

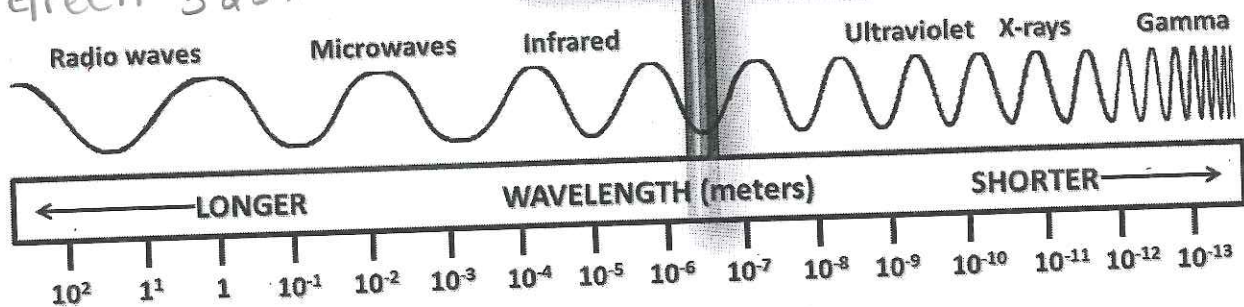
Electro Magnetic Spectrum

EM Spectrum: Relates energy in terms of wavelength (λ) and frequency (f or ν)

Red 700nm
 Orange 600nm
 Yellow 570nm
 Green 525nm



Blue 475nm
 Indigo 435nm
 Violet 400nm



#nm = # $\times 10^{-9}$ m
 400nm = 400 $\times 10^{-9}$ m

* Inversly related $\uparrow \downarrow$
 $C = \lambda \cdot f$
 C = speed of light
 3.0×10^8 m/s
 λ = wavelength (m)
 (v) f = frequency (Hz, $\frac{1}{s}$, s^{-1})

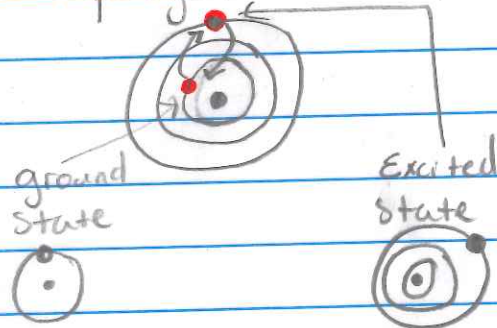
$E = h \cdot f$

E = Energy (J)

h = planks constant 6.626×10^{-34} J.s

(v) f = frequency (Hz)

Hydrogen



- Put energy in
- electron absorbs it
- electron "jumps" to higher energy state
- To return to ground state: electron must release energy: photon