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| **Subject Area** | Physics |
| **Age or Grade** | High School |
| **Estimated Length** | 45 minutes |
| **Prerequisite knowledge/skills** | The students should know about the basic properties of waves. |
| **Description of New Content** | Students will use the internet to explore the wavelength and uses of three different kinds of electromagnetic (EM) waves. |
| **Goals** | * Students will be comfortable using a NASA website to research three EM waves of their choice. * Students will begin pre-writing for a five-paragraph essay to be completed on a different day. |
| **Materials Needed** | * Computers with internet connection (or printed handouts) * Research planning for Electromagnetic Spectrum Essay handout |
| **Procedure** | **Opener –** Go over some of the basic properties of EM waves to include in the introduction including   * Unlike sound waves, EM waves are able to travel through a vacuum. * EM waves can have a wide variety of frequencies, wavelengths, and energies. * All EM waves travel at the same speed.   **Development -**. Students will use the NASA website (<http://science.hq.nasa.gov/kids/imagers/ems/index.html>). They will choose three types of EM waves to research. For each wave, they will note the wavelength and uses of the wave.  **Closure -**. Help students compute the approximate frequency of the types of waves they have chosen and decide whether this is a high, medium, or low energy wave. |
| **Evaluation** | Students will later write a five-paragraph essay using the information they have gathered. |
| **Extensions** | Attached handout. |
| **References** |  |