



# St Mark's CE Primary School

## Science Curriculum Map: Electricity

Year	National Curriculum	Sticky Knowledge	Vocab
R			
4	<b>How does electricity power our world? (Autumn 2)</b>		
	<ul style="list-style-type: none"> <li>Identify common appliances that run on electricity</li> <li>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wired, bulbs, switches and buzzers</li> <li>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with the battery</li> <li>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>Recognise some common conductors and insulators, and associate metals with being good conductors</li> </ul>	<ul style="list-style-type: none"> <li>Electricity is a type of energy. It is used to power many everyday items, such as kettles, computers and televisions. Electricity can also come from batteries. Batteries power devices that can be carried around, such as mobile phones and torches.</li> <li>A circuit needs a power source, such as a battery or cell, with wires connected to both the positive and negative terminals.</li> <li>Other components include lamps, buzzers or motors, which an electric current passes through and affects a response, such as lighting lamp or turning motor.</li> <li>Switches open and close a circuit and provide control. When a switch is open, it creates a gap and the current cannot travel around the circuit. When closed, a switch completes the circuit and allows a current to flow all the way around it.</li> <li>A series circuit is a simple loop with only one path for the electricity to flow. A series circuit must be a complete loop to work and have a source of power from a battery or cell.</li> <li>Electrical conductors let electricity flow through them, insulators do not. Common electrical conductors are metals. Common insulators include wood, glass, plastic and rubber.</li> </ul>	Appliance Mains Battery Energy Power Circuit Component Battery Cell Wire Buzzer Bulb Motor Switch Control Open Closed Insulator Conductor
6	<b>Can you master the power of electricity (Spring 1)</b>		
	<ul style="list-style-type: none"> <li>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a circuit</li> <li>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</li> <li>Use recognised symbols when representing a simple circuit in a diagram.</li> </ul>	<ul style="list-style-type: none"> <li>Voltage is measured in volts (V) and is a measure of the difference in electrical energy between two parts of a circuit. The bigger the voltage, the more electrons are pushed through the circuit. The more voltage flowing through a lamp, buzzer or motor, the brighter the lamp, the louder the buzzer and the faster the motor.</li> <li>There are recognised symbols for different components of circuits.</li> </ul>	Circuit Circuit diagram Complete circuit Voltage Current Amps Volts