

SCIENCE (STEM)- FINAL PROJECT AND PRESENTATION RUBRIC

Criteria	5 points each
Final Paper (30 points)	
Abstract.	The abstract effectively summarizes the project in 250 words or less. (*Must be on its own page).
Introduction.	The introduction section presents adequate and clear explanations of variables and support for hypothesis. The paper has taken the reviewer's (teacher) comments into account and has been improved upon.
Methods. (*Materials & Procedures)	The methods section clearly defines the methodology. It is written in past tense. The paper has taken all reviewers' comments into account and has improved upon the original draft.
Results.	The results section clearly describes the results. The tables and figures (graphs) are appropriate and clearly labeled. These should be electronically generated using logbook data.
Discussion.	The discussion section clearly evaluates the project, discussing what the data means as well as evaluating the reliability of the project based on the quality and quantity of data, as well as the errors in data collection. It should also address how the project could be improved. The paper has taken the reviewer's (teacher's) comments into account and has improved upon the original draft.
Format.	The paper is presented in proper APA format (including Title Page, Abstract, 'Running Head', etc) . All sources are cited both parenthetically (internally) and in the references section at the end of the report.
Presentation (35 points)	
Introduction.	Background information and problem/hypothesis, and significance are thorough and clear.
Methods.	Methods are clearly stated. How the independent variable was controlled and how the dependent variable was measured is stated clearly, including units, frequency, and duration.
Results.	Results are described clearly, and all tables and figures are relevant and explained.
Discussion.	The student has evaluated whether or not the results support the hypothesis as well as evaluated the validity of the study and errors/improvements to be made.
Presentation.	The student has presented material in a professional and engaging manner. They used appropriate grammar, vocabulary, and academic language. The student speaks clearly using eye-contact with audience, pacing, and volume. "likes" and "ums" and "uhs" are minimal.
Professional Dress.	Student researcher has dressed professionally. (<i>no jeans, shorts, or t-shirts</i>)
Time.	The presentation is between 5 and 10 minutes in entirety. <i>*deduction if it's over or under the allotted time</i>
Trifold Poster (25 pts)	<i>*First Name & Last Name, Block and # are prominently displayed on the <u>BACK</u> of board</i>
Comprehensiveness.	All information (title, background, hypothesis, methods, results, and discussion) displayed on board. It is not too wordy but has a brief overview/synopsis of each.
Attractiveness.	The visual aid is visually appealing & clear. Appropriate title. Clear focal point. The poster is neat & well-constructed (straight lines, sturdy adhesive). Colors & contrast is such that interpretation is easy. Font size is large (≥ 20 pt).
Graphs.	Data is displayed through graphs that are appropriate and relevant. Graphs are 'large' (scaled appropriately with regard to other elements on poster) and well-labeled. All font size ≥ 20 pt.
Photos.	A photographic record of the process and results is well displayed (may be on trifold). Photos are 'large' and labeled. They clearly show the specimen, setup, and/or apparatus built.
Logbook.	Logbook is present and updated through the end of the project.
Experimental Design (10 points)	
Creativity.	The experiment was relatively creative, using new methods, unique materials/equipment. It reached new or creative conclusions.
Data.	The experimental controlled variables were effective to ensure validity of data. Accurate and detailed measurements (metrics) were obtained & sufficient data was collected.

Name _____ Project Title _____ Block ____ # _____

ENGINEERING (STEM)- FINAL PROJECT AND PRESENTATION RUBRIC

Criteria	5 points each
Engineering Design Process (30 points) *Ask, Imagine & Plan are addressed by means of a Final Paper, properly cited (APA)	
Ask	The project has a clearly defined question or problem to solve.
Imagine	The project has imagined a clearly defined goal, idea, or solution.
Plan	Evidence is present of planning. The process is methodical and the student has thought critically throughout this process. Sources are cited.
Create	Evidence is present of using relevant skills to create the project, using mechanical engineering, robotics and/or circuitry, computer science, or other skills.
Improve	Evidence is present of re-thinking, re-evaluating, and revising the project as it progresses. Multiple changes or prototypes are made to address “hiccups” throughout the design process.
Product	The final product, either in its entirety or as much of it as possible, is brought in to share.
Presentation (35 points)	
Purpose and Background.	Background information, problem/hypothesis, and significance are thorough and clear. Appropriate ‘message’ was relayed.
Methods.	Methods and protocols are clearly described. How did you create the product?
Prototypes and Improvements.	The presenter clearly describes the prototype process: How did you improve upon each preceding prototype?
Discussion.	The student has evaluated the product: how effective is it at accomplishing the goal?
Presentation.	The student has presented material in a professional and engaging manner. They used appropriate grammar, vocabulary, and academic language. The student speaks clearly using eye-contact with audience, pacing, and volume. “likes” and “ums” and “uhs” are minimal.
Professional Dress.	Student researcher has dressed professionally. <i>(no jeans, shorts, or t-shirts)</i>
Time.	The presentation is between 5 and 10 minutes in entirety. <i>(*deduction if over or under allotted time)</i>
Trifold Poster /Power Point/ Prezi (25 points). *First Name & Last Name, Block and # are prominently displayed on the BACK of board or on 1st slide of PPT or Prezi (*must be uploaded to Google Drive Folder prior to presentation)	
Comprehensiveness	All information (title, background, methods, improvements, and discussion) displayed on visual aid. It is not too wordy but has a brief message of each.
Attractiveness.	The visual aid is visually appealing and clear. Colors and contrast is such that reading is easy. Font size is large (≥20pt, if poster, and ≥ 24pt if PPT or Prezi). If using a poster, it is neat and well-constructed (straight lines, sturdy adhesive).
Process.	The engineering design process is displayed, from problem to solution.
Photos.	A photographic record of the process and final product is displayed (may be on poster).Photos are large and labeled. They clearly show the specimen, setup, and/or apparatus built (including prototypes and improvements).
Logbook.	‘Storybook’ is present and was updated through the end of the project.
Engineering Design	
Creativity.	The project was relatively creative, using new methods, unique materials/equipment. It reached new or creative conclusions.
Data.	The experimenter clearly measured their objective(s). How did you determine the effectiveness of the product? What data, quantitative or qualitative, did you collect?

ART (STEAM) - FINAL PROJECT AND PRESENTATION RUBRIC

Criteria	5 points each
Final Product (30 points). A 'Reflection' paper must be submitted (both a hard copy & electronic). Cite sources- APA format	
Engagement.	The piece engages the audience in an impactful way. It is visually/ auditorily/ verbally engaging and scientifically or socially relevant. It draws the audience in and grabs their attention. The message is clearly relevant and thus relayed.
Communication.	Through the piece, the scientific concept is clearly communicated and easily understood. The viewer is able to make sense of the piece. A written explanation is also submitted (hard copy), properly cited.
Craftsmanship.	An investment of time and attention to a quality product is evident in its design. The piece is neat and well-constructed.
Creativity.	Is this an original solution to the design challenge? Does the student make connection or combine ideas in a unique way? Does the piece tell a unique story?
Elements of Art.	The piece uses at least one element of art (line, shape, form, texture, value, color, space). The element of art aids in the communication of the scientific concept.
Principles of Design.	The piece uses at least one principle of design (balance, contrast, emphasis, movement, rhythm, pattern, unity). The principle of design aids in the communication of the scientific concept.
Presentation (35 points)	
Background.	Scientific concept, including background information and definitions, are clearly described.
Methods.	The creation of the product is described thoroughly. What medium(s) were employed? How did the piece change over time? What revisions were made to reach the final product?
Product.	The final product, either in its entirety or as much of it as possible, is brought in to share.
Discussion.	The effectiveness of the piece at communicating the scientific concept is evaluated. How would you create this product differently or improve upon it next time?
Presentation.	The student has presented material in a professional and engaging manner. They used appropriate grammar, vocabulary, and academic language. The student speaks clearly using eye-contact with audience, pacing, and volume. "likes" and "ums" and "uhs" are minimal.
Professional Dress.	Student researcher has dressed professionally. (<i>no jeans, shorts, or t-shirts</i>)
Time.	The presentation is between 5 and 10 minutes in entirety. (<i>*deduction if over or under allotted time</i>)
Trifold Poster/ Power Point/ Prezi (25 points). *First Name & Last Name, Block and # are prominently displayed on the BACK of board or on 1st slide of PPT or Prezi (*must be uploaded to Google Drive Folder prior to presentation)	
Comprehensiveness	All information (background, methods, product, and discussion) displayed. It is not too wordy but has a brief message of each.
Attractiveness.	The visual aid is visually appealing and clear. The aid is neat and well-constructed (poster-straight lines, sturdy adhesive). Colors and contrast is such that reading is easy. Font size is large (≥ 20 pt, if poster, and ≥ 24 pt, if PPT or Prezi)
Process.	The artistic design process is displayed, from idea conception to completion.
Photos.	A photographic record of the process and final product is displayed. Photos are large and labeled. They clearly show the specimen, setup, and/or apparatus built (including prototypes and improvements).
Logbook.	'Storybook' is present and updated through the end of the project.
Artistic Design (10 points)	
Creativity.	The project was relatively creative, using new methods, unique materials/equipment. It reached new or creative conclusions.
Reflection.	The artist shows evidence of revision and reflection throughout the design process (paper submitted). The artist clearly evaluated the effectiveness of the piece and made revisions accordingly.