

Summative Assessment

Demonstrate that electromagnetic radiation is a form of energy. Recognize that light acts as a wave. Show that visible light is a part of the electromagnetic spectrum (e.g., radiowaves, microwaves, infrared, visible light, ultraviolet, X-rays and gamma rays).

Electromagnetic Spectrum Project

You will work in groups to complete a research paper and poster presentation on one category of electromagnetic waves.

My Electromagnetic Wave Topic: _____

Part 1: Research Paper (50 points)

Content Points

1. Cover sheet with title, names, date
2. Range of frequency and wavelength (with correct units)
3. Various uses of this wave
4. Discovery of wave
5. Technology associated with wave
6. Harmful for humans? What can happen?

Format Points

Must be typed, double-spaced, 12-point font (Times New Roman or Arial only), 1-1 1/2 " margins, left justified. No fancy folders; only staple once in top left corner.

Spelling and Grammar Points

Check for correct spelling and grammar! Everyone in group should proofread for errors.

Note: Plagiarism will not be accepted. Plagiarism is using any sentence directly from a source without paraphrasing or putting it into your own words. Plagiarized papers will receive a reduced grade or a zero, depending on the severity.

Part 2: Poster and Presentation (50 points)

1. Create a full-sized poster highlighting your research.
2. It must contain names and ranges (frequency and wavelength).
3. It must have pictures, drawings and/or illustrations of examples of waves, uses, technology, etc.
4. It must be informative, neat and pleasing to the eye.
5. Groups will be graded on the poster and presentation to class.
6. Group members may receive different grades, depending on their involvement in the presentation. Be sure to split up the presentation equally among group members.
7. The explanation of poster may be done "live" in class using a PowerPoint presentation, video, song, etc. The more creative you are, the higher your grade will be.

Evaluation

Transmission, Absorption and Reflection

CATEGORY	4	3	2	1
Plan	Plan is neat with clear measurements and labeling for all components.	Plan is neat with clear measurements and labeling for most components.	Plan provides clear measurements and labeling for most components.	Plan does not show measurements clearly or is otherwise inadequately labeled.
Scientific Knowledge	Explanations by all group members indicate a clear and accurate understanding of scientific principles underlying the construction and modifications.	Explanations by all group members indicate a relatively accurate understanding of scientific principles underlying the construction and modifications.	Explanations by most group members indicate relatively accurate understanding of scientific principles underlying the construction and modifications.	Explanations by several members of the group do not illustrate much understanding of scientific principles underlying the construction and modifications.
Data Collection	Data taken several times in a careful, reliable manner.	Data taken twice in a careful, reliable manner.	Data taken once in a careful, reliable manner.	Data not taken carefully OR not taken in a reliable manner.