



Year 4 Science

Electricity Knowledge Organiser

To understand that some common appliances run on electricity, with a focus on circuits, conductors and insulators.

<u>Would the bulb light up?</u>		<u>Tier 2 Vocabulary</u>	
	<p>Will the bulb light?</p> <p style="text-align: center; color: green; font-weight: bold;">Yes</p> <p>Why?</p> <p>The circuit has a battery and a bulb and is complete.</p>	<u>Tier 3 Vocabulary</u>	
	<p>Will the bulb light?</p> <p style="text-align: center; color: red; font-weight: bold;">No</p> <p>Why?</p> <p>The circuit has no battery to provide the electrical power.</p>	generator = a machine that makes electrical energy	current = the flow of electrical charge
	<p>Will the bulb light?</p> <p style="text-align: center; color: red; font-weight: bold;">No</p> <p>Why?</p> <p>The circuit is not complete.</p>	component = needs electricity to work (e.g. a part of a circuit)	connected = something that is joined or linked
	<p>Will the bulb light?</p> <p style="text-align: center; color: red; font-weight: bold;">No</p> <p>Why?</p> <p>The switch is in the off (0) position.</p>	circuit = a path through which an electric current flows	battery (cell) = stores and provides energy
		wire = thin strips of metal that conduct electricity	bulb = component that creates light
		switch = component that switches circuits on and off	buzzer = component that creates sound
		What we will be learning:	
		To understand that some common appliances run on electricity, with a focus on circuits, conductors and insulators.	
		<ul style="list-style-type: none"> 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 or not a lamp will light in a simple series circuit. recognise that a switch opens and closes a circuit recognise some common conductors and insulators, and associate metals with being good conductors. 	

Important facts:

What is electricity?

Created by generators, powered by gas, coal, oil, wind or solar. Electrical energy can be converted into light, heat, movement or sound energy.

What is an electrical circuit?

Electricity flows through components in a complete circuit. It needs a power source (battery) with wires. Other components are; bulbs, buzzers or motors. A switch can create a gap in the circuit to switch it on (closed) or off (open).

What is a conductor and insulator?

Conductors let electricity pass through them and metals (iron, copper, steel) are good conductors. Insulators do not allow electricity to pass through them and wood, glass, plastic and rubber are good insulators.