



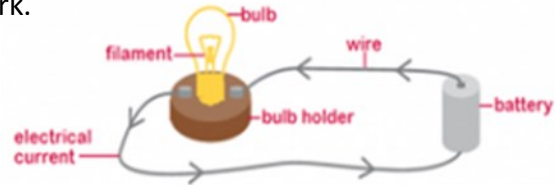
Coleman Primary School

Year 4 Autumn 1 Knowledge Organiser

Science—Electricity

Electrical circuits

A **circuit** is made by using **wires** to connect **components** such as **bulbs**, **motors** or **buzzers** to a **cell** or **battery** so that electricity can flow and make the **components** work.



In this example, a **bulb** has been connected in a **circuit** so that it will light up.

Electrical components for circuits

bulb



buzzer



motor



wire



switch

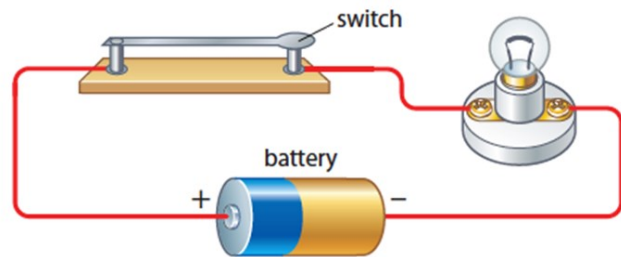


cell



Switches

Switches can open or close and control whether the electricity flows around a **circuit**.



Where have you seen switches?

In Year Three you were...

- reporting on findings from enquiries
- beginning to identify differences, similarities or changes related to simple scientific ideas and processes
- learning to use straightforward scientific evidence to answer questions

In Year Four you will be...

- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support your findings

You will know...

- that some appliances use electricity
- what different components, including switches, do in circuits
- materials that are conductors and insulators

Key Vocabulary: Electricity

battery: a common name for a portable electricity supply, or a scientific name for more than one cell

bulb: a component that gives out light

buzzer: a component that makes a buzzing sound

cell: the scientific name for one battery

circuit: a battery or cell connected to a component or components using wires

components: items that make circuits

conductor: a material that transmits electricity

insulator: a material through which electricity cannot flow

mains: electricity from a plug socket

motor: a moving component

rechargeable: a battery which can be refilled with electricity

switch: a component that turns a circuit on and off

wire: a long thin piece of metal that carries electrical current

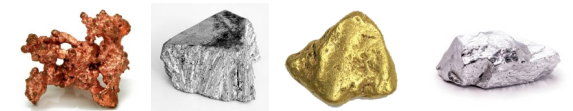
voltage: an indication of the energy available from a supply of electricity

Electrical appliances



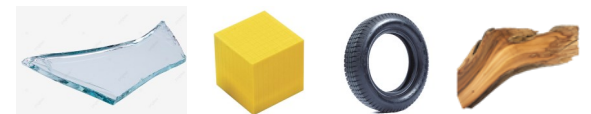
Insulators and conductors

Metals conduct electricity (allow electricity to pass through). We call these materials **conductors**.



copper aluminium gold silver

Other materials do not conduct electricity. We call these materials **insulators**.



glass plastic rubber wood

Some electrical appliances use **battery** power and others need to be plugged into the **mains**. Some appliances can be used plugged in or with batteries.

Remember that electricity, can be very dangerous so we must be careful.



Scientific Skills Progression