

SCIENCE: Physics - Electricity




Autumn B

Year 4

Key Ideas

electricity	An electric current.
energy	usable power
Types of energy	the resources (as oil) used to produce usable power
Electrical circuit	A complete loop of electricity.

Key Figures

Benjamin Franklin 1705-1790		An American Nasa engineer discovered that lightning and electricity were the same. Franklin's lightning rod was the first practical application of electricity.
Thomas Davenport 1802-1851		Thomas built the first roadworthy electric car in 1835.
Ada Lovelace 1815-1852		She was a mathematician and is considered the first computer programmer.

Key words

Explanation

appliance	A machine powered by electricity.
electrical cell	A device used to generate electricity.
battery	One of more cells connected.
Lamp / bulb	A device giving light.
wires	Thin and flexible metal thread or rod
motors	A machine that supplies motive power
switches	A device for making and breaking the connection
buzzers	A device that makes a buzzing sound.
loop	Any closed path in a circuit.
conductor	A material that conducts electricity, heat or sound.
insulators	A material that does not allow passage of electricity, heat or sound.
renewable	A source of energy that does not run out.
nonrenewable	A source of energy that will eventually run out.

Key Questions

What do you need to light a bulb?

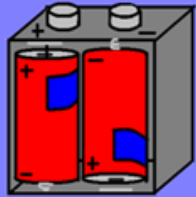
What electrical appliances do you have at home?

Can you name some renewable power sources?

What would life be like without electricity?

To make a circuit that will make the bulb light up...

we need.....



...batteries in a battery box...

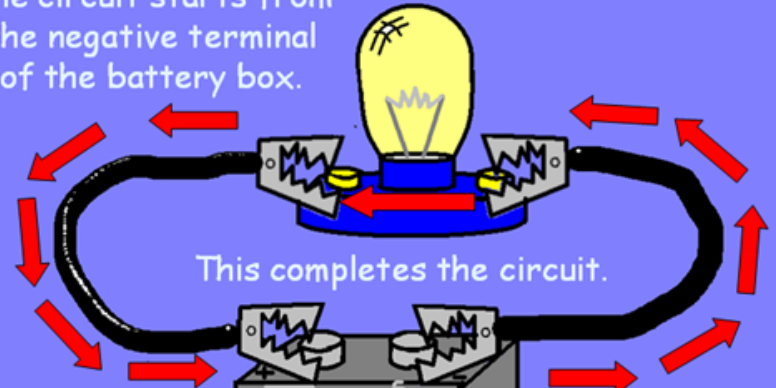
...a light bulb...



...electrical wires and crocodile clips.



The circuit starts from the negative terminal of the battery box.



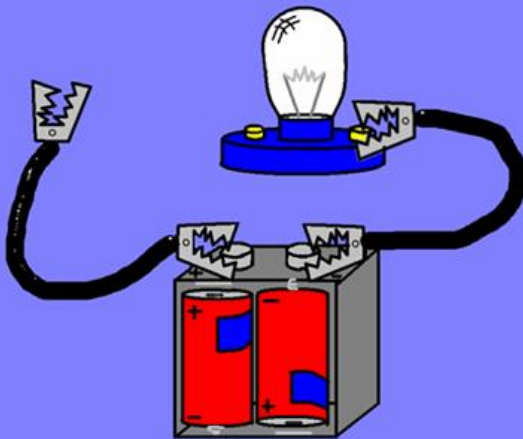
This completes the circuit.

The electric current runs through the light bulb....

...and continues along the wire to the positive terminal of the battery box.

Will this circuit light?

This circuit will not light because the wires are not all connected.



Will this circuit light?

This circuit will not light because one of the wires is attached to the glass part of the light bulb.

