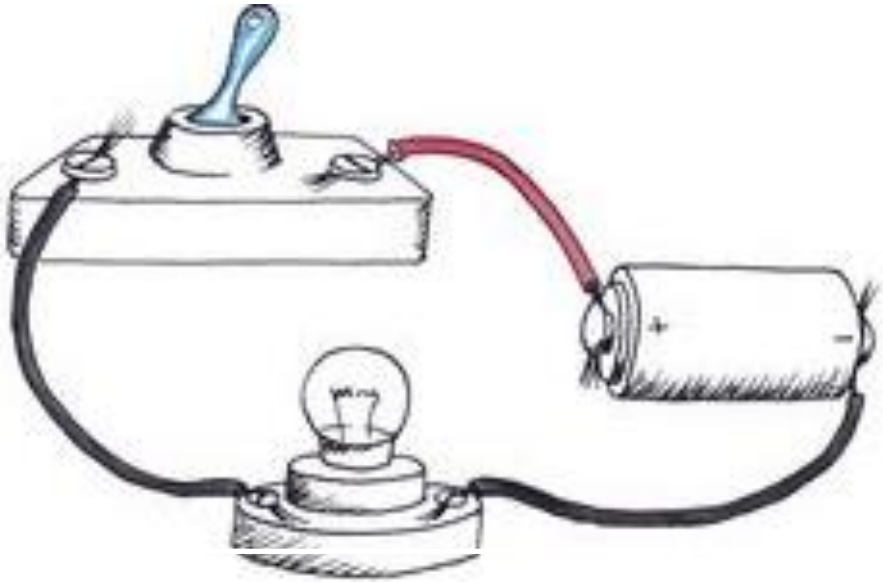
My Knowledge Journal



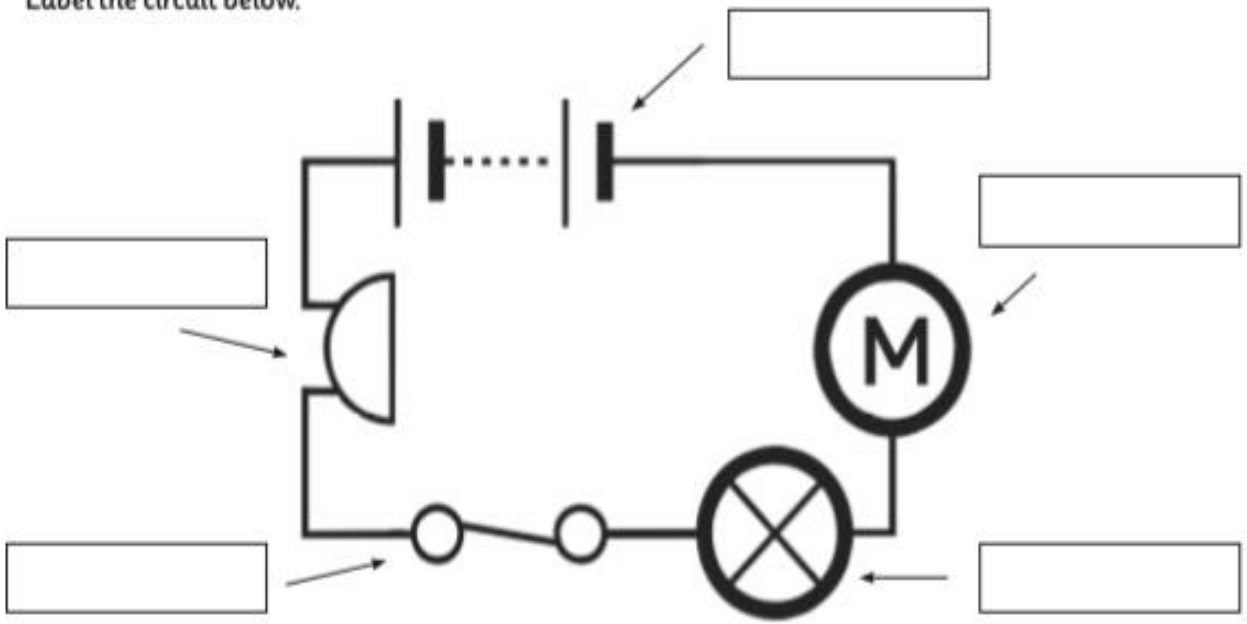
Electricity

Name: _____

Pre Knowledge Quiz

Q1. Look at the diagram below and label it with the correct scientific vocabulary.

Label the circuit below.



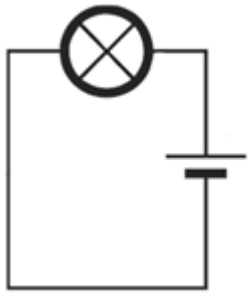
Complete the sentences.

The electric current leaves the _____ and passes through the _____. It then travels through the _____, next through the _____ and finally through the _____ before returning to the battery.

Q.2 Draw a scientific circuit which contains:

- **A cell**
- **A bulb**
- **An open switch**

Q.3 Look at the diagram below. What would be the impact of adding more wires into the circuit? Explain why?



Electricity

Knowledge Organiser

What should I already know?

- To identify common appliances that run on electricity
- To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- To identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- To recognise some common conductors and insulators, and associate metals with being good conductors.

Stay safe with electricity!

Electricity is everywhere so always be safe. Be careful of mains switches, open sockets and any signs to do with electricity. The human body is 80% water so it conducts electricity. If someone has had a shock always turn the electricity off first, then call for help!

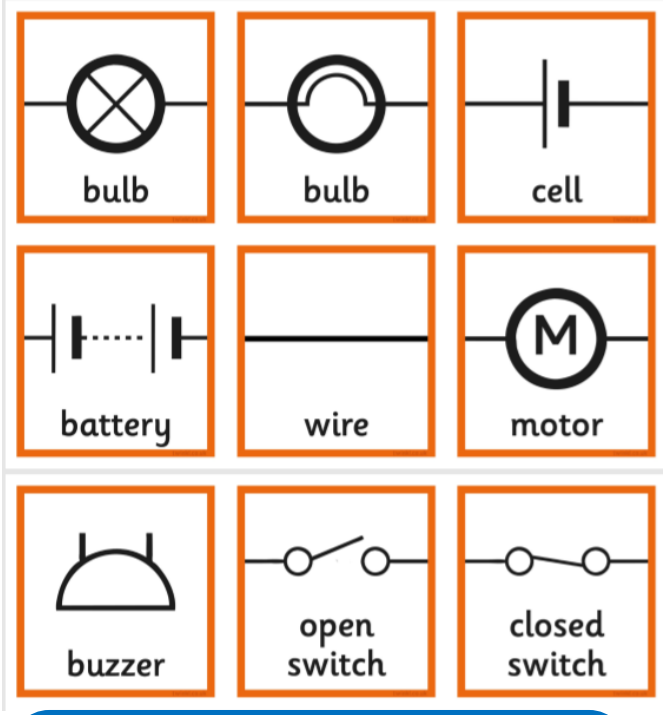
In class, do not leave electrical circuits connected and unattended, as this could cause a fire.

Key Vocabulary	
Appliances	A device or machine in your home that you use to do a job such as cleaning or cooking. Appliances are often electrical.
Battery	Small devices that provide the power for electrical items such as torches
Bulb	The glass part of an electric lamp, which gives out light when electricity passes through it.
Buzzer	An electrical device that is used to make a buzzing sound
Cell	A synonym for battery
Circuit	A complete route which an electric current can flow around
Component	The parts that something is made of
Conductor	A substance that heat or electricity can pass through or along
Current	A flow of electricity through a wire or circuit
Device	An object that has been invented for a particular purpose
Electricity	A form of energy that can be carried by wires and in used for heating and lighting, and to provide power for devices
Fuel	A substance such as coal, oil, or petrol that is burned to provide heat or power
Generate	Cause it to begin and develop
Insulator	A non-conductor of electricity or heat
Mains	Where the supply of water, electricity, or gas enters a building
Motor	A device that uses electricity or fuel to produce movement
Power	Power is energy, especially electricity, that is obtained in large quantities from a fuel source and used to operate lights, heating, and machinery
Resistance	Resistance measures how hard it is for the current to flow
Switch	A small control for an electrical device which you use to turn the device on or off
Wires	A long thin piece of metal that is used to fasten things or to carry electric current
Decibels	The unit that sound is measured in
Series Circuit	A circuit where the current only travels in one direction.
Controlled variable	A control variable is an element that is not changed throughout an experiment.
Independent variable	An independent variable is defined as the variable that is changed or controlled in a scientific experiment.
Voltage	Voltage is what makes electric charges move. It is the 'push' that causes charges to move in a wire or other electrical conductor

Scientific Electrical Symbols

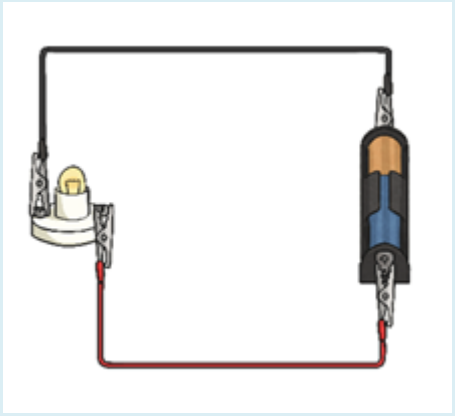
The last time you learnt about electricity, when you drew your circuits, you will have drawn batteries, bulbs and wires just as you saw them. However, in Year 6 and in KS3, you will be expected to draw electrical circuits scientifically, using the proper symbols.

Check them out below:

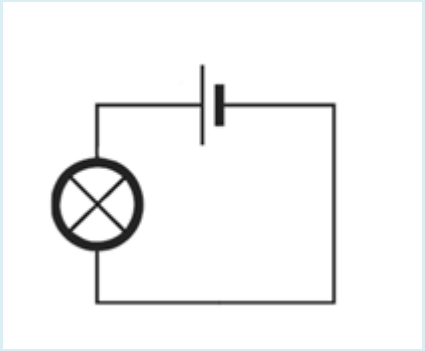


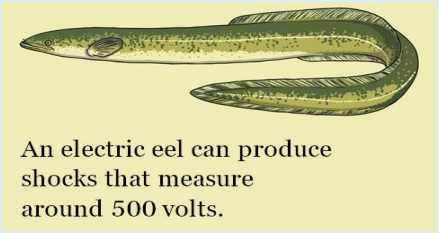
Scientific Electrical Symbols

Look at the electrical circuit below. It is made up on a cell, a bulb and wires.



Drawn scientifically, it looks like this:





The importance of a fair test in science investigations

In this unit, you will be planning your own investigations, involving electrical circuits.

In order to make sure that you carry out a fair test, which means that your results are accurate and can be trusted, you need to be clear about:

- What you will change and compare each time (make sure you only change one variable – the thing you are testing); what you will measure; what variables you will keep the same (control).
- Keeping all other variables the same except for the variable you are testing is important because it makes sure that your results are caused by the changes to the variable you are testing and not by other things.

My Knowledge Builder

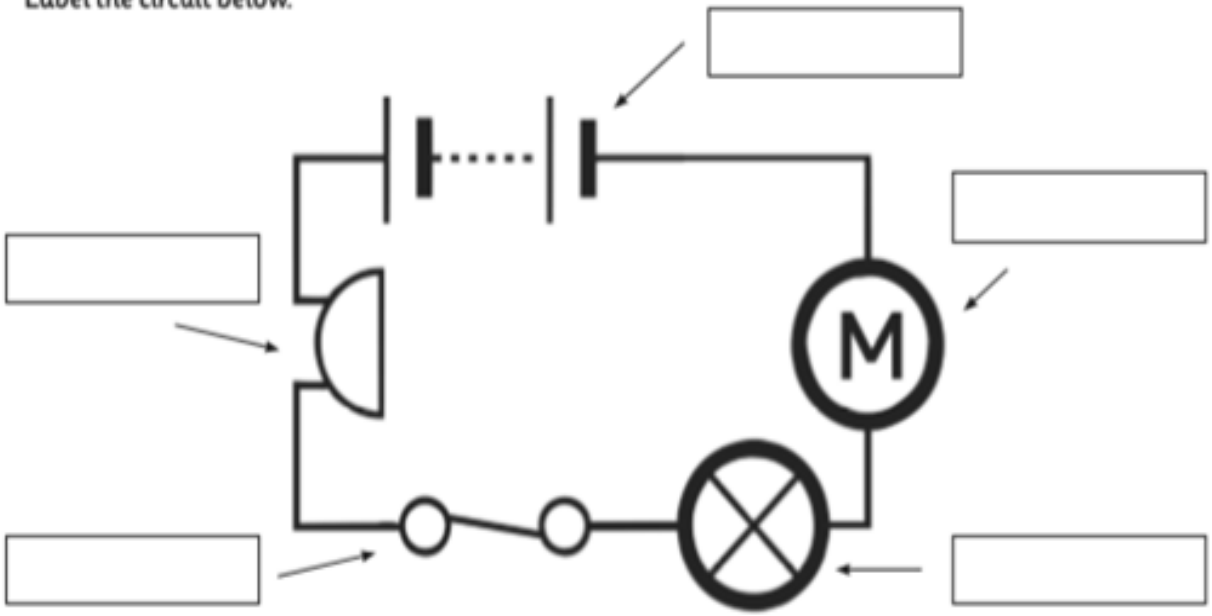
My Previous Knowledge…	
New knowledge …	
Week 1	• • •
Week 2	• • •
Week 3	• • •

Week 4	• • •
Week 5	• • •
Week 6	• • •
Week 7	• • •

Post Knowledge Quiz

Q1. Look at the diagram below and label it with the correct scientific vocabulary.

Label the circuit below.



Complete the sentences.

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Q.2 Draw a scientific circuit which contains:

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