Light as a Wave

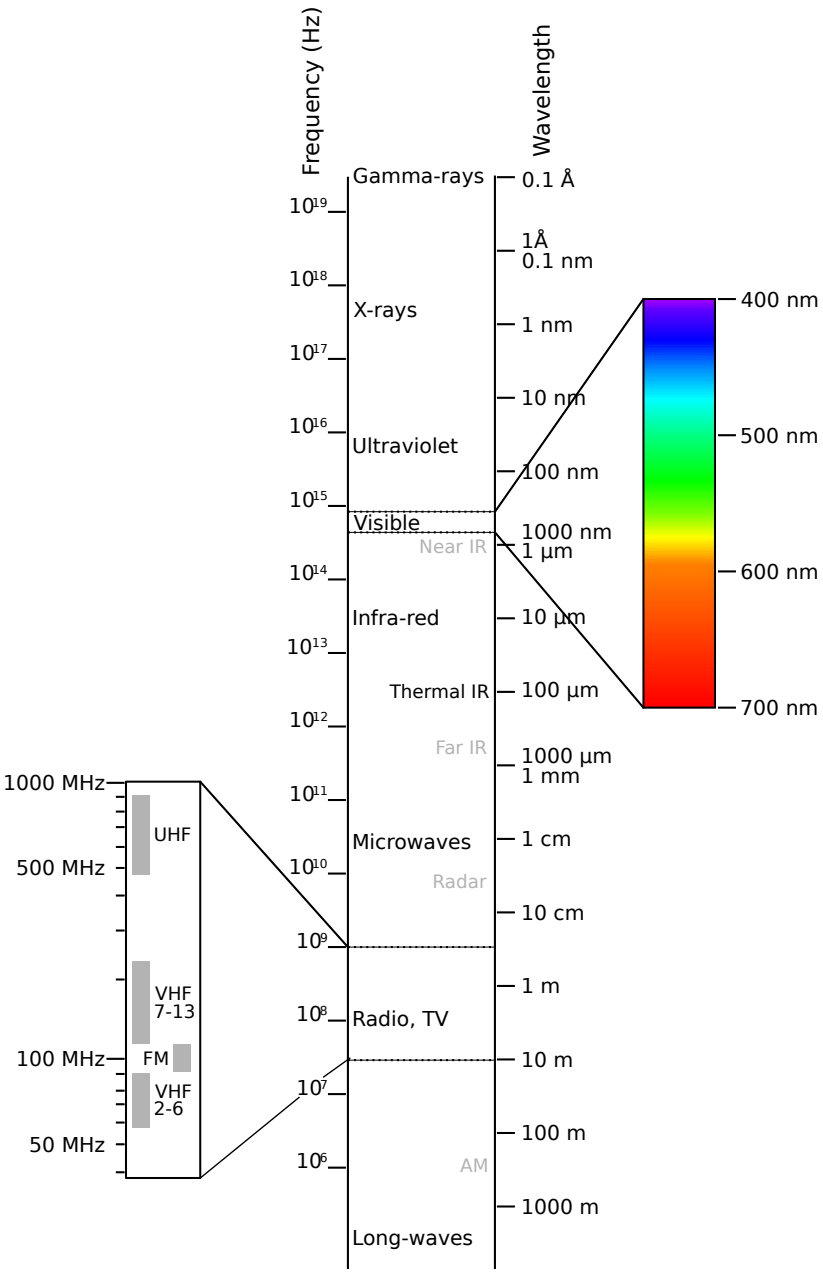
Skills to Develop

- Relate the wavelength and frequency of light using a mathematical equation
- Define electromagnetic radiation

Light is a little different from sound waves, water waves and string waves, because it can move through a vacuum. In general, the velocity of light is constant, c = 3.00 x 10^8 m/s. So for light, wavelength λ and frequency ν are related by

$$c = \lambda\nu \tag{1}$$

Light is called **electromagnetic radiation**, which basically means that it radiates (travels) and the wave part is oscillating electric and magnetic fields. You don't need to worry about the details of this now. The properties of different types of light depend on their wavelength. X-rays used in medicine have very short wavelengths and high frequencies; UV (ultraviolet) light gives you sunburns and helps you make vitamin D, visible light is normal light, IR (infrared) is used for night-vision goggles, microwave is used in cooking, and radio is used in radios.



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Outside Link

- Veritasium: The Original Double Slit Experiment (8 min)

Contributors and Attributions

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