

# Light Research Project & Presentation (Mr. Hernandez)

## Objective

Each group will become the class experts on their assigned subject through in-class and independent research. Each group will turn in a research paper on their topic, as well as present their topic to the class. After each presentation, the class will critique and grade the presenters.

## Requirements

### 1. Paper (60% of grade)

- a. 2+ Pages (single spaced)
- b. 3 sources (okay), 5 sources (good), 7+ sources (best)
  - i. Ex: Scientific journal articles, newspaper/news sources, books, reputable websites, etc.
- c. Format
  - i. Abstract
    1. Write this last. It is a summary of your entire paper, outlining your specific topic, the information you present as well as hinting at your ideas for further application of your topic. Please include the current major applications of your topic as well.
  - ii. Introduction
    1. Introduce to the reader what your topic is and what information you intend to present. Explain the relevance (importance) of your topic.
  - iii. Body
    1. Share with the reader the important information you learned during your research. Explain the history of your topic, existing applications, current problems and limitations, as well any current major research being done in this topic.
  - iv. Conclusion
    1. Summarize the important aspects of your paper. Additionally, provide your own thoughts and opinions on

possible additional applications or improvements on any technology that currently uses some aspect of your topic.

## **2. Presentation (30% of grade)**

- a. 10-15 minutes
- b. Must create a tangible object that you show the class or incorporate into your presentation. This object must directly demonstrate or be directly related to your assigned topic.
- c. The format of your presentation is up to you. Be creative, you can do a demonstration, a skit, a short lecture, etc. The only requirement is that it must be informative, engaging and educational. Your presentation must serve to teach the class about the topic you researched.
- d. Participate in Q&A session after your presentation, answering clarifying questions, addressing errors, or defending your points and ideas.

## **3. Critique (10% of grade)**

- a. During the critique, the class has two responsibilities. First, you must critically analyze the presentation and be able to point out mistakes/flaws, as well as ask clarifying questions or challenge assumptions.
- b. Your second responsibility is to give each group a presentation grade on a scale of 1-10, 10 being the best. Mr. Holloway and Mr. Hernandez will also grade the presentations on a scale of 1-10, and if your grade matches or is within 1 point of the grade the teachers assign, you will get full credit. If your assessment is more than 1 point different than the teacher's assessment, you will lose one point (out of 10) on your critique grade.
- c. Each student is expected to ask at least one during one of the Q&A sessions, but does not have to have a question for every group.

## Rubric

Score	Paper	Presentation	Critique
5	An excellent paper will use many, scientifically appropriate sources. It will follow the assigned format, and do a thorough job of educating the reader about your assigned topic. Your research will be comprehensive, you will utilize citations to back any claims or information you present, and your paper will have a clear organization and flow. Your ideas for improvements and further applications will be insightful, thoughtful, and plausible.	An excellent presentation has multiple parts. It will be creative, do an excellent job of teaching the class about the topic, and will have an effective model or demonstration that serves as a visual aid to help explain your topic. It will be creative, engaging, free of errors, and scientifically accurate.	An excellent critique score can be earned by being objectively critical of a presentation. If there are any major flaws, you will recognize and be able to point them out. You should recognize andylogical fallacies or incorrect assumptions made during the presentation, and accurately grade the presenters.
4	A good paper will use several sources, most of which are from reliable sources. It will follow the assigned format, and do a good job of informing the reader about the assigned topic. Your research will be extensive, and you will have reasonable recommendations for improvements or further applications.	A good presentation will do a complete job of explaining your topic, utilizing a visual aid created by you, and be somewhat engaging. You will have very few errors, and be scientifically accurate.	A good critique will mean you were engaged in the presentation and active during question and answer sessions. You gave accurate assessments of presenters.
3	A satisfactory paper will several sources supporting their paper. Your research will cover most aspects of your topic, and the reader will have a decent understanding of your topic after reading your paper. Your paper will closely resemble the assigned format. You will have ideas for further applications and improvements that may or may not be viable or plausible.	A satisfactory paper will introduce some aspects of your topic to the class, and teach some parts of your topic, but not all. It will utilize a visual aid created by you, and be somewhat engaging. There may be some organizational issues, as well as errors in the material you present.	A satisfactory critique will somewhat accurately grade presentations, but may or may not pose questions to the presenters.

2	A poor paper will utilize few, inappropriate or unreliable sources. It will demonstrate limited understanding of the topic, not follow the correct format, and be missing an important part of your paper.	A poor presentation will either do a poor job of teaching the subject, be missing a visual element, be unorganized, and/or have numerous errors.	A poor critique will have an incorrect assessment of presentations, not notice errors, and be not be actively paying attention to presenters.
1	You know if this is you.	You know if this is you.	You were asleep and just gave the presenters a 10.