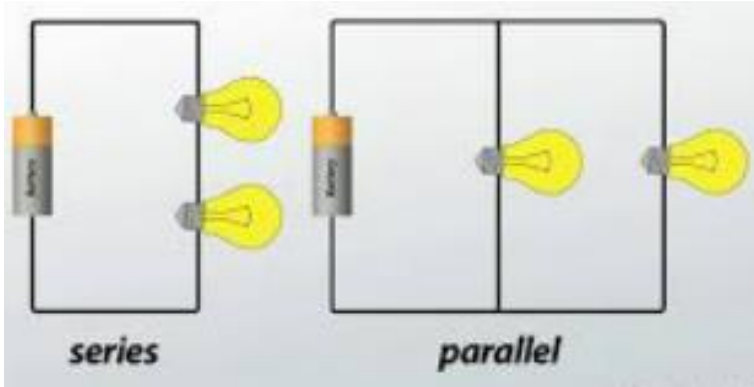


Linked scientists

Nikola Tesla - Electrical & Mechanical Engineer who developed the AC electrical system and made important advances in technologies such as x-rays, neon lights and robotics

Key Vocabulary	
appliances	A device or machine in your home that is used to do a job. Appliances are often electrical
Battery / cell	Small devices that provide the power for electrical items such as torches
bulb	The glass component 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
circuit	A complete route which an electric current can flow around
circuit diagram	A drawn diagram of a circuit using symbols to represent components
conductor	A material that heat or electricity can pass through or along
current	A flow of electricity , electrons , measured in amps
electricity	A form of energy that can be carried by wires and is used for heating & lighting, or to power devices
insulator	A non-conductor of electricity or heat. It doesn't let electricity pass through
mains	Where the supply of water, electricity or gas enters a building
motor	A device that uses electricity or fuel to produce movement
parallel circuit	The electric current is divided into separate paths
resistance	The difficulty that the electric current has when flowing round a circuit
series circuit	All the electric current flows through each part of the circuit
switch	Controls the flow of electrical current around the circuit
symbol	A universal drawing of a component in a circuit diagram
voltage	An electric force to make electricity flow
wires	A long thin piece of metal that is used to fasten things, or to carry electric current



What I will know by the end of the unit	
To use recognised symbols when drawing circuit diagrams	<p>Circuits have universal symbols so that when they are drawn, it is understood how they have been constructed.</p> <p>The left side shows two hand-drawn circuit diagrams. The top one is a simple loop with a battery, a lamp symbol, and an open switch. The bottom one is a more complex loop with a battery, two lamp symbols, and a switch. To the right is a green-bordered box titled 'Electrical Circuit Symbols' containing various standard symbols: a lamp (indicator), a lamp (lighting), a wire, an ammeter (A), a motor (M), a voltmeter (V), a buzzer, an open switch, a cell, a battery, and a closed switch.</p>
That the brightness of a bulb , or the volume of a buzzer depended on the voltage or number of cells in the circuit	<p>Batteries produce power. <i>What will make a bulb brighter or a buzzer louder?</i></p> <ul style="list-style-type: none">• When batteries power a circuit the voltage is shared between the components in the circuit.• 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><i>What will make a bulb dimmer or a buzzer quieter?</i></p> <ul 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
How to compare and give reasons for variation in how components function in a circuit	<p>If you make the wires longer, the bulb will get dimmer, or the buzzer will become quieter.</p> <p>If you add more batteries, the bulb will get brighter, or the buzzers will get louder. This is because there is a greater current.</p> <p>If you add more bulbs, the bulbs will become dimmer.</p> <p>The right side features an infographic titled 'Electrical safety' with five panels. 1. 'NEVER PUT METAL OBJECTS IN OUTLETS OR APPLIANCES.' showing a hand putting a metal object into a power outlet. 2. 'DON'T PLUG TOO MUCH STUFF INTO ONE OUTLET.' showing a power strip with many plugs. 3. 'NEVER MIX WATER AND ELECTRICITY.' showing a person using a power drill near a body of water. 4. 'STAY AWAY FROM POWER LINES.' showing a person climbing a power pole. 5. 'STAY AWAY FROM TRANSFORMERS AND SUBSTATIONS.' showing a large electrical transformer.</p>

