Year 6 - Progression of Knowledge and Skills Science

Term	Knowledge	Skills
Autumn 1 Topic: Animals including humans	• Identify the main parts of the human circulatory system. • Describe the function of the heart, blood vessels and blood. • Describe the ways in which nutrients and water and transported within animals including humans. • Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.	• Research Santorio and look for patterns. • Use research to support explanation. • Plan an investigation. • Conduct comparative test. • Use research to support ideas. • Observe what happens using a model. • Use scientific diagrams. • Take accurate measurements. • Use labelled diagrams to explain. • Use models to explain my thinking. • Record results.
Autumn 2 Topic: Evolution and inheritance	• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. • Understand that living things change over time (evolution). • Recognise that offspring inherit characteristics from their parents. • Explain how adaptation can lead to evolution over many generations.	• Identify variation within a species.

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Term	Knowledge	Skills
	• Know that fossils provide information about living things that inhabited Earth millions of years ago.	
Spring 1 Topic: 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. • Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. • Use recognised symbols when representing a simple circuit in a diagram. • Identify electrical components.	• Using research to explain my understanding. • Develop predictions. • Carry out comparative tests. • Carry out a fair test. • Answer questions by investigating. • Notice patterns in my investigation. • Take accurate measurements. • Present results in line graph. • Use scientific diagrams to support my explanation.
Spring 2 Topic: Science Week	• Identify scientific evidence that has been used to support or refute ideas or arguments.	• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.

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Spring 2 Topic: Science Week		• Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. • Use test results to make predictions to set up further comparative and fair tests. • 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.

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Summer 1 Topic: 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. • Explain why shadows have the same shape as the objects that cast them.	• Make predictions based on SK. • Look for and describe patterns in observations. • Use SK and research to make a periscope. • Use scientific models and labelled diagrams. • Draw accurate diagrams to support results. • Evaluate using scientific language.
Summer 2 Topic: Living things and 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.	• Research genus and species. • Research animals to classify. • Classify and sort using classification keys. • Observe microorganisms over time. • Notice patterns. • Record in a table. • Observe and raise questions about animals to group. • Predict how microorganisms will decay food. • Evaluate effects of yeast.