



Year Three and Four		Topic – Electricity	Term: Autumn 1
Building on Prior Knowledge	Future learning	Key vocabulary	
Explore how things work. (Nursery - Electricity)	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. (Y6 - Electricity) 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. (Y6 - Electricity) Use recognised symbols when representing a simple circuit in a diagram. (Y6 - Electricity)	Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol N.B. Children in Year 4 do not need to use standard symbols for electrical components, as this is taught in Year 6.	
Knowledge			Working Scientifically
Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. 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 a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors. Electricity can be dangerous. Electricity sources can be mains or battery. Batteries 'push' electricity round a circuit and can make bulbs, buzzers and motors work. Faults in circuits can be found by methodically testing connections. Drawings, photographs and diagrams can be used to represent circuits (although standard symbols need not be introduced until UKS2).			Observing/noticing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit.
Key Learning			
Many household devices and appliances run on electricity. Some plug in to the mains and others run on batteries. An electrical circuit consists of a cell or battery connected to a component using wires. If there is a break in the circuit, a loose connection or a short circuit, the component will not work. A switch can be added to the circuit to turn the component on and off. Metals are good conductors so they can be used as wires in a circuit. Non-metallic solids are insulators except for graphite (pencil lead). Water, if not completely pure, also conducts electricity.			