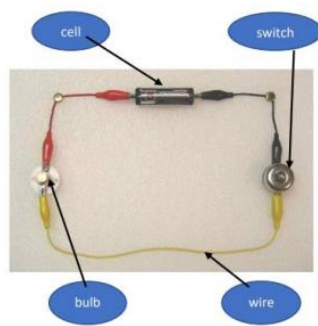
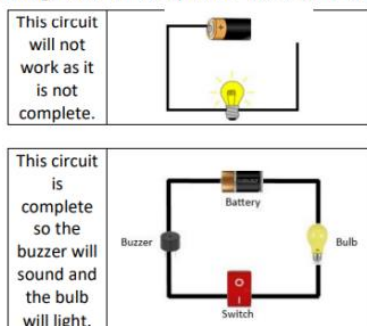


## Facts I need to learn now

1	Electrical safety	Electricity can be dangerous if we do not treat it and electrical devices with care. We must take care with cables, plugs, sockets and batteries. Water must be kept away from electrical sources and devices.
2	Electrical devices	Devices are items designed to perform a specific function. Electrical devices can be powered by mains electricity or with batteries. Some battery-powered devices can be recharged through mains electricity.
3	Circuits	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.
4	Switches in circuits	Switches can be used to open or close a circuit. When <i>off</i> , a switch 'breaks' the circuit to stop the flow of electricity. When <i>on</i> , a switch 'completes' the circuit and allows the electrical current to flow.
5	Conductors and insulators	A conductor of electricity is a material that allows electricity to flow through it. Metals are good conductors. Materials that are electrical insulators do not allow electricity to flow through them. Wood, plastic and glass are good insulators.
6	Generating electricity	Mains: 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. Electricity can be made by burning coal, gas and oil. It can also be made by using wind, water and tides, and the Sun's rays. Battery electricity: batteries store chemicals that produce an electrical current.

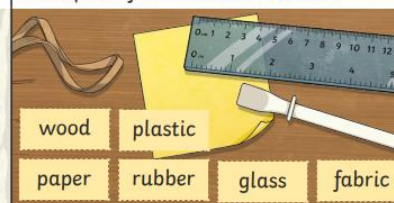
## A diagram to help me understand.



## Examples of Electrical Conductors




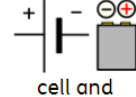
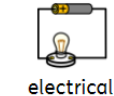
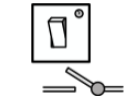






## Examples of Electrical Insulators



To work safely with circuit components in the classroom:

- None of the equipment needs to use mains power, so do not put any of it in or near plugs.
- Only use equipment as instructed.
- Connect equipment correctly.

## Vocabulary (Words I need to know)

 electricity	The flow of an electrical current through a material, e.g. from a power source through wires to an appliance.	 cell and battery	A cell is a single unit of power and a battery is a collection of cells.
 electrical circuit	A pathway that electricity can flow around. It includes wires and a power supply and may include bulbs, switches, motors or buzzers.	 switch	A switch is a component that can be added to a circuit. It allows electricity to flow (on) or stops it (off).
 electrical component	A part that combines with others to form a circuit, e.g. bulb, motor, buzzer, wire, battery, switch.	 conductor	A material that allows electricity to pass through.
 non-renewable	This source of energy will eventually run out and no longer be able to be used to make electricity. These include fossil fuels – coal, oil and natural gas.	 insulator	A material that does not allow electricity to flow through it.
 renewable	A source of electricity that will not run out. These include solar, wind, hydro and geothermal.	 electrical appliance	A machine or device that runs on electricity.