



Autumn 1	Electricity					
<b>Prior learning</b>	Y4 electricity topic					
<b>Lesson objective</b>	Describe the parts of an electric circuit	Explore voltage and its effect on an electrical circuit	Apply knowledge to identify and correct problems in a circuit	Investigate what affects the output of a circuit	Build a set of traffic lights	Apply knowledge of conductors and insulators
<b>Key vocabulary</b>	Symbol, circuit, circuit diagram, battery, wire	Electricity, current, voltage, voltmeter, brightness	Blown, resistor, variable resistor, LED, dimmer switch	Output, variable, fair test, control test, systematically	Synchronised, traffic light, signal, sensor, timer-based	Closed electric circuit, indicating, conductor, insulator, resistor
<b>Creative context</b>						
<b>Substantive knowledge</b>	Use recognised symbols when representing a simple circuit in a diagram	Associate the brightness of a bulb or the volume of a buzzer with the number and voltage of cells used in the circuit	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit	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	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	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
<b>Disciplinary knowledge</b>	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Using test results to make predictions to set up	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Taking measurements, using a range of scientific	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate



# Science – Year 6



			presentations	further comparative and fair tests	equipment, with increasing accuracy and precision, taking repeat readings when appropriate	
<b>Recorded learning</b>	Write glossary of electric components including symbols.	Electrical circuit investigation. Prediction, measure and record results.	Use online circuit tool. In books, draw replicate broken and working circuits with explanations as to why they do or do not work.	Plan and conduct investigation on how the number of components affects circuit output. Prediction, results table and conclusion.	Design and build a circuit that models traffic lights. Test and write conclusion	Create a loop and wire games, identifying insulators and conductors. Play each other's games and record times.
<b>Future learning</b>						