Electrical Potential

April 26 2019

when discussing electrical potential we are dealing with a uniform electrical field generated from two charged parallel plates.

electrical potential difference is defined as

$$\Delta E_E = -q\epsilon\Delta D$$

where Δd is parallel to the electric field and $+d$ is the direction of the field

Electrical Potential energy is similar to gravitational potential energy. The potential energy can be converted to kinetic energy as a particle falls towards the other plate.

Practice Questions

- page 368 1 - 5

Voltage

When working with electrical potential we deal with voltage which is the amount of joules per coulomb

$$\Delta V = \frac{E_E}{q}$$

Electrical potential difference is the change of voltage, the amount of work required per unit charge to move a positive from one point to another in the presence of an electric field. Field strength can be calculated with

$$\epsilon = -\frac{\Delta V}{\Delta D}$$

Cathode ray tube

Apply a voltage across two plates, electrons jump from the bottom plate and accelerate from the bottom plate to the top plate.

- Page 354 1-8
- Additionally read on practical applications of voltage