



**What should I already know?**

- Electricity is a form of energy that can be carried by wires and is used for heating and lighting and to provide power for devices.
- Sources of light and sound may need electricity to work.

**Big Ideas this works towards:**

*Energy, which cannot be created or destroyed, comes in many different forms and tends to move away from objects that have lots of it.*

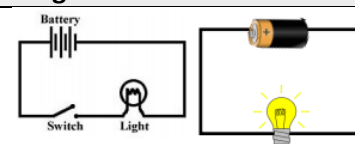
**What will I know by the end of the unit?**

Where does electricity come from?	<ul style="list-style-type: none"> <li>• <b>Electricity</b> is <b>generated</b> using <b>energy</b> from natural <b>sources</b> such as the Sun, oil, water and wind.</li> <li>• These can also be called <b>fuel sources</b>.</li> </ul>
Which appliances run on electricity?	<ul style="list-style-type: none"> <li>• Some <b>appliances</b> use <b>batteries</b> and some use mains electricity.</li> <li>• <b>Batteries</b> come in different sizes depending on how much and for how long the <b>appliance</b> is used.</li> <li>• Recognize common <b>appliances</b> that use <b>electricity</b>.</li> </ul>
How does a circuit work?	<ul style="list-style-type: none"> <li>• A complete <b>circuit</b> is a loop that allows <b>electrical current</b> to flow through <b>wires</b>.</li> <li>• A <b>circuit</b> contains a <b>battery (cell)</b>, <b>wires</b> and an <b>appliance</b> that requires <b>electricity</b> to work (such as a <b>bulb</b>, <b>motor</b> or <b>buzzer</b>).</li> <li>• The electrical circuit flows through the wires from the battery (cell) to the bulb, motor or buzzer.</li> <li>• A switch can break or reconnect a circuit.</li> <li>• A <b>switch</b> controls the flow of the <b>electrical current</b> around the <b>circuit</b>. When the <b>switch</b> is off, the <b>current</b> cannot flow. This is not the same as an incomplete <b>circuit</b>.</li> </ul>
What are electrical conductors and insulators?	<ul style="list-style-type: none"> <li>• When objects are placed in the <b>circuits</b>, they may or may not allow <b>electricity</b> to pass through.</li> <li>• Objects that are made from materials that allow <b>electricity</b> to pass through a create a complete <b>circuit</b> are called <b>electrical conductors</b>.</li> <li>• Objects that are made from materials that do not allow <b>electricity</b> to pass through and do not complete a <b>circuit</b> are called <b>electrical insulators</b></li> </ul>

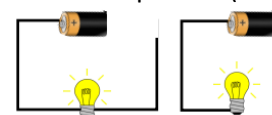
Vocabulary

appliances	a <b>device</b> or machine in your home that you use to do a job such as cleaning or cooking. <b>Appliances</b> are often <b>electrical</b> .
battery	small <b>devices</b> that provide the <b>power</b> for <b>electrical</b> items such as torches
bulb	the glass part of an <b>electric</b> lamp, which gives out light when <b>electricity</b> passes through it
buzzer	an <b>electrical device</b> that is used to make a buzzing sound
cell	a synonym for <b>battery</b>
circuit	a complete route which an <b>electric current</b> can flow around
component	the parts that something is made of
conductor	a substance that heat or <b>electricity</b> can pass through or along
current	a flow of <b>electricity</b> through a <b>wire</b> or <b>circuit</b>
device	an object that has been invented for a particular purpose
electricity	a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices.
energy	the <b>power</b> from <b>sources</b> such as <b>electricity</b> that makes machines work or provides heat
fuel	a substance such as coal, oil, or petrol that is burned to provide heat or <b>power</b>
generate	cause it to begin and develop
insulator	a <b>non-conductor</b> of <b>electricity</b> or heat
mains	where the supply of water, electricity or gas enters the building.
motor	a <b>device</b> that uses <b>electricity</b> or fuel to produce movement
Power	<b>Power</b> is <b>energy</b> , especially <b>electricity</b> , that is obtained in large quantities from a fuel <b>source</b> and used to operate lights, heating and machinery.
source	where something comes from
switch	a small control for an electrical device which you can use to turn the device on or off.
wires	a long thin piece of metal that is used to fasten things or to carry <b>electric current</b>

**Diagrams**



These are **complete** circuits, they have a battery, cell and a component (bulb).



This circuit will not work as it is **incomplete**.