

Electricity – Year 4

Key Vocabulary	
electricity	A form of energy used for lighting, heating, making sound and making machines work.
electrical appliance	A machine or device that runs on electricity.
mains	The electricity supplied to households from power stations.
electrical circuit	This consists of a cell or battery connected to a component using wires. It needs to be a complete circuit to work.
cell and battery	A cell is a single unit and a battery is a collection of cells.
wire	Metal made into the form of a thin flexible thread or rod.
switch	Can be added to a circuit to turn a component on or off. It allows the electricity to flow or it stops it.
conductor	Material that allows electricity to pass through it.
insulator	Material that does not allow electricity to pass through it.

Appliances that run on electricity

Some plug into the mains and others run on batteries.



Significant scientists

William Kambwamba
(1987- present)

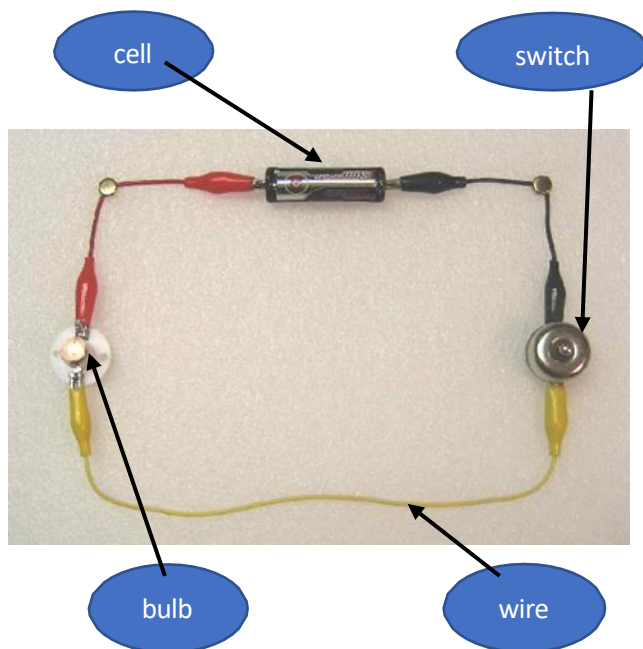


William Kambwamba is a Malawian engineer. He built a wind turbine to power electrical appliances in his family's house.

Learning Questions

What does a world without electricity look like?
What is a complete circuit?
Was electricity invented?

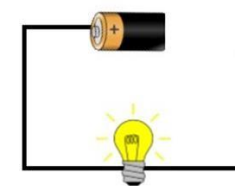
Electrical circuit with a bulb



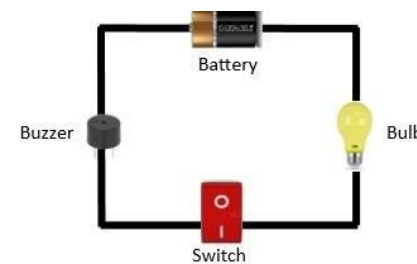
The switch opens and closes the circuit.

The bulb lights in this circuit because the switch is on.

This circuit will not work as it is not complete.



This circuit is complete so the buzzer will sound and the bulb will light.



Conductors and insulators

Conductors

Some materials let electricity pass through them easily. These are known as electrical conductors. Many metals are good electrical conductors, such as iron, copper and steel.



Insulators

Some materials do not allow electricity to pass through them. They are known as insulators. Plastic, wood, rubber and glass are good electrical insulators.

