Constants, Conversion Factors and Equations

Constants and Conversion Factors:

$h = 6.626 \times 10^{-34}$ J·s

$c = 2.9979 \times 10^8 \frac{m}{s}$

$1\,J = 1\,\frac{kg*m^2}{s^2}$

Equations:

$$d = \frac{m}{V}$$

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

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

$$E_K \text{ (ejected electron)} = E_{photon} - \phi$$

$$E_K = \frac{1}{2}mv^2$$

$$\Delta E = -2.178 \times 10^{-18} J \left(\frac{1}{n_f^2} - \frac{1}{n_i^2} \right)$$

$$E_{photon} = |\Delta E|$$

$$\lambda_{matter} = \frac{h}{mv}$$