1 Coulomb's Law

The force between two point charges Q_1 and Q_2 is directly proportional to the product of the two charges and inversely proportional to the square of their distance apart.

$$F = \frac{1}{4\pi\varepsilon}\frac{Q_1 Q_2}{d^2 1} \tag{1}$$

Where F is the **electrostatic force**, ε is the **absolute permittivity** ($\mathrm{F\,m^{-1}}$) of the medium, Q_1 and Q_2 are two different point **charges** (C) and d the **distance** (m) between them.

2 Gain in K.E. = Loss in P.E.

$$\Delta\text{P.E.} = qV = \Delta\text{K.E.} \tag{J}$$

Where q is the particle's charge and V the **potential difference** (V) between two charged plates.

3 Electric field strength between plates

3.1 Equation:

$$E = \frac{V}{d} \quad , \quad V = V_2 - V_1 \tag{$\mathrm{N\,C^{-1}}$}$$

3.2 Diagram: