

Quiz

electromagnetic radiation

wavelength (λ)

frequency (ν) $h\nu = \rho^{-1}$

amplitude (A) height

examples

$$\lambda \cdot \nu = C = 3.0 \times 10^8 \text{ m/s}$$

speed of c

* $\lambda = \frac{C}{\nu}$ Ex. the $\lambda = 450 \text{ nm}$
 what is the ν ?

* $\nu = \frac{C}{\lambda}$ $\nu = \frac{C}{\lambda} = \frac{3.0 \times 10^8 \text{ m/s}}{4.5 \times 10^{-7} \text{ m}}$

$450 \text{ nm} = 450 \times 10^{-9}$ $\approx 0.45 \times 10^{-6}$
 $= 4.5 \times 10^{-7}$

Planck energy emitted in
small packets
(Quanta, photons)

$$E_{\text{photon}} = h\nu$$