

Final Outcome: We are working towards creating a fact file explaining how electricity travels around a circuit, including the children's understanding of different components of a circuit.

Component 6: Scientific investigation – Will adding more cells affect the circuit?

What we will know after this sequence:

- Pupils will be able to plan an electricity focussed investigation.
- As a result of this investigation, pupils will understand variations in how components function.
- When planning and carrying out this investigation, pupils will be able to decide which variables to control and explain variations in functions.

Vocabulary:

Components, function, variation, investigation, variables, circuit, practical enquiry, fair and comparative test, observe, compare

How will this feed into my next learning: Children will use all that they have learnt to create a detailed fact file.

SEN: Templates to help with planning and carrying out the experiment. Word mats to help with new vocabulary. Support when carrying out the experiment.



Component 4: Volts and voltage

What we will know after this sequence:

Pupils will be able to draw circuit diagrams indicating the voltage. Pupils will be able to explain the effect of increasing or decreasing the voltage on different parts of a circuit. Pupils will be able to build their own circuit and demonstrate the effect of a change of voltage.

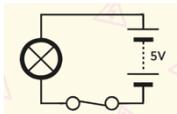
Vocabulary:

Current, voltage, electrons, amperes (amps), force, flow, powered, increasing, decreasing, components

How will this feed into my next learning:

Pupils will be able to use their knowledge on building circuits to test the effect of different components.

SEN: Visual representation of all new vocabulary in the form of visual word mats. Assistance and support when building the circuit.



Component 5: Scientific investigation – Does wire length affect how components in a circuit work?

What we will know after this sequence:

Pupils will be able to plan an electricity focussed investigation. As a result of this investigation, pupils will understand variations in how components function. When planning and carrying out this investigation, pupils will be able to decide which variables to control and explain variations in functions.

Vocabulary:

Components, function, variation, investigation, variables, circuit, practical enquiry, fair and comparative test, observe, compare

How will this feed into my next learning:

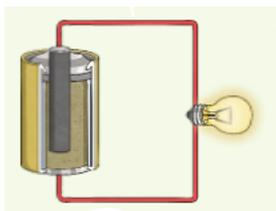
Pupils will continue to look at components within a circuit and consider changes to alternative components.

SEN: Templates to help with planning and carrying out the experiment. Word mats to help with new vocabulary. Support when carrying out the experiment.

Component 3: Building my own circuit

What we will know after this sequence:

- Pupils will be able to build their own circuits.
- Pupils will be able to 'trouble shoot' and change parts of their circuit to make it function more efficiently.



Vocabulary:

Circuit, bulb, diagram, battery, cell, electrode, electrolyte, symbol, components, function

How will this feed into my next learning:

Pupils will use their practical knowledge of circuits to begin to look at the effects of variation within circuit components.

SEN: Word mats to help with new vocabulary. Support when building the circuit.

Component 2: Circuits and symbols

What we will know after this sequence:

- Pupils will be able to recognise and draw scientific circuit symbols.
- Pupils will know the scientific symbols for the main parts of a circuit.
- Pupils will be able to create circuit diagrams using scientific symbols.

Vocabulary:

Circuit, bulb, diagram, battery, cell, electrode, electrolyte, symbol, components

How will this feed into my next learning:

Pupils will use their knowledge of circuits, and how they work, to build their own circuit.

SEN: Help sheet with names and images of all components of a circuit and their functions.

Component 1: Discovery and understanding of electricity over time

We should know:

That we use electricity as a power source. That we use electricity for lots of things. That electricity can be dangerous. That electricity can be an alternative power source to fossil fuel.

What we will know after this sequence:

- Pupils will know and be able to explain the importance of the major discoveries in electricity.
- They will be able to identify how our understanding of electricity has changed over time.
- Pupils will be able to explain how major discoveries affected our understanding and use of electricity.

Vocabulary:

Electricity, static, natural, man-made, electric shock, power station, insulators, conductors, circuit, batteries.

How will this feed into my next learning:

Pupils will use their general understanding of electricity to dive deeper into the topic of electricity and broaden their understanding of circuits and how these are used to make electricity mobile (batteries).

SEN: Differentiated challenges. Visual word mat with newly learnt vocabulary.

