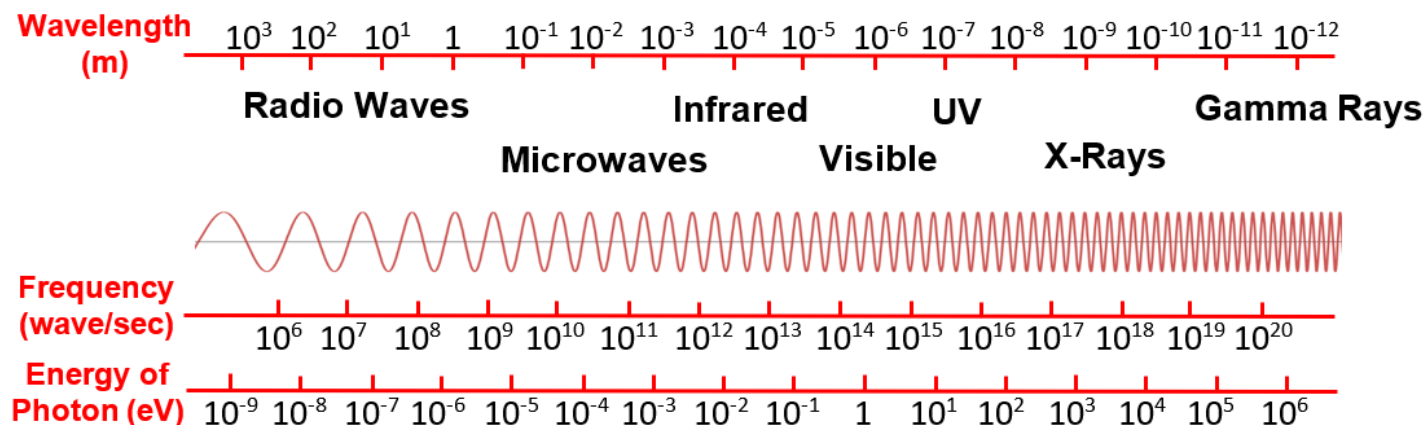


Electromagnetic Radiation

Activity 1: Energies of EM Spectrum

Refer to this electromagnetic spectrum as you answer the questions in this activity.



Activity 2: Ionizing Radiation

A scientific journal article stated...

When visible light or electromagnetic radiation with relatively long wavelengths is absorbed by matter, it is usually converted into thermal energy (heat). Shorter wavelengths, however, can ionize atoms and cause damage to living cells and its genetic material. This damage can cause the cell to die or may cause harmful mutations in the DNA.

The website also shared this image of the EM spectrum showing the range of the spectrum that is considered **ionizing radiation**.

Activity 3: Cell Phone Radiation

Excerpt from Article A...

The percentage of American adults who own cell phones has grown from 56% to an 97% over the past decade. In light of this, the public debate over cell phone use and the link to cancer is one of critical importance. The concern is that cell phones may cause the growth of any one of three types of tumors: cancer of the parotid (gland near the ear), glioma (brain tumor), and acoustic neuroma (nerve connecting ear and brain). A study of 20,000 participants showed a 40% higher incidence of glioma for those who used cell phones. The cause is linked to cell phone radiation that may stimulate free radicals which can lead to tumor development.

Excerpt from Article B...

There is no credible evidence establishing a connection between cell phone use and cancer. Cell phone signals are in the radio frequency range of the EM spectrum and give off non-ionizing radiation. This corresponds to energies too low to break biochemical bonds in the human body.

