple answer to question Little awareness of inconsistencies 	<ul style="list-style-type: none"> Uses results to answer question. Some awareness of inconsistencies 	<ul style="list-style-type: none"> Uses results to thoroughly address question and hypothesis Notes inconsistencies and attempts to explain them 	<ul style="list-style-type: none"> Describes level of support for purpose Thoroughly discusses all methodological problems and data anomalies and how they may have influenced the outcomes
Applications / Relevance	<ul style="list-style-type: none"> Not connected to “real world” No follow up ideas 	<ul style="list-style-type: none"> Few connections to real world. Some idea of follow up 	<ul style="list-style-type: none"> Provides examples of real world applications Suggests follow up research 	<ul style="list-style-type: none"> Explains how findings relate to other research & the “real” world in detail Several avenues for follow up work are provided in detail.

*Essential elements: purpose/question, hypothesis, materials, procedure, results, conclusions. **Important elements: diagrams, tables, graphs, and pictures

The Innovation: Develops and evaluates devices, models or techniques in engineering, computing or science

	Level 1 (25-29)	Level 2 (30-34)	Level 3 (35-39)	Level 4 (40-50)
Research	<ul style="list-style-type: none"> Little research on similar innovations Duplicates an existing innovation 	<ul style="list-style-type: none"> Some research on similar innovations Adds a new “twist” to an existing innovation 	<ul style="list-style-type: none"> Considerable research on similar innovations leading to reason for design changes Considerable change from similar innovations or an original design 	<ul style="list-style-type: none"> Comprehensive research on similar innovations and their problems Creates an original design that clearly addresses problems noted May include several prototypes
Format/ Design	<ul style="list-style-type: none"> Little or no description of development Rudimentary diagram 	<ul style="list-style-type: none"> Some detail in the description of the development Diagram or photos present 	<ul style="list-style-type: none"> Provides a clear description of how innovation was created including materials used. Diagram/ photos used for support 	<ul style="list-style-type: none"> Provides a detailed, clear description of how innovation was created including and exhaustive materials list Accurately labeled diagrams and photos illustrate development
Results/ Evaluation	<ul style="list-style-type: none"> One performance test Little or no data collected 	<ul style="list-style-type: none"> Few performance tests Some data collected. 	<ul style="list-style-type: none"> Describes tests and presents data in tables and graphs Test was repeated several times Appropriate use of statistics 	<ul style="list-style-type: none"> A high degree of accuracy is an attribute of all tests conducted. Appropriate tables and graphs are correctly presented Appropriate, accurate use of statistics
Conclusions	<ul style="list-style-type: none"> Does not relate results to original problem Glosses over difficulties Unaware of possible improvements 	<ul style="list-style-type: none"> Attempts to relate the results to the original problem Aware of some problems Notes at least one possible improvement 	<ul style="list-style-type: none"> Relates the results to the original problem the innovation was to address Describes problems with the development in detail Proposes improvements 	<ul style="list-style-type: none"> Uses results to carefully analyze how well the original problems was addressed by the innovation Carefully describes successive changes made during development Describes detailed improvements necessary to advance the innovation
Applications / Relevance	<ul style="list-style-type: none"> Difficulty in identifying uses for the innovation 	<ul style="list-style-type: none"> Identifies a relevant use/applications 	<ul style="list-style-type: none"> Identifies several possible uses Is aware of how the innovation meets current or future needs of others 	<ul style="list-style-type: none"> Describes a real world use or uses Describes accurately how the innovation meets current or future needs of others