

## Electricity substantive knowledge end points

	Scientists	National curriculum	Key knowledge (Sticky knowledge)	Vocab	Jobs
EYFS <b>Which objects need electricity?</b>	Ruzena Bajcsy (Robitcs)  Slovak Female	Understanding the world Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps	We can switch things on and off Some objects need electricity	Electricity	Electrician Factory worker Inventor Electrical scientist
Year 1					
Year 2					
Year 3					
Year 4 <b>What can we do with electricity?</b>	Thomas Edison (First Working Lightbulb)  American Male	Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether a lamp will light in a simple series circuit, based on whether the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes the circuit and associate this with whether a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors.	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.	Electric current, conductor, electrical insulator, component. (Link to Y5 materials)	

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		Know the difference between a conductor and an insulator, giving examples of each. Safety when using electricity.			
Year 5					
Year 6 <b>Can we vary the effects of electricity?</b>	Nikola Tesla (Inventor)  Male Austrian	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram.	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.	neutrons, protons, electrons, nucleus, atom, conductor, electrical insulator, conductor.	