

Electric Fields and Potential

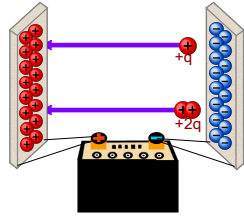
Electric Fields & Potential

Objectives

Describe an electric field.

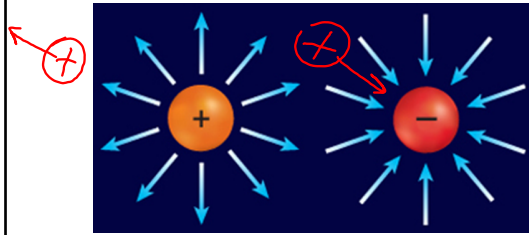
Distinguish between electric potential energy and potential difference.

Calculate the voltage when given a charge and its potential energy.



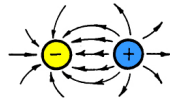
Electric Fields

Region surrounding charged particles

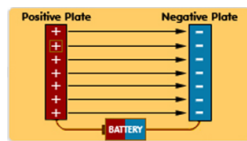
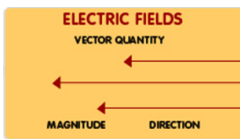


Electric Field Lines

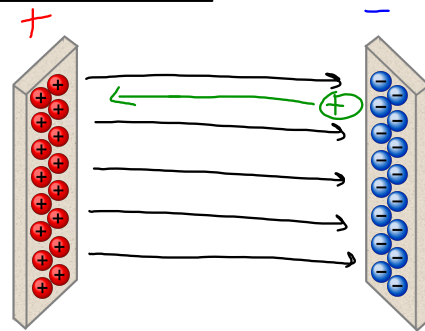
Also called lines of force



With two or more opposite charges, the lines start at the (+) and go to the (-)

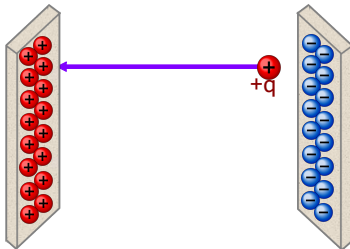


Electric Field Lines



Electric Potential Energy

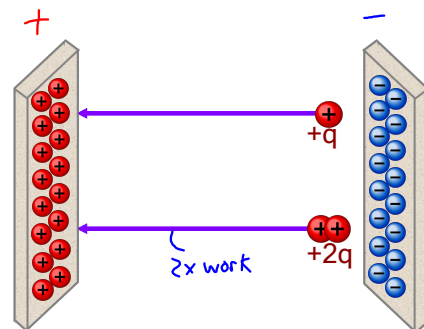
Unit: Joule



Work is required to push a charged particle against the electric field of a charged body

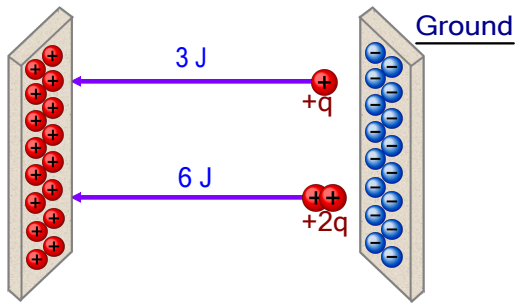
EPE is the energy a charge particle possesses because of its location in an electric field

Electric Potential Energy



Electric Fields and Potential

Electric Potential Energy



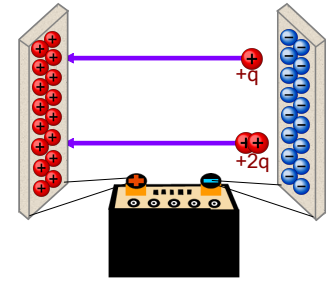
Potential Difference *e.g. Voltage (V)*

The ratio between electric potential energy and charge.

$$V = \frac{PE}{q}$$

Unit: J/C

9V vs 1.5V



Assignments . . .



- Begin Chapter 14 Homework #7 - 10

