

Year 4: Science – Physics – Electricity



Glossary		Key Information	Curricular Goals																																																	
Appliances	a device or machine in your home that you use to do a job such as cleaning or cooking. Appliances are often electrical	 <table border="1"> <thead> <tr> <th colspan="3">Key Components</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>buzzer</td> <td>battery / cell</td> <td>wire</td> </tr> <tr> <td>An electric signaling device, such as a doorbell, that makes a buzzing sound.</td> <td>A source of power. A battery is made from a collection of cells connected together</td> <td>wire – stretched out flexible metal</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>motor</td> <td>switch</td> <td>bulb</td> </tr> <tr> <td>gives motion or action.</td> <td>a device for making and breaking the connection in an electric circuit.</td> <td>light bulb</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="2">Diagrams</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td colspan="2">These are complete circuits - they have a battery (cell) and a component (bulb). The wires are placed in the right places of the battery for the circuit to work.</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td colspan="2">These circuits will not work as they are incomplete.</td> </tr> </tbody> </table> <p>Common Appliances that use electricity</p> <table border="0"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>toaster</td> <td>lamp</td> <td>kettle</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>laptop</td> <td>X-box</td> <td>phone</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>torch</td> <td>headlights</td> <td>television</td> </tr> </table>	Key Components						buzzer	battery / cell	wire	An electric signaling device, such as a doorbell, that makes a buzzing sound.	A source of power. A battery is made from a collection of cells connected together	wire – stretched out flexible metal				motor	switch	bulb	gives motion or action.	a device for making and breaking the connection in an electric circuit.	light bulb	Diagrams				These are complete circuits - they have a battery (cell) and a component (bulb). The wires are placed in the right places of the battery for the circuit to work.				These circuits will not work as they are incomplete.					toaster	lamp	kettle				laptop	X-box	phone				torch	headlights	television	<p>Where does electricity come from? Electricity is generated using energy from natural sources such as the Sun, oil, water and wind. These can also be called fuel sources.</p> <p>Which appliances run on electricity?</p> <ul style="list-style-type: none"> • Some appliances use batteries and some use mains electricity. • Batteries come in different sizes depending on how much and for how long the appliance is used. • Common appliances that use electricity <p>How does a circuit work? A complete circuit is a loop that allows electrical current to flow through wires. A circuit contains a battery (cell), wires and an appliance that requires electricity to work (such as a bulb, motor or buzzer) The electrical current flows through the wires from the battery (cell) to the bulb, motor or buzzer). A switch can break or reconnect a circuit. A switch controls the flow of the electrical current around the circuit. When the switch is off, the current cannot flow</p> <p>What are electrical conductors and insulators?</p> <ul style="list-style-type: none"> • When objects are placed in the circuits, they may or may not allow electricity to pass through. • Objects that are made from materials that allow electricity to pass through a create a complete circuit are called electrical conductors. • Objects that are made from materials that do not allow electricity to pass through and do not complete a circuit are called electrical insulators.
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Battery	small devices that provide the power for electrical items such as torches																																																			
Bulb	the glass part of an electric lamp, which gives out light when electricity passes through it.																																																			
Buzzer	an electrical device that is used to make a buzzing sound																																																			
Cell	a synonym for battery																																																			
Circuit	a complete route which an electric current can flow around																																																			
Component	the parts that something is made of																																																			
Conductor	a substance that heat or electricity can pass through or along																																																			
Current	a flow of electricity through a wire or circuit																																																			
Device	an object that has been invented for a particular purpose																																																			
Electricity	a form of energy that can be carried by wires and in used for heating and lighting, and to provide power for devices																																																			
Fuel	a substance such as coal, oil, or petrol that is burned to provide heat or power																																																			
Generate	cause it to begin and develop																																																			
Insulator	a non-conductor of electricity or heat																																																			
Mains	where the supply of water, electricity, or How does a gas enters a building																																																			
Motor	a device that uses electricity or fuel to produce movement																																																			
Power	Power is energy, especially electricity, that is obtained in large quantities from a fuel source and used to operate lights, heating, and machinery																																																			
Source	where something comes from																																																			
Switch	a small control for an electrical device which you use to turn the device on or off																																																			
Wires	a long thin piece of metal that is used to fasten things or to carry electric current																																																			