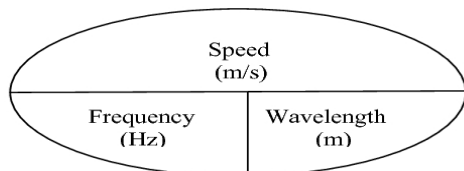


Speed / Frequency / Wavelength Quiz**Equation: Speed of all Electromagnetic Spectrum Waves (c) = 3.0×10^8 m/s****Speed of light (m/s) = Frequency x Wavelength****Frequency (Hz) = Speed ÷ Wavelength****Wavelength (m) = Speed ÷ Frequency**

1. Violet light has a wavelength of 4.10×10^{-12} m. What is the frequency?
2. Green light has a frequency of 6.01×10^{14} Hz. What is the wavelength?
3. What is the wavelength (in meters) of the electromagnetic carrier wave transmitted by The Sports Fan radio station at a frequency of 640 Hz?
4. Calculate the wavelength of radiation with a frequency of 8.0×10^{14} Hz.
5. What is the wavelength of light with a frequency of 7.66×10^{14} Hz?
6. A helium laser emits light with a wavelength of 633 nm. What is the frequency of the light?
7. What is the wavelength of X-rays having a frequency of 4.80×10^{17} Hz?
8. An FM radio station broadcasts at a frequency of 107.9 MHz. What is the wavelength of the radio signal?
(Hint: First, convert Mega Hertz [MHz] into Hertz by multiplying by 10^6)