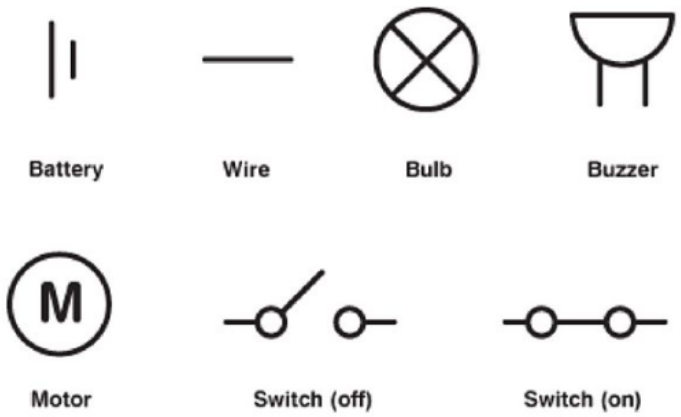
Science – Shocks and Sparks – Year 6 - Summer 1 – How does the need for electricity affect

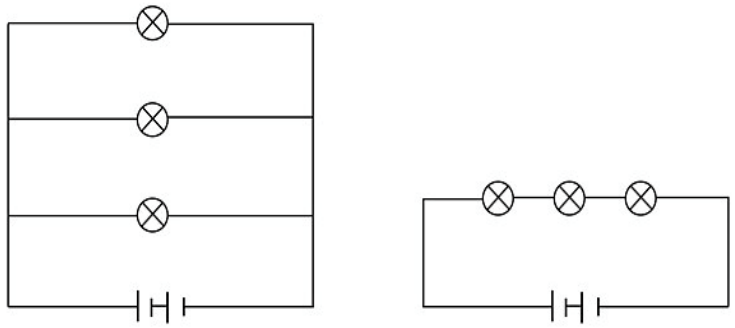
Vocabulary Top Ten:

conductors	Materials that let electricity pass through them easily
insulator	Materials that do not allow electricity to pass through them easily
electrical resistance	The measure of the difficulty of passing an electric current through a substance.
voltage	The force that makes the electric current move through the wires.
current	The flow of electrons (measured in amps).
amps	How electrical current is measured
electricity	A form of energy resulting from the existence of charged particles (electrons or protons).
cell/battery	A device that stores chemical energy until it is needed. A cell is a single unit; a battery is a collection of cells.
electrons	Very small particles that travel around an electrical circuit.
circuit	A path an electrical current can flow around.

Electrical symbols



Series and Parallel Circuits



Key Facts:

Electricity is a form of energy. Energy is needed to make things happen.

Electrons are small particles with a negative electric charge

An electric current can only flow when there is a complete circuit. As well as the continuous circulation of charge all around the circuit, there is a net transfer of energy from battery to bulb (or other component)

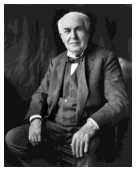
Batteries store chemical energy and change it to electrical energy.

A circuit connected in series contains components attached to each other, like holding hands in a circle. Components connected in a parallel circuit are connected across each other.

The current depends on what is connected in the circuit

A bulb in the circuit slows down (resists) the flow of electricity. More bulbs, wired in series, will slow down the flow even more so the bulbs become dimmer.

Increasing the battery voltage drives the charge around the circuit at a greater rate.



Thomas Edison (1847-1931)

Inventor of the fuse.

Hertha Ayrton (1854 –1923)

The first female engineer of the institution of electrical engineers