



Year 6 – Electricity



Working Scientifically	Sticky Knowledge	Linked Texts	Key Scientists
- Recall and use specific scientific vocabulary accurately (year group key vocabulary) - Plan different types of scientific enquiries to answer questions, include recognise and control variables where necessary - Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why - Take measurements, use a range of scientific equipment, with increasing accuracy and precision, take repeat readings when appropriate - Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - Use test results to make predictions to set up further comparative and fair tests - Report and present findings from enquiries, include conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations - Identify scientific evidence that has been used to support or refute ideas or arguments. - Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas	Batteries are a store of energy. This energy pushes electricity round the circuit. When the battery's energy is gone it stops pushing. Voltage measures the 'push.' The greater the current flowing through a device the harder it works. Current is how much electricity is flowing round a circuit. When current flows through wires heat is released. The greater the current, the more heat is released. From Yr 4 A source of electricity (mains of battery) is needed for electrical devices to work. Electricity sources push electricity round a circuit. More batteries will push the electricity round the circuit faster. Devices work harder when more electricity goes through them. A complete circuit is needed for electricity to flow and devices to work. Some materials allow electricity to flow easily and these are called conductors. Materials that don't allow electricity to flow easily are called insulators.	Goodnight Mister Tom (Michelle Magorian) Blackout (John Rocco) Hitler's Canary (Sandi Toksvig)	Alessandro Volta (Electrical Battery) Nicola Tesla (Alternating Currents)
Key Question(s):	Key Question(s):	WS vocabulary	
What is a series circuit and explain how it works? What is the difference between a simple and a parallel circuit? How is the brightness of a bulb linked to the voltage/number of cells used? How can changing the voltage of a battery effect different compenents? What factors in a circuit can affect the loudness of a buzzer? Can you draw and label three circuit symbols? What is a conductor (give three examples) and explain why they are useful? Can you describe two necessary precautions for working safely with electricity? Can you explain how to change components in a circuit (working systematically)?	Do all batteries push as hard as each other? How does the voltage of a batters affect how much current is pushed? How does the length of time I leave the current flowing for affect the brightness of the bulb? Are all types of wires as good as conducting electricity? Why are wires insulated in plastic? Does type of material make a difference? Does length of wire make a difference? Does the type of circuit affect how the components work/long the battery lasts? What renewable ways can we generate electricity? How does current affect heat? What are the dangers of a short circuit?	Investigation, enquiry, prediction, variable, dependent variable, independent variable, constant, patterns, equipment, apparatus, method, results, conclusion, graph, patterns, distance, data, theory, fair test, reasoning	

Teaching suggestions in Enquiry types

<u>Comparative tests</u>	<u>Identify & Classify</u>	<u>Observation over time</u>	<u>Pattern Seeking</u>	<u>Research</u>	<u>BIG Question – Problem solving</u>
How does the voltage of the batteries in a circuit affect the brightness of the lamp? How does the voltage of the batteries in a circuit affect the volume of the buzzer? Which make of battery lasts the longest? Which type of fruit makes the best fruity battery? 	How would you group electrical components and appliances based on what electricity makes them do? 	How does brightness of bulb change as the battery runs out? How can we measure how quickly a battery is used up? 	Does the temperature of a light bulb go up the longer it is on? 	How has our understanding of electricity changed over time? 	Can we vary the effects of electricity? (Also use EXPLORIFY) <u>Assessment Opportunity</u> 