Year 5 & 6 Science Cycle (Some units may be carried over into the following term)

	Autumn		Spring		Summer	
Cycle A	**Forces** Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and falling object. Identify the effects of air resistance, water resistance and friction that act between moving surfaces. Recognise that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.		**Electricity** Associate the brightness of a lamp or a bulb or the volume of a buzzer with the number and voltage of cells used in a circuit. Compare and give reasons for variations in how components function, including the brightness of bulb, the loudness of buzzers and the on / off position of switches. Use recognised symbols when representing a simple circuit in a diagram.	**All living things and their habitats** Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. Describe how living things are classified into broad groups according to common observational characteristics and based on similarities and differences including micro-organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.	**Animals including humans (inc puberty)** Describe the changes as humans develop to old age including puberty. Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty. Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.	**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 a light source to our eyes or to an object and then into our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the object that cast them.

	Autumn		Spring		Summer	
Cycle B	**Properties and changes of materials** Compare and group together everyday materials on the basis of the properties including hardness, solubility, transparency, conductivity and response to magnets. Use knowledge of solids, liquids and gasses to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons based on evidence from comparative fair tests for the particular uses of everyday materials including metal, woods and plastic.		**Reversible and irreversible change** Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials and this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	**Evolution & Inheritance** Recognise that living things have changed over time and that fossils provide information about 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. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	**Earth & Space** Describe the movement of the Earth and other planet, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	**John Muir Award** Children to take part and complete the John Muir Award.

Working Scientifically Year 5 & 6

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- 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 presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments