

## CP9a Electric circuits

Word	Pronunciation	Meaning
atom		The smallest neutral part of an element that can take part in chemical reactions.
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.

## CP9b Current and potential difference

Word	Pronunciation	Meaning
ampere (A)		The unit for current. Can be shortened to amp.
ammeter		A meter used to measure current.
battery		More than one cell joined together.
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.
voltage		See potential difference.
voltmeter		Meter used to measure potential difference (or voltage).
volt (V)		The unit for potential difference (or voltage).

## CP9c 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.
coulomb (C)	<i>coo - lom</i>	The unit for measuring charge.
rate		How quickly something happens.

**CP9d Resistance**

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

**CP9e 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.
light-emitting diode (LED)		A diode that emits light when current flows through it.
thermistor		A component whose resistance changes as its temperature changes. The thermistors you will meet increase in resistance as the temperature increases.

**CP9f 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).

**CP9g 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.

**CP9h Transferring energy by electricity**

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

**CP9i Electrical safety**

Word	Pronunciation	Meaning
<b>circuit breaker</b>		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.
<b>earth wire</b>		A low-resistance path for electric current to flow to earth for safety if there is a fault in an appliance.
<b>fuse</b>		A safety device containing a length of wire that is designed to melt if the current in a circuit gets too hot.
<b>live wire</b>		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.
<b>neutral wire</b>		A neutral wire is held at or near earth potential (0 V). It completes the circuit to the power station and carries current.