Electromagnetic Wave Project

Introduction: In order to better understand the electromagnetic spectrum, you are going to research one

type of electromagnetic wave that occurs on the electromagnetic spectrum. All of the waves on the spectrum

share certain characteristics of electromagnetic waves, but they are all different in their wavelength,

frequency and energy. They are also all used for different applications in the world. Many electromagnetic

waves you use every day, some without even knowing it.

Project: You will be responsible for researching and creating a product about one type of electromagnetic

wave. It is your choice whether you work on the product by yourself or in a group of no more than 3 people

total. If you choose to work in a group, be sure you will be able to get together with the other students after

school because most of the work on this project will be done outside of class. Your final product must be

something you can submit to my google classroom: powerpoint, prezi, word document, digital poster, or some

other creative method you know about. Check with me if you are not sure.

Research: You will need to find the following information about your type of electromagnetic wave:

- How is this type of wave created?

- What is it used for? What are its applications in society? How or why is it used for that purpose?

- What are some possible dangers present in this type of electromagnetic wave or its applications?

- The wavelength, frequency and energy of the wave

- At least two additional interesting facts

- A picture that relates to the wave (this could be a diagram of the wave itself, or a picture of how it is

used in our lives, etc.)

\*\* Make sure to keep track of all your sources of information so you can put citations at the end of your

product! You wlll need at least 3 information sources.

Product: The following information will need to be on your product:

- Type of wave

- How this wave is created

- What it is used for/applications/how or why it is used that way

- Possible dangers

- Description of wavelength/frequency/energy of the wave

- Interesting facts

- Picture

- Citations at end

- Names of group members

Electromagnetic Wave Project Rubric

Project Includes:

Possible Actual Information

Points Points

1 \_\_\_\_\_ Type of wave researched

1 \_\_\_\_\_ How the wave is created

2 \_\_\_\_\_ Specific applications we currently use on Earth

1 \_\_\_\_\_ Specific applications we use in space and in our exploration of the universe

2 \_\_\_\_\_ Possible dangers associated with the wave

1 \_\_\_\_\_ Description of wavelengths of this type of wave

1 \_\_\_\_\_ Description of frequencies of this type of wave

1 \_\_\_\_\_ Description of energy of this type of wave

2 \_\_\_\_\_ At least two interesting facts about this type of wave

1 \_\_\_\_\_ Picture of wave or its use in society

1 \_\_\_\_\_ Citations at end of product

1 \_\_\_\_\_ Citations are correctly cited

1 \_\_\_\_\_ Product Creator name/names

5 \_\_\_\_\_ All information is accurate

2 \_\_\_\_\_ Product is colorful and easy to read

2 \_\_\_\_\_ Product is well organized and professional-looking

Total Points

\_\_\_\_\_ / 25 Points Grade:\_\_\_\_\_

Research Notesheet

Type of wave:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Question: How is this type of wave created:

What the source says about it:

Put that in my own words:

Where/When I got this information:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Question: Specific Applications Used on Earth Not Already Mentioned on

Electromagnetic Spectrum Diagram:

What the source says about it:

Put that in my own words:

Where/When I got this information:

Question: Specific applications used in space and to investigate our universe:

What the source says about it:

Put that in my own words:

Where/When I got this information:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Question: Possible dangers associated with this wave:

What the source says about it:

Put that in my own words:

Where/When I got this information:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Question: Description of wavelength of this type of wave:

What the source says about it:

Put that in my own words:

Where/When I got this information:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Question: Description of frequencies of this type of wave:

What the source says about it:

Put that in my own words:

Where/When I got this information:

Question: Description of energy of this type of wave:

What the source says about it:

Put that in my own words:

Where/When I got this information:

Question: At least 2 interesting facts about this type of wave:

What the source says about it:

Put that in my own words:

Where/When I got this information:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Qu

estion: Picture/Image of this type of wave or of its use in society:

What is it a picture of?

How is it related ?

Where/When I got this information:

Information about credible sources:

A credible source is a source that can be trusted as accurate. The internet has millions of sources, and it is

often difficult to determine whether a source on the internet is credible or not. For a source to be

credible, it needs to be published and written by someone you consider to be an expert, and who is

generally regarded as such by other experts in the field.

1. The first step to determine if what you are reading on the internet is credible is: can you tell where the

information comes from? Is it obvious what organization is publishing or sponsoring the information

being presented?

2. The next step is: have you heard of this organization before and do they specialize in the subject you

are researching? A source like NASA is going to be more credible for scientific information than

CelebrityGossip.com, for example.

3. Next, is this an edited or reviewed website or is it an open-post website? Websites like ask.com or

Yahoo Answers are open for whoever has an account, so the information posted on these websites

could come from anyone, including someone who knows less about science than you do! So don’t trust

all the information on these sites. Wikipedia is a fairly popular open-post website, meaning that almost

anyone can post information to pages on Wikipedia. For this reason, Wikipedia cannot be used as a

source. However, Wikipedia and other open-post websites can be used as a starting point for

information. If you see something on Wikipedia that would be helpful for your project, look at the

citation for that information (usually a footnote or small number, included after the info), then go

down to the “References” section of the page and look up the original source for the information (it

should be numbered according to the footnote.) Usually you can go to the original source instead of

Wikipedia, and Wikipedia makes it a little easier to find that source.

Information about citing sources:

All the sources you use to find information for this project need to be cited so you are not accused of

plagiarism! Here are some free online citation sites which will help you cite your sources correctly:

- BibMe

- Citation Machine

- EasyBib

- Citefast

- Cite this for Me