

## VOCABULARY

## KEY LEARNING

**Conductor:** Some materials let electricity pass through them easily. These materials are known as electrical conductors.

**Insulator:** materials that don't let electricity pass through.

**Socket:** a safe device to plug your electrical items into at home. Almost every room at home will have at least one socket.

**Series circuit:** s one that has more than one resistor, but only one path through which the electricity (electrons) flows.

**Cells:** a device that is used to generate electricity, or one that is used to make chemical reactions possible by applying electricity.

**Volts:** Voltage is an electrical potential difference, the difference in electric potential between two places.

**Generator:** A machine that converts energy into electricity.

**Turbine:** A machine that creates continuous power in which a wheel, or something similar, moves round and round by fast moving water, steam, gas or air.

**Fuses:** These are safety devices. A fuse is a strip of wire that melts and breaks an electric circuit if it goes over a safe level.

**Thomas Edison:** inventor that came up with a way of making the electric light bulb accessible for homes, industry and outside in the streets.

### Electricity

#### MAIN IDEA

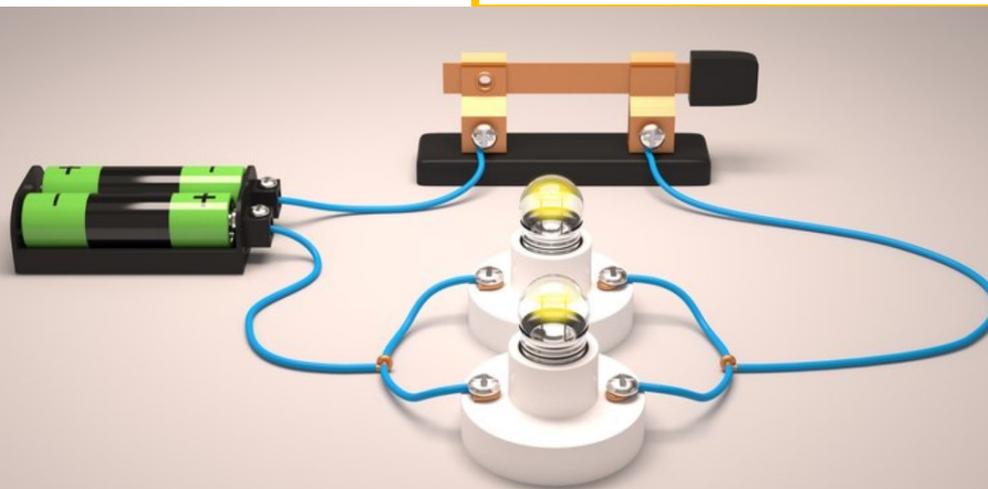
Learn how to construct a simple series circuit and represent it as a diagram using recognised symbols. Relate the brightness of a bulb to voltage, and compare and give reasons for how the different components function. Explore more sustainable energy,

#### WHAT CAME BEFORE

Year 4 - identify common appliances that run on electricity and construct simple series electrical circuits. Identify and name its basic parts, including cells, wires, bulbs, switches and buzzers. Draw simple electrical circuits without conventional symbols.

#### WHAT COMES NEXT

Key Stage 3: Electricity and electromagnetism



#### WHAT YOU SHOULD ALREADY KNOW

Construct simple electrical circuit and name its basic parts, including cells, wires, bulbs, switches and buzzers.

Draw simple electrical circuits and know the essential elements needed to make a circuit work.

Compare and give reasons for variations in how components function, such as the loudness of buzzers or the on/off position of switches

Building on their work in year 4, pupils will construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors.

Pupils are taught to take the necessary precautions for working safely with electricity, and how to look for hazards in the home such as overloaded adapter switches.

Pupils will work apply their knowledge of series circuits by designing and making devices such as traffic lights or burglar alarms.

#### INVESTIGATE / QUESTIONS

How else can energy be generated?

How many volts of electricity can lighting generate? How many lightbulbs is this equivalent to?

How are electric fields and gravity similar?