Static and Current Electricity

Science – Junior Cert

Quick Notes

Static and Current Electricity

Charges can be positive or negative. Positive charge is a lack of electrons and negative charge is an excess of electrons. Like charges attract and unlike charges repel. Some of the atoms are charged. Proton is positively charged and the electron is negatively charged. A body with a charge on it is said to have static electricity. Bodies become charged by the gain or loss of charge. A conductor allows a charge to move e.g. metal. An insulator holds a charge e.g. polystyrene rod. All charge tries to go to Earth. The earth is a source and a sink for charge. Electric current is the movement of charge through a material. Current is measured in amperes or amps and has the symbol l. The size of the current can be measured by counting the number of electrons that pass a point in a second. Potential difference AKA voltage is the energy needed to pull on the electrons between any two points in a circuit. Potential difference is measured in volts and given the symbol V. The potential difference of a battery is called the electromotive force of the battery. The electric resistance of a material is a measure of how much energy is needed to pull charge through it. The unit of resistance is called the ohm and the symbol for resistance is R. Voltage is equal to resistance by current. Devices can be connected in series or parallel. The advantage of a parallel circuit is that if one bulb blows, the others continue to work. The lighting circuit in a house is wired in parallel.