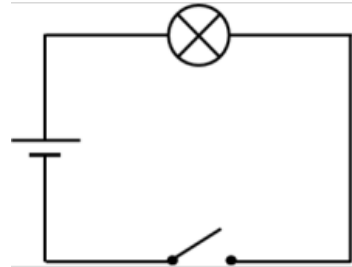


Autumn 2 Year 4 Science Knowledge Organiser

Electricity

Subject specific Vocabulary		Images/Diagrams/Maps	Important Knowledge
Battery	More than one cell.	 	<u>Simple Circuit</u> This diagram is of a simple circuit. It is a complete circuit where electrons can flow around the circuit. The battery produces electricity. It has stored chemical energy. The chemical energy converts to electrical energy which produces electrons. They travel around the circuit to all the components.
Bulb	Provides light when powered.		Writing/Provision/ Enrichment opportunities Oscar and the bird - Thinking about electricity in real life Writing - Research and write about Thomas Edison and the invention of the light bulb
Buzzer	An electrical device that makes a buzzing sound.		
Cell	A device used to generate electricity.		
Circuit	A complete flow of electricity and the way it affects objects.		
Conductor	Any material that electricity can pass through or along.		
Current	Stream of charged particles moving though an electrical		
Electricity	Form of energy formed by charged particles.		
Electrons	Move around a circuit.		
Insulator	Any material that electricity cannot pass through or along.		
Mains	Wall powered.		
Motor	A device that changes electrical energy into movement.		
Voltage	An electrical force that makes electricity move through a wire, measured in volts (V)		
Scientific Enquiry Skills		Working Scientifically Skills	
     		    	

Presentation	Working Scientifically and Scientific Enquiry Assessment		
	Record findings using scientific language, drawings and labelled diagrams.	Record findings using systematic and careful observational drawings and labelled diagrams with correct scientific language.	Present results in a variety of ways to help in answering questions. They show excellent subject knowledge and correct scientific language.
	- Make predictions from questions posed. - With support, can make further predictions from what is observed or tested.	- Use subject knowledge or research to make predictions. - Raise further predictions from results based on patterns.	- Use subject knowledge, observations, or previous learning to make predictions. - Can add further detail and explanations for their predictions when prompted. - Can base predictions on previous scientific enquiry.
	- Draws conclusions based on observations. - Can compare something using results and the conclusion is consistent with the data. - Able to adjust opinion and predictions based on results. - Can give reasons for results including any anomalies. - Use simple scientific language to discuss ideas and communicate their findings in ways appropriate for different audiences orally and written.	- Draw conclusions based on straightforward evidence and current subject knowledge to support their findings. - Suggest improvements and raise further questions.	- Children interpret data to generate simple comparative statements based on evidence. - Use results to draw conclusions and can identify external factors that cannot be controlled. - Use scientific language and data to discuss, communicate and justify scientific ideas. - Can use comparative statements to explain results and how things work.
	- Suggest improvements and raises further questions - Use evidence and subject knowledge to refute statements. - Make basic statements about what worked well and what they would change.	- Evaluate and communicate their methods and findings. - Suggest ways to improve what they have already done. - Begin to evaluate different aspects of their enquiries such as equipment. - Suggest points for development based on the weakest aspects.	- Evaluate different aspects of their enquiries such as equipment and accuracy of measurements. - State how the enquiry improves outcomes from their questions. - Can relate their results to the question and state if their test has enabled them to answer it. - Suggest next steps based on the weakest aspects and state how this will help them or the test progress or give different results.
	- Raise own questions about the world around them and why this happens the way they do. - Recognise how and when to use secondary sources to answer questions that cannot be answered in practical science. - Can write a range of questions relevant to the topic. - Can raise questions and carry out tests with support to find things out.	- Can decide how to gather evidence to answer questions. - Can write a range of questions using the world around them and their own scientific knowledge. - They recognise when secondary sources can be used to answer questions and can select appropriate information from sources.	- Can study and raise questions to answer. - Can ask relevant questions and suggest reasons for similarities and differences. - Use their scientific experiences to explore ideas and raise different questions. - Can create further questions from enquiries to investigate. - Independently uses secondary sources to find relevant facts about a topic. - Raise further questions from enquiries/research.
	Record findings using scientific language, drawings and labelled diagrams and detailed written explanations based on observations.	- Record findings using systematic and careful observational drawings and labelled diagrams. - Children supported to present the same data in different ways- choice over recording. They use scientific vocabulary and own subject knowledge.	- Present results in a variety of ways to help in answering questions. - They demonstrate a secure knowledge of different energy sources and can apply in real life settings.