

Unit 2 - Static Electricity

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| 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. |