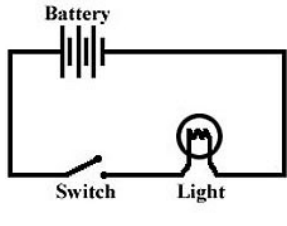









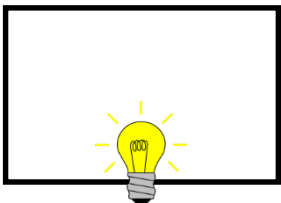
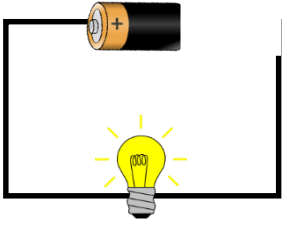
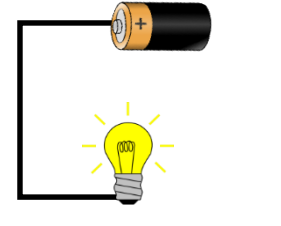


Science Knowledge Organiser

Electricity		Yr 4	Main Foci: Physics	
What should I already know?			Vocabulary	
<ul style="list-style-type: none">• 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.			appliances	a device or machine in your home that you use to do a job such as cleaning or cooking. Appliances are often electrical .
			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
			energy	the power from sources such as electricity that makes machines work or provides heat
			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 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
What will I know by the end of the unit?			Diagrams	
Where does electricity come from?	<ul style="list-style-type: none">• Electricity is generated using energy from natural sources such as the Sun, oil, water and wind.• These can also be called fuel sources.			
Which appliances run on electricity ?	<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. <div> toaster</div> <div> lamp</div> <div> kettle</div> <div> laptop</div> <div> X-box</div> <div> phone</div> <div> torch</div> <div> headlights</div> <div> television</div>			
How does a circuit work?	<ul style="list-style-type: none">• 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. This isn't the same as an incomplete circuit.			
What are electrical conductors and insulators ?	<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.			
Procedural Knowledge			These circuits will not work as they are incomplete.	
<ul style="list-style-type: none">• Research how to work safely with electricity.• Make a variety of circuits, investigating which circuits work and why.• Name the basic parts including cells, batteries, wires, bulbs, switches, motors and buzzers.• Draw circuits using pictorial representations (not circuit symbols).• Create circuits using switches.• Investigate which materials are electrical conductors and insulators.			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.	

Science Knowledge Organiser

Electricity

Yr 4

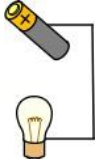
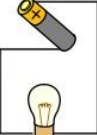
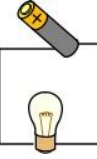
Main Foci: Physics

Question 1: Another name for a battery is:	Start of unit:	End of unit:
circuit		
light		
buzzer		
cell		

Question 2: Which of these need electricity to work?	Start of unit:	End of unit:
torch		
mobile phone		
games console		
car		

Question 3: How will you know if a material conducts electricity?	Start of unit:	End of unit:
Electricity will flow freely and the circuit will work		
Electricity will not flow and the circuit will not work		
The battery will not work		

Question 4: Which of these are conductors of electricity?	Start of unit:	End of unit:
plastic comb		
cardboard strip		
aluminium spoon		
copper coin		

Question 5: Which of these circuits will light?	Start of unit:	End of unit:
		
		
		

Question 6: Objects that are made from materials that do not allow electricity to pass through are called:	Start of unit:	End of unit:
conductors		
insulators		
batteries		

Question 7: Why is it dangerous to use an electrical appliance near water?	Start of unit:	End of unit:

Question 8: A circuit will not work if....(tick three):	Start of unit:	End of unit:
there is no battery		
the switch is off		
there is a break in the circuit		
there is no switch		

Question 9: When more batteries are added to a complete circuit...	Start of unit:	End of unit:
the light bulb does not go on		
the light bulb becomes brighter		
the circuit does not work		
the switch goes off		

Question 10: Why will this circuit not work?	Start of unit:	End of unit:
