For a plane wave in vacuum,
\[ E = cB, \quad c = \frac{1}{\sqrt{\epsilon_0 \mu_0}} \]
\[ \vec{E} \perp \vec{B} \perp \text{(direction of propagation)}. \]

Sinusoidal plane wave traveling in the +x direction,
\[ E = E_{max} \sin(\omega t - kx), \quad B = B_{max} \sin(\omega t - kx), \]

Poynting vector: Energy flow rate (power per unit area),
\[ \vec{S} = \frac{1}{\mu_0} \vec{E} \times \vec{B} \]

Intensity (time average of Poynting vector)
\[ I = \langle S \rangle = \frac{E_{max} B_{max}}{2 \mu_0} = \frac{E_{max}^2}{2 \mu_0 c} = \frac{1}{2} \sqrt{\frac{\epsilon_0}{\mu_0}} \frac{E_{max}^2}{c} = \frac{1}{2} \epsilon_0 c E_{max}^2 \]

Electromagnetic waves also carry momentum. The rate of transfer of momentum per unit cross-section area is
\[ \frac{1}{A} \frac{dp}{dt} = \frac{S}{c} = \frac{EB}{\mu_0 c} \]

Radiation pressure:
\[ p_{rad} = I/c \quad \text{(absorbing surface)} \]
\[ p_{rad} = 2I/c \quad \text{(reflecting surface)} \]