Progression of knowledge and skills: Y6 Science

Topic	Knowledge (Pupils will…)	Skills (Pupils will learn how to…)
Classifying Living Things and Their Habitats	• 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.	**Ask questions** • Ask relevant scientific questions and choose which enquiry type would be best suited to answer them. **Plan** • Make predictions based on scientific knowledge. • Plan different types of scientific enquiries to answer questions, including recognising and controlling variables. **Make observations** • Use a range of scientific equipment to make systematic and careful observations with increased complexity. **Take measurements** • Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings **Gather, record and classify data** • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. **Present findings** • Report and present 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 presentations. **Answer questions and make conclusions** • Make conclusions based on scientific evidence and from their own testing and findings. • Identify scientific evidence that has been used to support or refute ideas or arguments. **Evaluate** • Use test results to make predictions to set up further comparative and fair tests. • Provide examples of how to extend the investigation.
Electricity	• 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 when representing a simple circuit in a diagram.	
Light	• 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 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.	
Healthy Bodies	• 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 (prescribed and recreational) and lifestyle on the way their bodies function. • Describe the ways in which nutrients and water are transported within animals.	
Variation and Adaptation	• Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. • Use case studies of Darwin's finches to explain the process of natural selection.	
Fossils	• Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. • Use case studies of Mary Anning to understand the development of fossil use in science.	
Secondary Ready Enquiry Processes	• Revisit many of the skills and curriculum content covered throughout primary science. • Be introduced to some of the key disciplinary knowledge needed for KS3 science such as melting and boiling point. • Revisit chemistry content, as chemistry topics are not included in the Y6 National Curriculum.	