Science Progression of Knowledge

Strand	Year 1/2	Year 3/4	Year 5/6
Working Scientifically	Observe closely, identify and classify, use simple equipment, perform simple tests, gather and record data. Throughout the year.	Ask relevant questions, set up simple enquiries, make careful observations, use results to draw simple conclusions. Throughout the year.	Plan investigations independently, control variables, take accurate measurements, present and evaluate data, justify conclusions using evidence. Throughout the year.
Plants (KS1)	Identify common wild and garden plants; name basic parts (Autumn 1 Cycle B); understand that seeds and bulbs grow into plants; investigate what plants need to grow (Summer 1 Cycle B).	N/A (part of Living Things strand)	N/A (part of Living Things strand)
Animals Including Humans	Name and identify common animals; classify by animal groups (Spring 1 Cycle A); identify body parts and senses (Autumn 1 Cycle A); understand basic needs for survival and healthy lifestyles (Spring 2 Cycle B).	Explore nutrition, skeletons and muscles (Autumn 2 Cycle B); understand food groups and movement (Spring 1 Cycle B).	Understand human life cycles, puberty, ageing, circulatory system, diet, exercise, and the effects of lifestyle choices (Summer 2 Cycle B).
Living Things and Their Habitats	Identify living, dead and never-living things; explore habitats (Spring 1 Cycle B) and simple food chains (Spring 1 Cycle A).	Group living things in different ways understand; environmental changes and their impact. (Spring 2 Cycle A)	Classify organisms using broader scientific criteria; understand micro-organisms (Summer 1 Cycle A)

		Understand functions of roots, stems, leaves and flowers; explore water transport and pollination (Summer 1 Cycle B).	Explain plant life cycles, reproduction, pollination, seed dispersal and adaptation (Autumn 1 Cycle B)
Evolution and Inheritance	N/A	N/A	Understand that living things change over time; recognise inheritance and adaptation; understand fossil evidence for evolution (Summer 1 Cycle B)
Materials (Including Rocks and States of Matter)	Distinguish between everyday materials; describe simple properties (Autumn 2 Cycle A); compare and group materials (Spring 2 Cycle A).	Compare materials based on properties; explore states of matter and changes of state, understand solids, liquids and gases; explain changes of state; investigate evaporation and condensation. (Autumn 2 Cycle A).	Explain reversible and irreversible changes; understand dissolving, filtering, sieving and material selection based on properties. Apply understanding to the water cycle and more complex material changes. (Autumn 1 Cycle A)
		Compare and group rocks; understand fossil formation; recognise soils are made from rocks and organic matter (Spring 1 Cycle A).	N/A
Seasonal Changes (KS1)	Observe seasonal changes, weather patterns and day length throughout the year (Autumn 2 Cycle B).	N/A	N/A

Forces and Space	N/A	Understand contact and non-contact forces; investigate magnets and magnetic attraction (Autumn 1 Cycle A).	Explain gravity, air resistance, water resistance and friction; understand mechanisms such as levers, pulleys and gears (Spring 2 Cycle A). Explain movement of Earth and Moon; day and night; phases of the Moon and basic Solar System relationships (Spring 1 Cycle A)
Energy (Light)	N/A	Understand that light is needed to see; explore shadows and reflection (Autumn 1 Cycle B).	Explain how light travels; understand reflection, refraction (where appropriate), and how we see objects (Spring 1 Cycle B).
Energy (Sound**)**	N/A	Understand how sounds are made and travel; investigate pitch and volume (Spring 2 Cycle B).	N/A
Energy (Electricity)	N/A	Construct simple circuits and identify components (Summer 1 Cycle A).	Build and compare more complex circuits; understand conductors, insulators and circuit symbols (Spring 2 Cycle B)

End of Key Stage Expectations

Year 1/2

Pupils develop curiosity about the world through observation and simple investigations. They can identify, compare and describe common plants, animals, materials and seasonal changes.

Year 3/4

Pupils begin to explain scientific processes and relationships. They conduct fair tests, use scientific vocabulary accurately and understand increasingly abstract concepts such as forces, states of matter and classification.

Year 5/6

Pupils apply scientific knowledge to explain phenomena, analyse evidence and justify conclusions. They develop understanding of complex systems including evolution, electricity, the circulatory system, Earth and space.