



Electricity Year 4

Key Knowledge

Lightning and static electricity are examples of electricity occurring naturally but for us to use electricity to power appliances, we need to make it.

Key Vocabulary	Prior learning: name some electrical appliances. Know some things have batteries and some are mains powered.
Electricity	The flow of an electric charge through a material e.g. from a power source through wires to an appliance.
Generate	To make or produce.
Renewable	A source of electricity that will not run out. These include solar, nuclear, geothermal, hydro and wind.
Non-renewable	This source of energy will eventually run out and so will no longer be able to be used to make electricity. These include fossil fuels – coal, oil and natural gas.
Appliances	A piece of equipment or device designed to perform a particular job, such as a washing machine or mobile phone.
Battery	A device that stores electrical energy as a chemical.
Electrical conductor	A material that electricity can pass through.
Electrical insulator	A material that electricity cannot pass through.
Circuit	A complete path around which electricity can flow.
Bulb	Converts electrical energy into light.
Switch	Part of an electrical circuit which allows the flow of electricity to be turned on or off.
Buzzer	Converts electrical energy into sound.

There are two types of electric current.

Mains electricity: Power stations send an electric charge through wires to transformers and pylons. Then, underground wires carry the electricity into our homes via wires in the walls and out through plug sockets.

Battery electricity: Batteries store chemicals which produce an electric current. Eventually, even rechargeable batteries will stop producing an electric current.

A **conductor** of electricity is a material that is made up of free electrons which can be made to move in one direction, creating an electric current. Metals are good conductors. **Electrical insulators** have no free electrons and so no electric current can be made. Wood, plastic and glass are good insulators.

5 Electrical Conductors

silver gold copper steel sea water

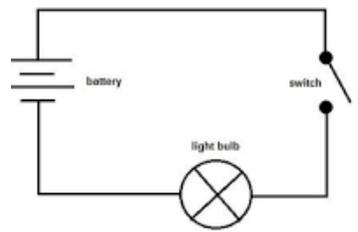
5 Electrical Insulators

rubber glass oil diamond dry wood

ThoughtCo.

Many everyday appliances rely on electricity for them to work. Some appliances need to be plugged into a socket (mains electricity) and others have a battery to make them work.

Electricity can only flow around a complete circuit that has no gaps. There must be wires connected to both the positive and negative end of the power supply/battery.



This is an incomplete circuit. The switch is open so electricity cannot pass through.



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