

Gawber Primary School Science

PHYSICS: Electricity

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Science Knowledge End Points:	Identify common appliances (machine) that run on electricity	- Know that switches turn electrical items on and off - Use electrical controls to control the movement of Beebots. - Identify appliances which use batteries or plugs around school and home - Know what life was like for children before Electricity	- Identify appliances which run off battery power or Mains electricity - Identify ways to stay safe round electrical appliances	- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers - Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery - Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit - Recognise some common conductors and insulators, and associate metals with being good conductors. - Begin to understand the importance of renewable energy and how this electricity is made	- Understand the importance of coal power before electricity was discovered and begin to understand the changes in electrical energy use seen across the UK. - Know what pre and post Electricity Victorian life was like	- 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 - Understand how simple electrical circuits and components can be used to create functional products (linked to DT)	- Identify electrical conductors and insulators and understand the properties of these materials - Know how they can be good global citizens and reduce electricity waste and understand the importance of energy conservation - Develop understanding of renewable and non-renewable energy sources



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Key Scientists Study:		Joseph Swan (inventor and scientist responsible for light bulbs)		William Kamkwamba (Malawian inventor- wind turbine and water pump) Swan, Edison and Tesla (inventors and scientists responsible for light bulbs)		Edith Clarke (Electrical Engineer) Alessandro Volta (Electrical Battery) Nikola Tesla (Alternating Currents (AC) Electric System)	
Key Vocabulary:	Machine (appliance), Electricity,,Power	Machine (appliance), Electricity, Power, Switch, on, off, battery, plug	Machine (appliance), Electricity, Power, Switch, on, off, battery, plug, mains power, safety, warning.	Electricity, Plug, wire, mains, battery, Simple series circuit, cells, wires, bulbs, switches, buzzers, Switch, open, closed, loop, complete, incomplete Conductors, insulators	Electricity, Power, Industrial Revolution, Energy	Cell, voltage, brightness, volume, buzzer, circuit Component, variation, circuit, complete, power, flow Symbols, circuit diagram, series circuit, parallel circuit Circuits, electrical, product, function - sound	Conductors, Insulators Properties of materials Renewable, Non- Renewable, Energy

Science Knowledge End Points: Black = Normal NC Positioning Blue = NC requirement but moved Red = Extra learning