Newton Tony Primary School CE VC Science Curriculum Pathway						
	Foxes class		Squirrels class		Badgers class	
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Cycle A	Cycle B	Cycle A	Cycle B	Cycle A	Cycle B
Autumn 1	**Seasonal changes** Reflecting on their own experiences, children learn about the four seasons and the weather associated with each. Pupils explore how seasonal changes affect trees, daylight hours and clothing choices. They plan and carry out their own weather reports, considering the knowledge required for this job.	**Habitats** Considering the life processes that all living things have in common, pupils classify objects into alive, was once alive or has never been alive. They name plants and animals in a range of habitats and recognise how living things depend on each other. Pupils create food chains to show the sequence that living things eat each other.	**Movement and nutrition** Studying the human skeleton, children identify key bones and explore how muscle changes result in movement. They learn about how the body uses energy, what constitutes a balanced diet in humans and how research contributes to nutritionist expertise.	**Digestion and food** Using models, children describe the function of key organs in the digestive system. Pupils identify the types of human teeth and investigate factors that impact our dental health. They compare human teeth to other animals' and take on the role of a naturalist investigating animal faeces for clues about diet, digestion and dentition.	**Mixtures and separation** Pupils explore different types of mixtures and the different methods that can be used to separate them. They dissolve a range of substances, identify different solutions and investigate how temperature affects the time taken to dissolve. They design and create a water filter, sieve soil and evaporate solutions.	**Classifying big and small** Children broaden their knowledge of how vertebrates, invertebrates, plants and micro-organisms are grouped using shared characteristics. They discover how Carl Linnaeus developed the Linnaean and binomial systems for classifying and naming living things. Pupils use and produce branching and number classification keys to sort and identify organisms.
Autumn 2	**Everyday materials** Identifying and naming objects and the materials from which they are made. Pupils compare and group materials based on how they look and feel and carry out tests to sort materials based on unobservable properties.	**Microhabitats** Building on their knowledge of habitats, pupils discover that microhabitats provide what minibeasts need to survive. They learn that scientists use a range of skills to answer questions and plan and carry out an experiment to find out the conditions woodlice prefer.	**Forces and magnets** By investigating motion on different surfaces, children learn about friction and compare its uses and disadvantages. They broaden their experience in working scientifically as they investigate contact and non-contact forces. Pupils explore the properties of different magnets and apply this to understand their uses.	**Electricity and circuits** Exploring appliances in their setting that use electricity, children learn how to work with electricity safely and build circuits. Pupils investigate electrical conductors and insulators and explore the relationship between the number of cells and bulb brightness. Real scenarios and historical discoveries inform children about scientific progression and home safety.	**Properties and changes** Broadening their experience of the properties of materials, children investigate hardness, transparency and conductivity and consider how these properties influence the uses of materials. They explore reversible changes, including dissolving and changes of state. Children compare these to irreversible changes, including rusting, burning and mixing vinegar and bicarbonate of soda.	**Light and reflection** Proving that light travels in a straight line, children use this information to explain observations of reflection and shadows. Pupils investigate the effect of moving an object away from the surface it casts a shadow on and the relationship between the incoming and reflected rays on a mirrored surface. Exploring real uses of mirrors allow children to apply what they have learned about light throughout the unit.

Spring 1	**Animals: Sensitive bodies** Identifying and naming body parts and conducting practical activities with the senses to spot patterns and answer questions	**Uses of everyday materials** Recognising that materials are suitable for specific purposes and understanding their properties, exploring how actions such as stretching and bending affect the shape of solid objects and comparing the suitability of materials by carrying out tests and recording data.	**Rocks and soil** Observing the appearance and physical properties of rocks, children compare and group different rock samples. They learn about how fossils and soils are formed and record soil drainage rates in a bar chart.	**States of matter** By investigating the properties of solids, liquids and gases, children learn about the different states of matter. They explore changes of state using relatable examples and use this to explain changes to water through the water cycle. Pupils investigate the relationship between temperature and rate of evaporation while broadening their experience of working scientifically	**Earth and space** Children explore the movement of the celestial bodies in our Solar System, including the Earth and other planets and the Moon. They discover how the rotation of the Earth causes night and day and how sundials work. Pupils find out about the uses of satellites and the problem with space junk.	**Evolution and inheritance** Studying patterns in humans and other species, children learn about characteristics that are inherited and those that are environmental. Through the eyes of Darwin and Wallace, pupils understand how observations lead to theories. By modelling finches' variation and natural selection, they begin to explain how species evolve and the role of fossil evidence that supports this theory.
Spring 2	**Animals: Comparing animals**	**Life Cycles and Health**	**Light and shadows** Identifying examples of light sources, children learn that light is needed to see and how its absence causes darkness. Children investigate reflection and shadow formation, including how different factors change the shadows observed. They explore how shadows can be used to entertain in the arts and create shadow puppets to recount how different people work or experiment with light.	**Sounds and vibrations**	**Life Cycles and Reproduction**	**Circuits, batteries and switches**
Summer 1	**Introduction to Plants**	**Plant Growth**	**Plant Reproduction**	**Classification and changing habitats**	**Imbalanced Forces**	**Circulation and Exercise**
Summer 2	**Making Connections** Bringing together pupils' learning from multiple Science units, helping them to make connections between the key concepts and skills.	**Making Connections** Bringing together pupils' learning from multiple Science units, helping them to make connections between the key concepts and skills.	**Making Connections** Bringing together pupils' learning from multiple Science units, helping them to make connections between the key concepts and skills.	**Making Connections** Bringing together pupils' learning from multiple Science units, helping them to make connections between the key concepts and skills.	**Human Timeline Connection** Bringing together pupils' learning from multiple Science units, helping them to make connections between the key concepts and skills.	**Making Connections** Bringing together pupils' learning from multiple Science units, helping them to make connections between the key concepts and skills.