

SP10a Electric circuits

Word	Pronunciation	Meaning
atom		The smallest neutral part of an element that can take part in chemical reactions.
battery		More than one cell joined together.
component		A part of something e.g. a lamp might be a component of an electrical circuit.
electron		A tiny particle with a negative charge and negligible mass.
neutron		A particle found in the nucleus of an atom, having zero charge and a mass of 1 (relative to a proton).
nucleus		The central part of an atom.
parallel circuit		A circuit in which there is more than one path for the current to follow.
proton		A particle found in the nucleus of an atom, having a positive charge and the same mass as a neutron.
series circuit		A type of circuit with only one loop of wire.
shell (electron shell)		A distinct region around a nucleus that can be occupied by electrons and is usually drawn as a circle.
voltage		The energy transferred to or from a coulomb of electric charge when it flows between two points.

SP10b Current and potential difference

Word	Pronunciation	Meaning
ampere (A)		The unit for current. Can be shortened to amp.
amps (A)		See ampere.
ammeter		A meter used to measure current.
cell (physics)		A chemical store of energy that can be transferred by electricity.
conserved		Kept the same throughout.
potential difference		The energy transferred to or from a coulomb of electric charge when it flows between two points. Sometimes called voltage.
voltmeter		Meter used to measure potential difference (or voltage).
volt (V)		The unit for potential difference (or voltage).

SP10c Current, charge and energy

Word	Pronunciation	Meaning
charge		Electric charge is a basic property of matter that causes forces between charged particles or objects. It can be positive or negative. The charge on something is the sum of the charges of all the positively and negatively charged particles they contain.

Word	Pronunciation	Meaning
coulomb (C)	<i>coo - lom</i>	The unit for measuring charge.
rate		How quickly something happens.

SP10d Resistance

Word	Pronunciation	Meaning
ohm (Ω)		The unit for measuring electrical resistance.
resistance		A measurement of how difficult it is for electricity to flow through something.

SP10e More about resistance

Word	Pronunciation	Meaning
direct proportion		A relationship in which when one variable is multiplied by any number the other variable is multiplied by the same number, e.g. doubling one variable doubles the other. A direct proportion is seen as a straight line through the origin when the two variables are plotted on a scatter graph.
diode		A component that lets electric current flow through it in one direction only.
light-dependent resistor (LDR)		A resistor whose resistance gets lower when light shines on it.
thermistor		A component whose resistance changes as its temperature changes. The thermistors you will meet increase in resistance as the temperature increases.

SP10f Transferring energy

Word	Pronunciation	Meaning
dissipated		Spread out.
work		Work is done when a force moves an object through a distance. So work is done when a charged particle is moved between two points in an electric field. The unit for work is the joule (J).

SP10g Power

Word	Pronunciation	Meaning
power		The amount (rate) of energy transferred per second. The units are watts (W).
power rating		The energy transferred per second by an appliance.
watt (W)		The unit for measuring power. 1 watt = 1 joule of energy transferred every second.

SP10h Transferring energy by electricity

Word	Pronunciation	Meaning
alternating current (a.c.)		Current whose direction changes many times each second.
direct current (d.c.)		A current that flows in one direction only, such as the current produced by a battery.
hertz		The unit for frequency, 1 hertz is one wave per second.
mains electricity		Electricity supplied from power stations using the national grid.
national grid		The system of wires and transformers that distributes electricity around the country.
thermal energy store		The hotter something is, the more energy it has in its thermal energy store. It is sometimes called 'heat'.

SP10i Electrical safety

Word	Pronunciation	Meaning
circuit breaker		An electrical component that switches off the current in a circuit if there is a fault and the current rises to dangerous levels. It can be switched back on when the fault is fixed.
earth wire		A low-resistance path for electric current to flow to earth for safety if there is a fault in an appliance.
fuse		A safety device containing a length of wire that is designed to melt if the current in a circuit gets too hot.
live wire		The wire connected to the a.c. supply from the power station. The voltage oscillates between the maximum V in one direction and the maximum V in the opposite direction.
neutral wire		A neutral wire is held at or near earth potential (0 V). It completes the circuit to the power station and carries current.

SP11a Charges and static electricity

Word	Pronunciation	Meaning
charge		A conserved property of some particles (e.g. electron, proton) which causes them to exert forces on each other. An electron has a negative charge, and a proton has a positive charge.
induction	<i>in-duck-shun</i>	The creation of something in something else by the action of an external influence. For example, a negatively charged object can induce a positive charge on a neutral object that is brought near it.
insulator	<i>in-syoo-lay-ter</i>	A barrier to the transfer of something (usually energy). An electrical insulator does not conduct electricity, and will not allow electrons to flow freely through it.
static electricity		Unbalanced electric charges on the surface or within a material.

SP11b Dangers and uses of static electricity

Word	Pronunciation	Meaning
discharge		To remove an electric charge by conduction.
earthing		When something is connected to the Earth by a conductor so that electric charges can flow between it and the Earth.
electrostatic spraying		When the droplets of a substance being sprayed are given an electric charge.

SP11c Electric fields

Word	Pronunciation	Meaning
electric field		The space around an electrically charged object where it can affect other objects.
electrostatic field		Another term for an electric field.
field lines		Lines that show where forces are stronger or weaker, and show the direction of a field.
force field		The space around something where a non-contact force affects things. Examples include magnetic fields, gravitational fields and electric fields.
point charge		A charge with a very small volume; a uniform sphere whose charge acts as if it is concentrated at the centre.
uniform		The same in all places.