Electromagnetic Spectrum (Radiation)

Outer space is filled with electromagnetic radiation that travels across space in the form of waves. Only a small portion of the spectrum is visible light- the type most familiar to humans.

Longest wavelengths, Shortest wavelengths,

Lowest frequencies Highest frequencies

All light travels at the same speed, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m/sec or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ km/sec. The speed light is known as the constant **c.**

Electromagnetic radiation (light waves) differ from sound waves because:



Wavelength is **λ,** the Greek symbol \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. It is defined as:

Frequency if **f.** It is defined as:

Frequency is related to the energy of electromagnetic radiation. For example,

Formulas,tutorvista.com

For all electromagnetic radiation, c = **λ**f This is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mathematical relationship. When wavelength is
long, then frequency is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Conversely, when wavelength is short, then frequency is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

We only see a small part of the EM spectrum. What we see is known as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ region that ranges in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in wavelength. The light we see can be divided further into the individual colors that comprise white light. They are:



In the visible spectrum, \_\_\_\_\_\_\_\_\_\_\_ has the longest

wavelength and least \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

while \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has the shortest wavelength

and most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_