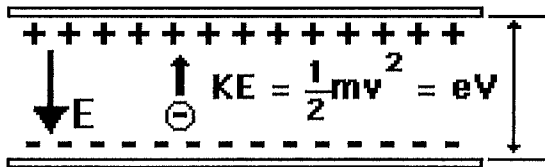# Physics 12
Section 17-4
The Electron Volt, a Unit of Energy

1. When an electron is allowed to accelerate in an electric field between a potential difference of 1V the electron acquires a kinetic energy of 1.6×10^{-19} J.

2. 1 electron volt (eV) is equal to 1.6×10^{-19} J.

$KE = \frac{1}{2}mv^2 = eV$

$E = qV = (1.6 \times 10^{-19}\ C)(1\ \frac{J}{C})$

e = electron charge = 1.6×10^{-19} C
V = voltage

1 electron volt = 1.6×10^{-19} J

Do # 9, 10, 11, 12 page 522