








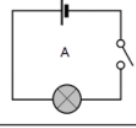
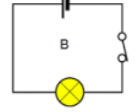


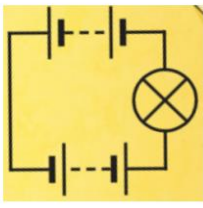
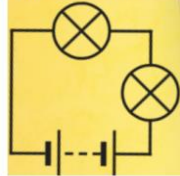
Key Vocabulary:

| | |
|-----------------------------|---|
| ammeter | Measures the current in a circuit. |
| appliances | A device or machine in your home that you use to do a job such as cleaning or cooking. |
| electron | Particle with a charge of negative electricity, found in all atoms and carries electricity in solids. |
| proton | A particle with a positive electrical charge. |
| circuit | A complete route which an electric current can flow around. |
| current | A flow of electricity through a wire or circuit. |
| electricity | A form of energy that can be carried by wires and is used for heating, lighting or powering devices. |
| mains | Where the supply of water, electricity or gas enters a building. |
| resistance | A force which slows down a moving object or vehicle. |
| voltage | The force of an electric current as measured in volts. |
| series circuit | A closed circuit in which the current follows one path. |
| parallel circuit | A closed circuit in which the current divides in two or more paths before rejoining. |
| renewable energy | Energy made from resources that nature will replace, like wind, water and sunshine. |
| non-renewable energy | Energy made from resources that we use faster than they form e.g. coal, gas and oil. |
| solar power | Using the energy of the Sun to generate electricity. |
| wind turbines | Wind turbines turn energy from the wind into electricity. |
| tidal turbines | Tidal turbines turn energy from moving water into electricity. |

Diagrams/Images:

| Circuit Symbols | | | |
|--|---------------|---|-------------|
|  | Switch Closed |  | Cell |
|  | Ammeter |  | Motor |
|  | Battery |  | Resistor |
|  | Bulb |  | Switch Open |
|  | Buzzer | | |

| Switches | |
|---|---|
| <ol style="list-style-type: none"> When a switch is open (off) there is a gap in the circuit. Electricity cannot flow around the circuit. |  |
| <ol style="list-style-type: none"> When a switch is closed (on) it makes the circuit complete. Electricity can flow around the circuit. |  |

| Knowledge - What Effects a Circuit | |
|--|---|
| <p><u>What will make a bulb brighter or a buzzer louder?</u></p> <ol style="list-style-type: none"> More batteries or a higher voltage create more power to flow through the circuit. Shortening the wires means the electrons have less resistance to flow through. | <p><u>What will make a bulb dimmer or a buzzer quieter?</u></p> <ol style="list-style-type: none"> Fewer batteries or a lower voltage give less power to the circuit. More buzzers or bulbs mean the power is shared by more components. Lengthening the wires means the electrons have to travel through more resistance. |
|  |  |

Key Facts:

| |
|---|
| 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. |
| More batteries or a higher voltage create more power to flow through the circuit. |
| Shortening the wires means the electrons have less resistance to flow through. |
| In a series circuit, every device must function for the circuit to be complete. If one bulb burns out in a series circuit, the entire circuit is broken. |
| In parallel circuits, each light bulb has its own circuit, so all but one light could be burned out, and the last one will still function. |
| Nikola Tesla pioneered the generation, transmission, and use of alternating current (AC) electricity. |
| Renewable energy generates clean energy. This means it doesn't use fossil fuels or produce any greenhouse gases. Renewable energy reduces air pollution. Renewable energy is unlimited and can't run out. |