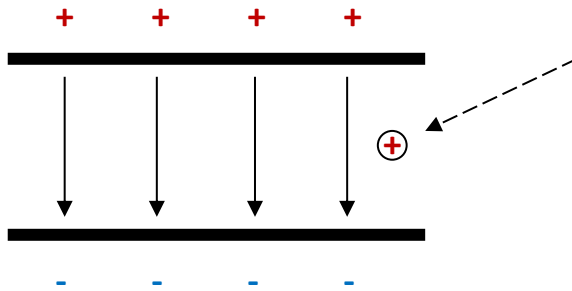


Electric field

An electric field is a region of space in which a charge placed in that region will experience a force.

Below is a diagram of the electric field between two parallel charged plates. The normally invisible electric field lines have been drawn to show the direction of the electric field.



The direction of the electric field is the direction of the force experienced by a positive charge placed in the field.

The diagram shows the positive charge being accelerated towards the negative plate, due to both repulsion of the positive plate and the attraction to the negative plate.

If a *negative charge* was placed in the electric field it would be *accelerated towards the positive plate*, due to both repulsion of the negative plate and the attraction to the positive plate.

The parallel plates will have a voltage across them this called *the potential difference*, symbol V , measured in volts, V .

The potential difference is a measure of the energy given to the charges when they move between the plates.

Potential difference is equal to the work done in moving one coulomb of charge between the plates. Therefore a potential difference of one volt indicates that one joule of energy is being used to move one coulomb of charge between the plates.

