



Science Curriculum Overview CYCLE A KS2

CYCLE A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Question	Living things and their habitats Year 6 How and why do scientists classify living things in the natural world?		Animals including humans Year 6 What happens inside our bodies when we exercise, eat, or make different lifestyle choices?	Evolution and inheritance Year 6 How do living things adapt and evolve to survive in changing environments?	Light Year 6 How does the movement of light explain what we observe in everyday life?	Electricity Year 6 How do electrical circuits work, and what factors affect how components perform?
NC Reference	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.		Identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.	Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. Explain that we see things because light travels from light	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. Use recognised symbols



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		animals, including humans.	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	sources to our eyes or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	when representing a simple circuit in a diagram.
NC links	English – Scientific vocabulary, explanation texts, reports, debates, recording and presenting investigations. Maths – Measuring, data handling, graphs, tables, interpreting results, ratio and statistics. Computing – Data collection, databases, simulations and digital presentation of findings. Design & Technology – Electrical systems, healthy eating, product design and evaluation. Geography – Environments, habitats, climate change and adaptation. History – Evolution over time, fossils and significant scientists. PSHE – Healthy lifestyles, exercise, nutrition, drugs, relationships and wellbeing. Art & Design – Scientific illustration, observational drawing and diagrams. PE – Effects of exercise on the body, fitness and healthy lifestyles.				
SIAMS	Exploring and appreciating the natural world. Caring for the environment and using resources responsibly. Valuing living things and each other's ideas. Asking questions and investigating God's world.				



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	Appreciating our bodies and the world around us. Learning through enquiry, testing and problem-solving. Working collaboratively and sharing scientific ideas. Making safe and informed choices in science investigations.				
Asking questions					
Investigating	Use classification keys to identify living things. Compare and classify organisms using observable characteristics. Carry out surveys and collect evidence. Record and interpret data using tables and charts. Identify patterns and relationships. Draw conclusions using evidence.	Investigate the effects of exercise on the body. Explore how diet and lifestyle affect health. Collect and record data accurately. Carry out comparative and fair tests where appropriate. Identify patterns and relationships. Draw conclusions using evidence.	Compare inherited and environmental characteristics. Investigate how adaptations help survival. Examine evidence from fossils and living organisms. Record observations using tables and diagrams. Identify patterns in evidence.	Investigate how light travels. Explore reflection and shadow formation. Carry out fair tests using light sources. Measure and record observations accurately. Identify patterns in results. Draw conclusions	Construct and test electrical circuits. Investigate how voltage affects components. Carry out comparative and fair tests. Record results using tables and circuit diagrams. Identify patterns and relationships. Draw conclusions using evidence.



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	Use scientific vocabulary to explain findings. Evaluate investigations and suggest improvements.	Use scientific vocabulary to explain findings. Evaluate investigations and suggest improvements.	Draw conclusions using scientific evidence. Use scientific vocabulary to explain findings. Evaluate investigations and suggest improvements.	using evidence. Use scientific vocabulary to explain findings. Evaluate investigations and suggest improvements.	Use scientific vocabulary to explain findings. Evaluate investigations and suggest improvements.
Identifying and Classifying	Identify and classify living things using observable characteristics. Use and create classification keys. Compare similarities and differences between organisms. Group organisms based on scientific criteria.	Identify the main parts of the circulatory system and their functions. Classify foods according to their nutritional value. Compare healthy and unhealthy lifestyle choices. Group factors that affect health and fitness.	Identify inherited and environmental characteristics. Classify adaptations that help survival. Compare fossils and living organisms. Group organisms based on shared characteristics.	Identify sources of light and reflective materials. Classify materials based on how they interact with light. Compare opaque, translucent and transparent materials.	Identify and classify circuit components and their functions. Classify materials as conductors or insulators. Compare different electrical circuits. Group components according to their purpose.



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	Use scientific vocabulary to justify classifications. Record findings using tables and classification diagrams. Explain classifications using evidence. Recognise patterns in classification.	Use scientific vocabulary to describe and classify observations. Record findings using tables and charts. Explain classifications using evidence. Recognise patterns in health data.	Use scientific vocabulary to describe adaptations. Record findings using tables and diagrams. Explain classifications using evidence. Recognise patterns in inheritance and adaptation.	Group objects by the shadows they produce. Use scientific vocabulary to describe observations. Record findings using tables and diagrams. Explain classifications using evidence. Recognise patterns in results.	Use recognised circuit symbols accurately. Record findings using tables and circuit diagrams. Explain classifications using evidence. Recognise patterns in circuit performance.
Observing and measuring	Observe and compare the characteristics of living things.	Observe changes in the body during exercise. Measure pulse rate and	Observe similarities and differences between organisms.	Observe how light travels and reflects. Measure the size	Observe how changes affect electrical circuits.



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	Use simple equipment to make accurate observations. Collect and measure data during habitat surveys. Record findings using tables, charts and classification keys. Identify patterns in observations. Use scientific vocabulary to describe findings. Draw conclusions from observations and data. Present results clearly.	recovery time accurately. Collect and record data about diet and lifestyle. Use simple equipment safely. Record results using tables and graphs. Identify patterns in data. Use scientific vocabulary to describe observations. Draw conclusions using evidence.	Compare inherited and environmental characteristics. Examine fossils and evidence carefully. Record observations using tables and labelled diagrams. Identify patterns in evidence. Use scientific vocabulary accurately. Draw conclusions from observations. Present findings clearly.	and position of shadows. Use appropriate equipment safely and accurately. Record observations using tables and diagrams. Identify patterns in results. Use scientific vocabulary to describe observations. Draw conclusions using evidence. Present findings clearly.	Measure and compare the brightness of bulbs or volume of buzzers. Use electrical equipment safely. Record results using tables, charts and circuit diagrams. Identify patterns in results. Use scientific vocabulary accurately. Draw conclusions using evidence. Present findings clearly.
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Analysing and Concluding	Identify patterns in classification data. Compare similarities and differences between organisms. Draw conclusions using scientific evidence. Explain classifications using observable characteristics. Use scientific vocabulary to justify findings. Evaluate predictions against results. Suggest improvements to investigations.	Identify patterns in health and fitness data. Compare the effects of diet, exercise and lifestyle choices. Draw conclusions using scientific evidence. Explain how lifestyle affects the body. Use scientific vocabulary to justify findings. Evaluate predictions against results. Suggest improvements to investigations. Communicate conclusions clearly using scientific language.	Identify patterns in inheritance and adaptation. Compare evidence from fossils and living organisms. Draw conclusions using scientific evidence. Explain how adaptations support survival. Use scientific vocabulary to justify findings. Evaluate predictions against results. Suggest improvements to investigations.	Identify patterns in reflection and shadow investigations. Compare evidence from practical enquiries. Draw conclusions using scientific evidence. Explain observations using the idea that light travels in straight lines. Use scientific vocabulary to justify findings. Evaluate predictions against	Identify patterns in circuit performance. Compare how changes affect electrical components. Draw conclusions using scientific evidence. Explain variations in brightness, volume and circuit behaviour. Use scientific vocabulary to justify findings. Evaluate predictions against results. Suggest improvements to investigations. Communicate conclusions



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	Communicate conclusions clearly using scientific language.		Communicate conclusions clearly using scientific language.	results. Suggest improvements to investigations. Communicate conclusions clearly using scientific language.	clearly using scientific language.
Recording and Evaluating	● Record observations and results accurately using tables, charts, diagrams and scientific models. ● Present findings clearly using appropriate scientific methods. ● Use scientific vocabulary to explain observations and results. ● Compare results with predictions. ● Draw conclusions using evidence from investigations. ● Evaluate the fairness, accuracy and reliability of investigations. ● Suggest improvements to methods and enquiries. ● Communicate findings clearly using scientific language.				
Science Vocabulary	● Classification ● Classification key ● Organism ● Vertebrate ● Invertebrate ● Micro-organism ● Species ● Characteristics	● Circulatory system ● Heart ● Blood ● Blood vessels ● Arteries ● Veins ● Capillaries ● Oxygen	● Evolution ● Inheritance ● Adaptation ● Offspring ● Characteristics ● Variation ● Fossil	● Light source ● Reflection ● Reflect ● Shadow ● Opaque ● Transparent	● Circuit ● Cell ● Battery ● Voltage ● Current ● Bulb (Lamp) ● Buzzer



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	● Kingdom ● Fungi ● Bacteria ● Observable features ● Similarities ● Differences	● Nutrients ● Pulse ● Exercise ● Diet ● Lifestyle ● Drugs	● Ancestor ● Environment ● Natural selection ● Species ● Survive ● Trait ● Extinct	● Translucent ● Ray ● Beam ● Travel ● Straight lines ● Periscope ● Mirror ● Spectrum	● Motor ● Switch ● Wire ● Conductor ● Insulator ● Circuit symbol ● Series circuit
<i>Talk like a scientist</i>	I classified this because... I observed that... The evidence suggests... I compared... The characteristics show... I concluded that... I can justify my classification because... The pattern I noticed	I observed that... The evidence shows... My results suggest... I predict that... Exercise affected... because... I concluded that... I can explain why...	I observed that... The evidence suggests... This adaptation helps because... I compared... I predict that... I concluded that... This characteristic was	I observed that... The light travelled because... The shadow changed because... The evidence shows... I predict that... I concluded that... I can explain using scientific evidence...	I observed that... The circuit worked because... The component changed because... The evidence shows... I predict that... I concluded that... I can explain why...



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	was...	This supports my prediction because...	inherited because... I can justify my answer because...	This supports my conclusion because...	This supports my findings because...
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