

91a – Buying energy/Moving it around

Word	Pronunciation	Meaning
atomic energy		Another name for nuclear energy.
cell	<i>sell</i>	A source of electricity with a low 'energy' (low voltage). Cells push electrons round a circuit.
chemical energy		The kind of energy stored in chemicals. Food, fuel and cells (batteries) all store chemical energy.
efficiency	<i>e-fish-en-see</i>	A way of saying how much energy something wastes.
elastic potential energy		Another name for strain energy.
energy resources		Stores of energy that we need for heating, transport and to keep our bodies working.
fossil fuels		Coal, oil and natural gas – all fuels that were formed from the remains of dead plants and animals.
generate		Make electricity by turning a magnet inside coils of wire.
global warming		A theory that says that the Earth is getting hotter because of the activities of humans. It may be caused by too much carbon dioxide in the air.
gravitational potential energy	<i>grav-it-ay-shon-al</i> <i>pO-ten-shall</i>	The kind of energy stored by anything that can fall down.
infrared radiation		Another name for heat energy that is transferred by radiation. It can travel through transparent things and a vacuum (empty space).
kinetic energy		The kind of energy stored in moving things.
law of conservation of energy		The idea that energy can never be created or destroyed, only changed from one form of energy to another.
mains electricity		Current at 230V provided to houses, shops, etc.
natural gas		Fossil fuel formed from the remains of dead plants and animals that lived in the sea.
nuclear energy		Energy stored inside atoms.
potential energy	<i>pO-ten-shall</i>	The scientific word for 'stored' energy.
Sankey diagram		A diagram that represents energy transfers by arrows. The width of each arrow depends on the amount of energy it represents.
strain energy		The kind of energy stored in stretched or squashed things which can change back to their original shapes.
thermal energy		The hotter something is the more thermal energy it has.
transfer		When energy is changed from one form into another or from one place to another we say it is transferred.
useful energy		Energy that is transferred in the way we need.
wasted energy		Energy that is not useful.

91b – The generation game

Word	Pronunciation	Meaning
biofuel		A fuel made from plants or from animal droppings.
generator		Large coil of wire with a magnet inside. When the magnet is turned, electricity is produced in the coil of wire.
hydroelectricity		Electricity made when falling water (usually from a reservoir) turns turbines and generators.
National Grid		System of overhead and underground cables that carry electricity around the country.
pumped storage		A kind of power station where spare electricity is used to pump water to a high reservoir. This water can be allowed to fall again, to a hydroelectric power station, when electricity is needed.
renewable resource		An energy resource that will never run out (e.g. solar power).
turbine		A machine that is turned by a moving liquid or gas. Turbines are used to turn generators in power stations.

91b – Focus on: Payback times

Word	Pronunciation	Meaning
energy payback time		The time it takes to generate the amount of electricity equal to the total energy that was used to make the wind turbine or other generator.
payback time		The time it takes to save (in reduced electricity bills) the amount of money spent on installing a renewable resource for generating electricity.

91c – Voltage and energy

Word	Pronunciation	Meaning
ammeter		A piece of equipment that measures how much electricity is flowing around a circuit.
amp (A)		The unit for measuring current.
component	<i>com-po-nent</i>	Something in a circuit, like a bulb, switch or motor.
electric current		The flow of electrons around a circuit.
electrons		Tiny particles that flow around a circuit.
in parallel		One component is in parallel with another when the current divides, a part going through each component, and then joins up to complete the circuit.
in series		Components are in series when all the current goes through all of them, one after the other.
power pack		A source of electricity with a low voltage.
resistor		A component that makes it more difficult for current to flow – resistors are used to control the size of the current in a circuit.
voltage		A way of saying how much energy is transferred by electricity.
voltmeter		A component that measures voltage.
volts (V)		The unit for voltage.

91d – Power and energy/Going green

Word	Pronunciation	Meaning
power		The number of joules of energy an appliance transfers every second.
power rating		The label on an appliance that tells us how much energy it transfers.
watts (W)		The unit for measuring power. One watt is one joule per second.