



Electricity: changing circuits



Key Vocabulary

standard symbol—an image used to represent an object that is represented by people in different countries

voltage—the measurement of the size of the push sending electricity around a circuit (measured in

diagram—a drawing that represents what is happening rather than showing artistic detail

battery—a component that can be used to provide electricity

cell—the scientific name for a single battery

circuit—the circular arrangement of components required to enable the electricity to flow

connection points—the places on electrical components where wires can be attached

electrical component—an object making up part of a circuit

electrical conductor—a material that allows electricity to flow through it

electrical insulator—a material that does not allow electricity to flow through it

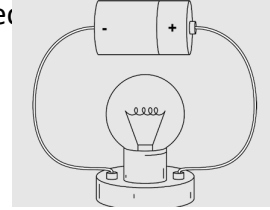
electricity—what is required to make electrical components work

lux—the unit used to measure light intensity (abbreviated lx)

switch—a component that turbs another component on or off, by opening and closing a circuit, controlling whether the electricity can flow or not..

What is an electrical circuit?

The **flow** (continuous movement) of electricity through a **component** (lamp, motor or buzzer) is what makes it work. For this to happen all the components must be connected in a loop, known as a **circuit**. All circuits must contain a battery (or cell) to create the flow (continuous movement) of elec



What are electrical conductors and insulators?

Metals are good electrical **conductors** as they **allow electricity to flow through them easily**. Materials which do not allow electricity to flow through them are known as electrical insulators. Most non-metals are electrical insulators.

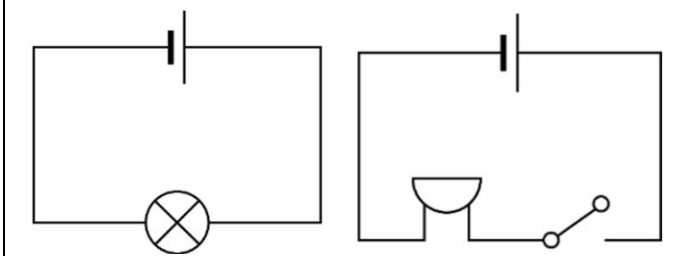
How do scientists draw circuit diagrams?

Circuits diagrams using standard symbols are used to record circuits

Cell		Buzzer	
Two cells		Motor	
Wires		Switch (open)	
Lamp		Switch (closed)	

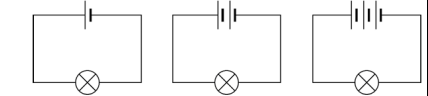
How do scientists draw circuit diagrams?

Circuit diagrams always show wires as straight lines drawn at right-angles.



How can we change a circuit?

1. Adding additional cells to a circuit to increase the voltage. E.g. as the number of cells increases, the lamp gets brighter.



2. Using batteries of different voltages.



3. Adding more components to a circuit e.g. if there are two lamps in a circuit they will each be dimmer than a single lamp.

4. Changing the thickness of the wire e.g. a thicker wire will result in a brighter lamp than a thinner wire.