



Electricity

Scientist



Mo Ibrahim

Pioneer in the mobile phone industry



Hertha Ayrton

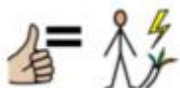
Engineer, physicist, mathematician and inventor

Skills

I'm planning different types of scientific enquiries like a renewable energy engineer.



I'm setting up comparative and fair tests like an electrician.



Careers

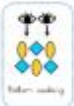
Electrician (installs and maintains electrical equipment)
Renewable energy engineer (works on environmentally conscious energy production)

Enquiries



How does the voltage of the batteries in a circuit affect the brightness of the

Which brand of battery lasts the longest?



Does the temperature of a light bulb go up the longer it is on?

How would you group electrical components and appliances based on what electricity makes them do?



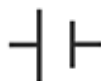
How has our understanding of electricity changed over time?

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,



wire



cell



battery



switch (off)



bulb



buzzer

Key Learning

- 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.

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.

What comes next?

Key Stage 3: Electricity and electromagnetism

Key vocabulary

- Conductor
- Insulator
- Socket
- Series circuit
- Cells
- Volts
- Generator
- Turbine
- Fuses
- Thomas Edison