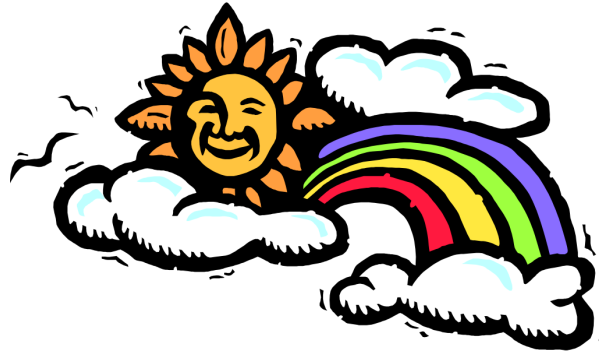


# ELECTROMAGNETIC SPECTRUM PROJECT

## How Do Devices Use Waves?



### DIRECTIONS:

Research, create, and present a project on one wave of the electromagnetic spectrum that interests you AND is used by a technological device to transmit and capture information and energy. Remember the electromagnetic waves are radio waves, micro-waves, infrared radiation, visible light, ultraviolet rays, x-rays, gamma rays. This is an OPEN-ENDED project, meaning you are free to choose what device to research, what information/how much to share, and how you will present it. **However, it must include a presentation and some sort of a prop for teaching.** Keep in mind this project will be graded as follows:

### SOME PARTS TO CONSIDER FOR YOUR PROJECT:

- Frequency/wavelength/energy of the waves and location on the spectrum
- Discovery/Device invention information
- Practical applications (everyday uses) of the waves/device
- Any negative factors/dangers or health precautions
- Future possibilities
- Graphics (pictures, diagrams, drawings, graphs, etc)

YOU MAY USE ANY TYPE OF PRODUCT FROM THE CHOICE BOARD TO PRESENT YOUR INFORMATION.

Electromagnetic Wave Projects are due on \_\_\_\_\_

### IDEAS IF YOU'RE STUCK:

- ⇒ Radio/micro waves – satellite communication, police radar
- ⇒ Infrared/Wii and XBOX Kinect
- ⇒ Visible Light/solar cells
- ⇒ X-rays/other medical imaging
- ⇒ Gamma rays/radiation treatment (radiotherapy)

ELECTROMAGNETIC WAVES PROJECT OUTLINE

Directions: Complete this form as a guide for your project.

Topic Researched	Notes	Source (textbook or website info)
Background Information on Wave		
Information on Technological Device		
Why is this Important?		
How Will You Present? Describe your Prop		

## ELECTROMAGNETIC SPECTRUM PROJECT RUBRIC

<b>CATEGORY</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>REQUIRED ELEMENTS</b>	The project includes all required elements as well as additional information.	All required elements are included on the project.	All but 1 of the required elements are included on the project.	Several required elements were missing.
<b>ACCURACY X2</b>	All content in product was accurate, pertained to the topic and was explained clearly and in depth.	All content in product was accurate, pertained to the topic and was explained clearly.	All content in product was mostly accurate, some details are vague, or not explained clearly	Some content in product was accurate; details were vague, or unclear.
<b>ATTRACTIVENESS</b>	The project is exceptionally attractive in terms of design, layout, and neatness.	The project is attractive in terms of design, layout and neatness.	The project is acceptably attractive though it may be a bit messy.	The project is distractingly messy or very poorly designed. It is not attractive.
<b>MECHANICS</b>	Capitalization and punctuation are correct throughout the project. There are no grammatical or spelling mistakes.	There are very few errors in capitalization or punctuation and spelling and grammar, they do not take away from the content.	There are some errors in capitalization or punctuation and spelling and grammar, they do not take away from the content.	There are many errors in capitalization or punctuation and spelling and grammar, they take away from the content.
<b>USE OF CLASS TIME</b>	Used time well during each class period. Focused on getting the project done. Never distracted others.	Used time well during each class period. Usually focused on getting the project done and never distracted others.	Used some of the time well during each class period. There was some focus on getting the project done but occasionally distracted others.	Did not use class time to focus on the project OR often distracted others.
<b>PROP</b>	The information is well supported and carefully demonstrated through the prop. It provides a deep understanding of the content.	The information is supported by prop and helps the audience understand the information.	The prop offers little support of the work. Elements may be irrelevant and/or lacking.	The prop does not help the audience understand the content and core message(s).
<b>PRESENTATION</b>	Student speaks clearly and at an appropriate pace and pitch through out the entire presentation. Student demonstrates confidence in the topic and makes constant eye contact with audience.	Student speaks clearly and at an appropriate pace and pitch most of the time. Student demonstrates some confidence in the topic and makes regular eye contact with audience.	Student doesn't always speak clearly and at times too fast or too quietly. Student demonstrates some confidence in the topic and makes some eye contact with audience.	Student does not speak clearly, is too quiet or too fast/slow. Student doesn't seem confident of the material and/or fails to make eye contact with the audience.

YOUR POINTS \_\_\_\_\_

COMMENTS: