

Electromagnetic Spectrum

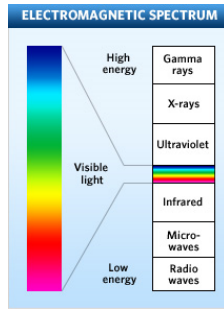
Electromagnetic Spectrum

Objectives

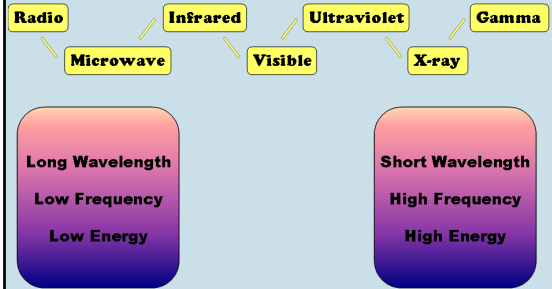
Identify general characteristics of EM waves.

Identify general types within the spectrum of EM waves.

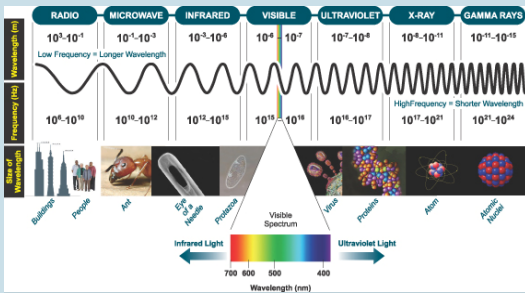
Identify relative wavelengths & frequencies of various types of EM waves.



The Electromagnetic Spectrum

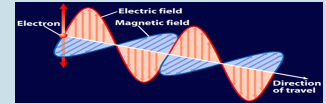


Electromagnetic Spectrum



Electromagnetic Spectrum

- composed of vibrating electric & magnetic fields that regenerate each other.



- transverse wave



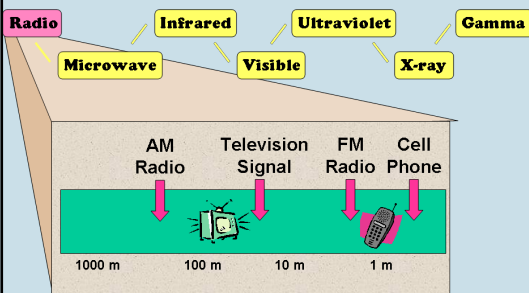
- does not require a medium

- all travel @ same rate – speed of light 300,000,000 m/s.

$$v = f\lambda \quad v = 3.0 \times 10^8 \text{ m/s (in air/vacuum)}$$

- f & λ determines EM wave, color, etc.

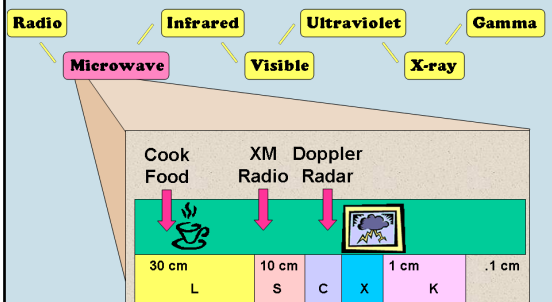
The Electromagnetic Spectrum



$$\text{AM } 580 \text{ kHz} \cdot \frac{1000 \text{ Hz}}{1 \text{ kHz}} = 580,000 \text{ Hz}$$

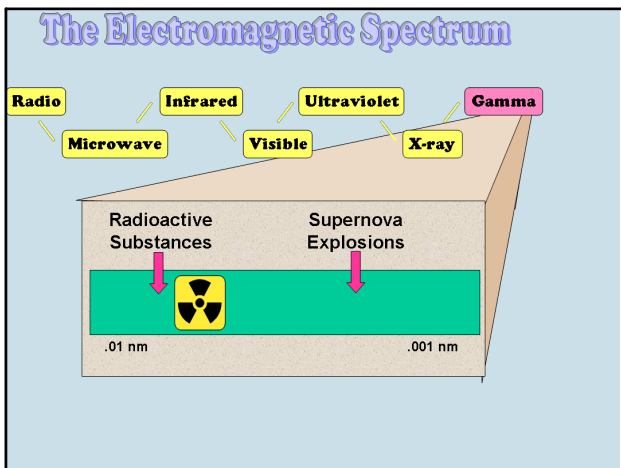
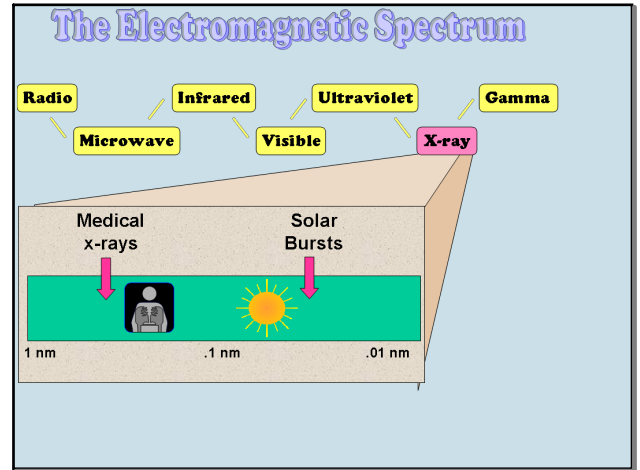
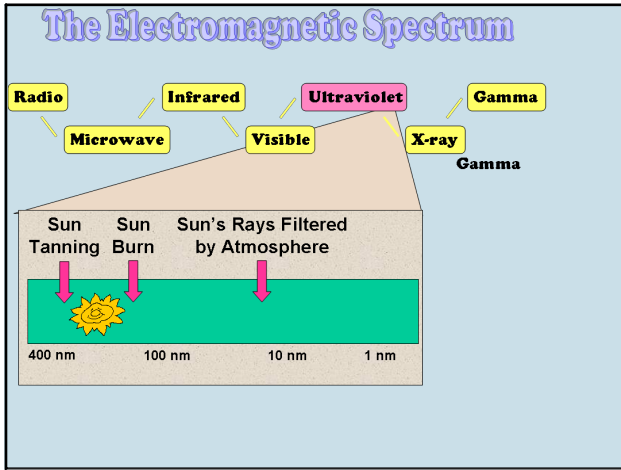
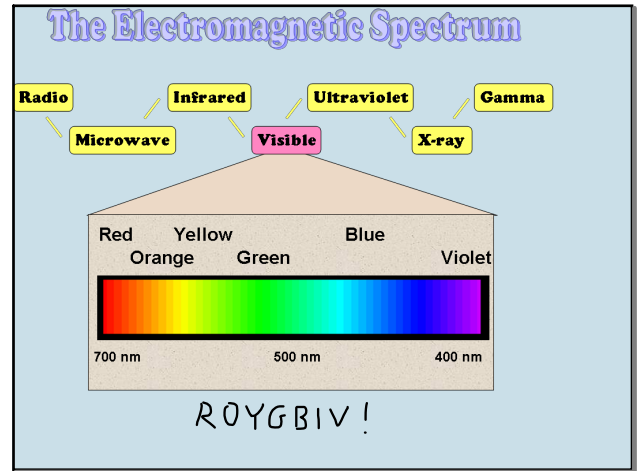
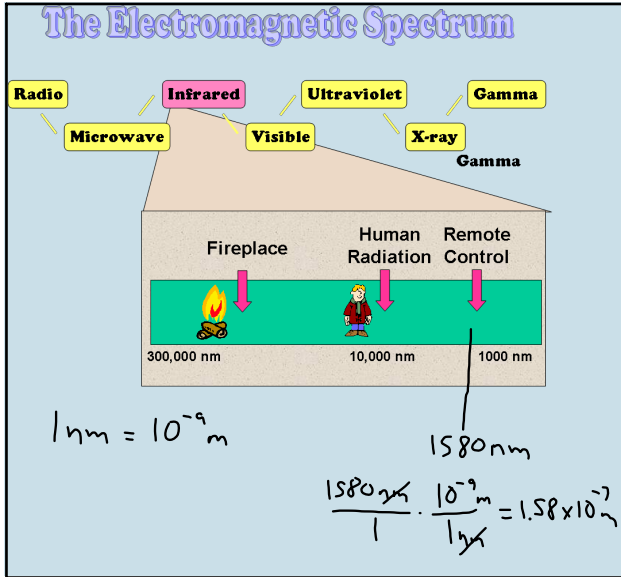
$$\text{FM } 103.7 \text{ MHz} \cdot \frac{10^6 \text{ Hz}}{1 \text{ MHz}} = 1037 \times 10^6 \text{ Hz}$$


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Assignments . . . 

- Begin Chapter 20 Homework #1 - 8

