3.00×10^{17} nm/s
$c = 3.00 \times 10^{8}$ m/s
$h = 6.63 \times 10^{-34}$ J·s

equations $c = \lambda\nu \Rightarrow \nu = \frac{c}{\lambda}$

$E = h\nu \Rightarrow E = \frac{hc}{\lambda}$ or $\lambda = \frac{hc}{E}$

1) A certain radio station broadcasts at 94.1 MHz on the FM dial. (M stands for "mega" which means "million"). In other words, the frequency of the radio waves is 94.1×10^{6} Hz.

What is the wavelength of the waves in meters?

$c = \lambda\nu \quad \lambda = \frac{c}{\nu} = \frac{3.00 \times 10^{8}\ \text{m/s}}{94.1 \times 10^{6}\ \text{s}^{-1}} = 3.19\ \text{m}$

2) Orange light has a wavelength of 600nm.

a) What is the frequency of this light?

$c = \lambda\nu \quad \nu = \frac{c}{\lambda} = \frac{3.00 \times 10^{17}\ \text{nm/s}}{600\ \text{nm}} = 5.00 \times 10^{14}\ \text{s}^{-1}$

b) What is the energy of a photon of this orange light?

$E = h\nu = (6.63 \times 10^{-34}\ \text{J s})(5.00 \times 10^{14}\ \text{s}^{-1}) = 3.32 \times 10^{-19}\ \text{J}$

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