

Unit 2 - Static Electricity

What is charge measured in?	Coulomb (C).
Name the only two charged particles in atoms and state their charge and position.	Proton (positive) trapped inside the nucleus and electron (negative) orbiting the nucleus and therefore able to move from atom to atom.
What is an electrical insulator?	A material that it is difficult for charge to move through.
What is an electrical conductor?	A material that charge moves through easily
In what terms can we explain static electricity?	In terms of electrical charges.
What happens when electrical charges move?	We get an electric current.
How can a static charge build up?	When certain insulating materials are rubbed against each other they become electrically charged.
Can conductors build up a charge?	Only if they are insulated - surrounded by an insulating material - the trapped charge then evenly spreads out over the conductor
Which charged particles can move from one object to another?	Only electrons.
What is the charge of an electron?	Negative.
How is charge transferred from one material to another?	Negatively charged electrons are rubbed off one material onto the one they have a greater affinity for.
What happens for a material to gain a negative charge?	The material that gains electrons becomes negatively charged.
What happens for a material to gain a positive charge?	The material that loses electrons is left with a positive charge.
What happens when two electrically charged bodies are brought near to each other?	They exert a force on each other.
What type of force acts between like charges?	Repulsion - they repel.
What type of force acts between opposite charges?	Attraction - they attract.
What substances can electrical charges can move easily through?	Electrical conductors eg metals.
What is electrical current?	The rate of flow of electrical charge is called the current.
What is the unit of current?	Amps (A) or amperes
How can a charged body be discharged?	By connecting it to earth with a conductor. Excess charge then flows through the conductor to earth.
What exists between an isolated charged body and the earth?	A potential difference (think of it as an electrical 'height difference' but use the term potential difference).
What is potential difference measure in?	Volts (V)
What causes a spark?	If the potential difference between one surface and another becomes high enough, a spark may jump across the gap.
Give two examples of how we use electrostatic charges.	Photocopiers and smoke precipitators.