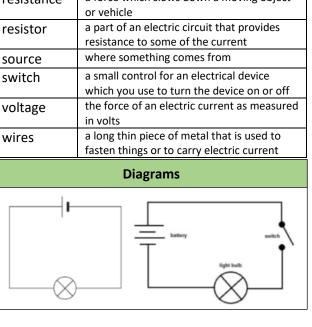
Topic: Electricity       Year:6       Strand: Physics         Big Question: How can circuits be changed?         What should I already know?         Electricity is a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices.         *Sources of light and sound may need electricity to work.         "Where electricity cones from il Which appliances need electricity.         "What a circuit is, the components of a circuit and how it works.         "What a dircuit is, the components of a circuit.         "What a dircuit is, the components of a circuit.         "What happens when a switch is added to a circuit.         "What torces and resistance are.         What will I know by the end of the unit?         Circuit symbols         Symbol       Component         Symbol       Component         Image: provide power for an electrical device that provides power for an electrical device that provides power for an electrical circuit. (multiple cells are called a battery)         Image: provide power for an electrical device that is used to make a battery         Image: provide power for devices.         Image: provide power for an electrical device that provides power for an electrical circuit. (multiple cells are called a battery)         Image: provide power for an electrical circuit.         Image: provide power for an electrical circuit.         Image: provide p	Jeavons Wood Primary School – Science Knowledge Organiser							
What should 1 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.       ammeter       ammeter       ammeter       appliances are often electricit.         *What actricial conductors and insulators are.       *What actricial conductors and insulators are.       bulb       bulb       bulb       the glass part of an electric lamp, which gives out light when electricial items such as torches (more than one cell)       bulb       bulb       bulb       bulb       bulb       the glass part of an electric lamp, which gives out light when electric lamp.         What will 1 know by the end of the unit?       bulb       the glas part of an electric lamp, which gives out light when electric current can flow around component the parts that sused to make a buzzing sound complete route which an electric lamp.         bulb       bulb       cell       a substance that hact or electric lamp and lighting, and to provide pavet for a particular purpos	Topic: Electricity	Year:6						
Urbody consisting and lighting, and to provide power for devices.         Sources of light and sound may need electricity work.         "What eclectricit components of a circuit and how it works.       advice or machine in your home that you use to do a job such as cleaning or cooking. Appliances are often electrical.         What a circuit is, the components of a circuit.       maine ter       advice or machine in your home that you use to do a job such as cleaning or cooking. Appliances are often electrical.         What happens when a switch is added to a circuit.       smail devices that provide the power for electrical items such as torches (more than one cell)         What will I know by the end of the unit?       battery       smail device that provides power for an electrical device that is used to make a buzzing sound         Circuit symbols       an electrical device that is used to make a buzzing sound       buzzer         Appliances       an electrical device that provides power for an electrical circuit. (multiple cells are called a battery)         Circuit       sourplet route which an electric current can flow around         Component       circuit       a complete route which an electric y an past through or along         Current       a flow of electricity through a wire or circuit and to provide power for devices         energy       the power for neoures such as celling and lighting, and to provide power for electricity or heat insulator         a non-conductor of electricity or heat       a substanc								
Letricity 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.   *What electricit cones from 8 Which appliances need electricity.   *What electricit is, the components of a circuit and how it works.   *What electrical conductors and insulators are.   *What happens when a switch is added to a circuit.   *What horces and resistance are.   What will I know by the end of the unit?   Circuit symbols   Symbol   Component   A   ammeter   ammeter   bulb   the glass part of an electrical more than use to built is used to make a buzzing sound   cell   a single device that provides power for a electrical device that is used to make a buzzing sound   cell   a complete route which an electric current can flow around.   conductor   a complete route which an electric current can flow around.   conductor   a substance such as 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 particular purpose   electricity   a cell   a substance such as celanig of neating and lighting, and to provide power for a electricity or neat   foreit   resistor   switch (open)		-		Vocabulary				
Whete electricity comes from 20 Which appliances need electricity   *Whate electricity comes from 20 Which appliances are delectricity   *What a circuit is, the components of a circuit and how it works.   *What happens when a switch is added to a circuit.   *What happens when a switch is added to a circuit.   *What forces and resistance are.   What will I know by the end of the unit?   Circuit symbols   Symbol   Component   Symbol   Component   electrical circuit. (multiple cells are called a battery)   bulb   circuit   a nolectricity croute which an electric current can flow around a substance that heat or electricity can pass through it.   bulb   circuit   a cell   a low certer   a dow certer   circuit symbols				· · · · · ·				
* Where electricity cones from B Which appliances need electricity       use to do a job such as cleaning or cooking. Appliances are often electrical.         * What a circuit is, the components of a circuit and how it works.       battery       small devices that provide the power for electrical items such as torches (more than one cell)         What will I know by the end of the unit?       bulb       the glass part of an electric lamp, which gives out light when electricity passes through it.         What will I know by the end of the unit?       bulb       the glass part of an electric lamp, which gives out light when electricity passes through it.         What will I know by the end of the unit?       bulb       the glass part of an electric lamp, which gives out light when electricity passes through it.         What will I know by the end of the unit?       bulb       the glass part of an electric lamp, which gives out light when electricity passes through it.         What will I know by the end of the unit?       circuit symbols       a nelectrical device that is used to make a buzzing sound         Circuit symbols       a meeter       bulb       the glass part of an electric lamp, which gives out light when electric lamp, which gives out lig					a device or machine in your home that you			
*What a circuit is, the components of a circuit and how it works.       Appliances are often electrical.         *What a circuit is, the components of a circuit.       battery         *What horces and resistance are.       battery         What will I know by the end of the unit?       battery         Circuit symbols       bulb         Symbol       Component         Symbol       Component         Image: Symbol       Component								
*What happens when a switch is added to a circuit.       electrical items such as torches (more than one cell)         What will I know by the end of the unit?       bulb       the glass part of an electricit passes through it.         Circuit symbols       an electrical device that is used to make a buzzing sound       bulb         A       ammeter       cell         A       ammeter       circuit       a complete route which an electric current can flow around         Conductor       a substance that the or electricity can pass through or along         bulb       current       a flow of electricity through a wire or circuit device         bulb       a flow of electricity through a wire or circuit device         buzzer       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 is burned to power generate         cause it to begin and develop       insulator         insulator       a non-conductor of electricity or heat	*What a circuit is, the components of	a circuit and how it works.						
*What forces and resistance are.       one cell)         What will I know by the end of the unit?       bulb       the glass part of an electricity passes through it.         Circuit symbols       bulb       bulb       the glass part of an electricity passes through it.         Symbol       Component       an electrical device that is used to make a buzzing sound         A       ammeter       a single device that provides power for an electrical circuit. (multiple cells are called a battery)         Circuit       a complete route which an electric current can flow around       component         bulb       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         buzzer       electricity       a on bject that has been invented for a particular purpose       electricity         electricity       a form of energy that can be carried by wires and in used for heating and lighting, and to provide power for otevices       energy       the power from sources such as coal, oil, or perrol that is burned to provide heat or power         fuel       a substance such as coal, oil, or petrol that       is burned to provide heat or power         energy       the ower for beating and develop       insulator       a non-conductor of electricity or heat         mains       where the supply of water, electric				battery				
What will I know by the end of the unit?         Circuit symbols         Symbol       Component         A       ammeter         Builb       the glass part of an electric lamp, which gives out light when electricity passes through it.         builb       builb         Circuit symbol       Component         Cell       a single device that provides power for an electrical circuit. (multiple cells are called a 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 form sources such as electricity that makes machines work or provides heat         fuel       a substance such as electricity or heat         generate       cause it to begin and develop         insulator       a non-conductor of electricity or heat         mains       where the supply of water, electricity, or		ed to a circuit.						
What will I know by the end of the unit?       gives out light when electricity passes through it.         Circuit symbols       an electrical device that is used to make a buzzer sound         Symbol       Component         A       ammeter         Battery       circuit         bulb       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 form sources such as electricity that makes machines work or provides heat         fuel       a substance such as cal, oil, or pertor that is bured to provide power         switch (open)       a non-conductor of electricity or heat	what forces and resistance are.			bulb	,			
Circuit symbols         Unrough it.         Symbol       Component         A       an electrical device that is used to make a buzzing sound         Cell       a single device that provides power for an electrical circuit. (multiple cells are called a 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         Mol       buzzer         Duzzer       electricity       a nobject 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         motor         motor         switch (open)         switch (open)	What will I know by	the end of the unit?						
Symbol       Component         A       ammeter         A       ammeter         A       ammeter         Battery       cell       a single device that provides power for an electrical circuit. (multiple cells are called a 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 coal, oil, or petrol that         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         insulator       a non-conductor of electricity or heat								
A       ammeter         A       ammeter         A       ammeter         A       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 flow 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				buzzer				
A       ammeter         A       ammeter         A       battery         B       battery         Circuit       a complete route which an electric current can flow around         Component       the parts that something is made of         Component       the parts that something is made of         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 parts accal, oil, or pertor that is burned to provide heat or power         fuel       a substance such as coal, oil, or pertor that is burned to provide heat or power         generate       cause it to begin and develop         insulator       a non-conductor of electricity or heat	- Symbol	component		cell				
Image: bulk bulk bulk bulk bulk bulk bulk bulk	—(A)—	ammeter						
battery       can flow around         bulb       component       the parts that something is made of         bulb       conductor       a substance that heat or electricity can pass         bulb       current       a flow of electricity through a wire or circuit         buzzer       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         motor       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	$\bigcirc$				11			
bulb         cell         motor         resistor         switch (open)				circuit				
bulb         bulb         buzzer         buzzer         cell         motor         resistor         switch (open)		battery		component				
bulb       through or along         buzzer       a flow of electricity through a wire or circuit         buzzer       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		bulb		· ·				
buzzer       device       an object that has been invented for a particular purpose         cell       device       a form of energy that can be carried by wires and in used for heating and lighting, and to provide power for devices         M       motor       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					through or along			
buzzer       particular purpose         cell       a form of energy that can be carried by wires and in used for heating and lighting, and to provide power for devices         motor       energy       the power from sources such as electricity that makes machines work or provides heat         resistor       generate       cause it to begin and develop         switch (open)       where the supply of water, electricity, or	0			current	a flow of electricity through a wire or circuit			
Image: cell       electricity       a form of energy that can be carried by wires and in used for heating and lighting, and to provide power for devices         Image: cell       motor       energy       the power from sources such as electricity that makes machines work or provides heat         Image: cell       resistor       fuel       a substance such as coal, oil, or petrol that is burned to provide heat or power         Image: cell       switch (open)       mains       where the supply of water, electricity, or		buzzer		device	-			
cell       wires and in used for heating and lighting, and to provide power for devices         M       motor         resistor       fuel       a substance such as coal, oil, or petrol that is burned to provide heat or power         switch (open)       switch (open)       wires and in used for heating and lighting, and to provide power for devices	M			oloctricity				
Image: Cell       and to provide power for devices         Image: Cell       and to provide power for devices         Image: Cell       energy         Image: Cell       the power from sources such as electricity that makes machines work or provides heat         Image: Cell       a substance such as coal, oil, or petrol that is burned to provide heat or power         Image: Cell       generate       cause it to begin and develop         Image: Cell       switch (open)       a non-conductor of electricity or heat	1.			electricity				
motor       that makes machines work or provides heat         resistor       fuel       a substance such as coal, oil, or petrol that is burned to provide heat or power         switch (open)       switch (open)       mains		cell						
Import       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		motor		energy				
resistor       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	—(M)—			fuel				
resistor     generate     cause it to begin and develop       insulator     a non-conductor of electricity or heat       mains     where the supply of water, electricity, or				tuei	, ,			
switch (open)       insulator       a non-conductor of electricity or heat         mains       where the supply of water, electricity, or		resistor		generate				
Jan Switch (open)				-	a non-conductor of electricity or heat			
gas enters a building		switch (open)		mains	where the supply of water, electricity, or			
		,						
switch (closed) motor a device that uses electricity or fuel to produce movement		switch (closed)		motor	-			
produce incention produce incentincention produce incention produce incention produc				nower				
*Associate the brightness of a lamp or the volume of a burrer with is obtained in large quantities from a fuel	*Accoriate the brightness of a lamp or the volume of a human with			power	is obtained in large quantities from a fuel			
*Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.								
				registeres				
*Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers or vehicle		•		resistance				
and the on/off position of switches.				resistor				

\*Use recognised symbols when representing a simple circuit in a diagram.

## Where will my learning go next?

## In Year 7 pupils will be taught:

Electrical currents, measured in amperes, in circuits, series and parallel circuits. Currents add where branches meet and current as a flow of charge. Measuring in volts. Battery and bulb rating, resistance, measured in ohms. Differences in resistance. Static electricity- the separation of positive or negative charges when objects are rubbed together. Force between charged objects. Electrical field and forces acting across the space between objects not in contact.



Jeavons Wood – Science Knowledge Organiser							
Topic: Electricity         Year: 6         Strand: Physics							
Big Question: How can circuits be changed?							
Question 1: Write the name for the component that each of these symbols represent.	Start of uni	it: B	End of unit:		Question 7: A circuit will not work if Start of End of (tick three): unit: unit		
					there is no battery the switch is off		
		_		$+\parallel$	there is a break in the circuit		
$-\otimes$					there is no switch		
$\square$							
					Question 8: What is the function of an Start of End of ammeter in a circuit? unit: unit		
1					measures the length of the wires in a circuit		
— M—					measures the current in a circuit		
				$\left  \right $	measures how heavy the components are		
					Question 4: Explain what will happen if another bulb is added to a working circuit.         Start of unit:         End (		
another bulb is added to a workir circuit.		nit:	unit:				
					Question 5: Shorter wires will make         Start of         End           bulbs brighter. True or False?         unit:         unit		
					true		
Question 5: Shorter wires will ma bulbs brighter. True or False?		rt of nit:	End of unit:		false		
true					Question 6: Explain what a conductor         Start of         End of           will do when added to a circuit.         unit:         unit:		
false							
Question 6: Explain what a condu will do when added to a circuit.		rt of nit:	End of unit:				
					<b>L</b> I		

Jeavons Wood – Science Knowledge Organiser							
Topic: Electricity Year:6	Strand	Strand: Physics					
Big Question: How can circuits be changed?							
Question 8: Imagine you only have this equipment. Draw a circuit using circuit symbols featuring this equipment. 1 switch 3 cells (batteries) 1 bulb	Start of unit:	End of unit:					

Question 9: Look at this circuit The buzzer is currently not very loud. What could you do to make it louder?	Start of unit:	End of unit: