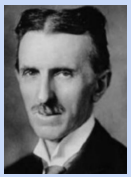
Grange Park Primary School Year 6 Spring 1 Science

Electricity

Significant Scientist

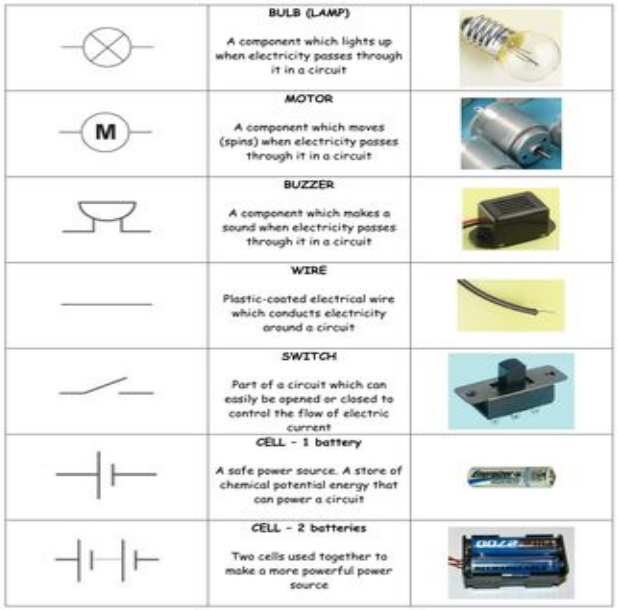
Nikola Tesla



Nikola Tesla (1856-1943) was a Serbian-American electrical and mechanical engineer. He was a prolific inventor and engineer who made big strides in the areas of electricity, radio and X-rays. Without Tesla's development of a type of electrical circuit (AC) we would not have electric lights in our homes.

Working Scientifically Skills

- Plan
- Measure
- Fair test
- Report data – scientific diagrams, labels, bar graphs and line graphs.
- Present – conclusions, casual relationships, explanations.

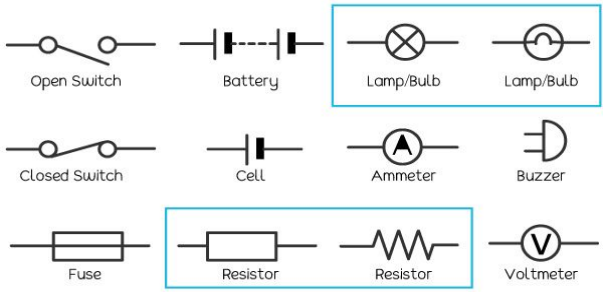


Key Knowledge

- In a circuit all the components are joined together and the electricity can only flow in one direction.
- A circuit will not work properly if: the cells are not connected correctly (+ to - not ++ or - -); the circuit has gaps; one of the components acts as an insulator.
- Resistors (bulbs, buzzers, motors etc) use energy. The more resistors in a circuit, the less energy there is for each of them to use, e.g. two bulbs will shine less brightly than one bulb. Using more cells or batteries will increase the energy available.
- An electrical conductor lets electricity pass through it. They are often metal, e.g. iron, copper and gold but also include carbon and water. As our bodies are 18% carbon, electricity is very dangerous to us.
- Water is a very good conductor of electricity. We must not use electrical appliances near it.
- An insulator does not let electricity pass through it, e.g. wood, leather and plastic. Plastic is used to cover electrical wires because it is a good insulator.
- Switches can be used to open and close circuits.

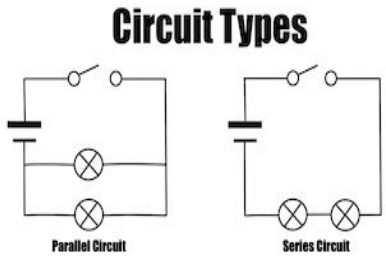
Enquiry Skills

- Observing over time
- Fair testing
- Pattern seeking



Key Vocabulary

circuit	A complete path which an electric current can flow around.
conductor	An object or type of material that heat or electricity can pass through or along.
insulator	An object or type of material that electricity or heat can not easily pass through or along.
amp	The measurement of how much electricity is flowing through a circuit, measured using an Ammeter.
volt	A unit of electrical force or pressure that allows electrons to flow through a circuit, measured using a Voltmeter.
energy	The power from sources (e.g. cells) such as electricity that makes machines work, produces light or provides heat.
current	A flow of electricity through a wire or circuit.
resistor	An electrical component that opposes the flow of current.
parallel circuit	A circuit that comprises of branches so that the current is divided.
series circuit	A circuit with just one branch, where the whole current flows through each component.
fuse	A safety device that consists of a strip of wire that melts and breaks when an electric current exceeds the safety limit.



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