Longshaw Primary Academy
The best in everyone™
Part of United Learning

Science Curriculum Map

Curriculum Intent

Through science at Longshaw, we aim for all our children to build an understanding of the world around them. When studying science at the primary level, children should be acquiring specific skills and knowledge to help them to think scientifically, gain an understanding of scientific processes and an understanding of the uses and implications of science, today and for the future.

Scientific skills are embedded into each topic the children study, with the aim of developing a depth of understanding, that allows them to confidently answer questions about the world around them.

1. How do you ensure consistent delivery across all key stages?

To accompany our progressive curriculum, through which children build upon learning from previous years, our teachers are provided with CPD ensuring that all year groups have consistency in the planning and delivery of lessons. This ensures that all pupils are provided with equal opportunities and exposure to high quality teaching.

2. How does the curriculum cater for disadvantaged, SEND and other minority group students?

At Longshaw, we deliver a science curriculum that is ambitious for all pupils. We ensure that all children begin each topic with the relevant prior knowledge to succeed, before building upon this with the new learning. Modelling and scaffolding are a focus within lesson delivery, in order to aid all pupils to achieve mastery.

3. How does the curriculum embed prior knowledge and aid long term retention of knowledge?

- Knowledge organisers are consistently used to ensure that pupils can refer to prior learning and see progression of the topics they have covered.
- In KS1 and KS2 pre- and post-learning quizzes are completed to monitor progression and retention, allowing informed decisions to be made around planning and future topic coverage.
- Sequencing the curriculum and selecting knowledge to allow for gradual development of **vertical concepts** – the 'big ideas' in science –help provide firm foundations for KS3 and KS4.
- Planning practical tasks that have a **clear purpose**: help pupils to demonstrate or prove substantive concepts, or to allow them to deliberately practice working scientifically in a relevant context.
- The curriculum inspires pupil curiosity about the world and natural phenomena.

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	**Through a range of planned activities and enhanced continuous provision, children work towards the following milestones:** **Understanding the World – The Natural World** • Explore the natural world around them, making observations and drawing pictures of animals and plants. • Describe what they see, hear and feel whilst outside - describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps. • Recognise some environments that are different from the one in which they live. • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. • Understand the effect of changing seasons on the natural world around them. • Understand some important processes and changes in the natural world around them, including changing states of matter.					
1	**BIOLOGY** Plants Identifying and naming common plants and describing basic structures	**BIOLOGY / PHYSICS** Seasonal changes Observing changes across four seasons and describing associated weather	**CHEMISTRY** Everyday materials Distinguishing objects from their material, and describing simple properties	Consolidation and review	**BIOLOGY** Animals Naming reptiles, fish, amphibians, birds and mammals; carnivores, herbivores, omnivores	**BIOLOGY** Humans Human body parts and senses
2	**BIOLOGY** Plant growth Plants grow from seeds, and require water, light and a suitable temperature	**BIOLOGY** Needs of animals Animals need water, food and air to survive and to have offspring	**CHEMISTRY** Uses of materials Comparisons of an object's material with its use; impact of bending, twisting on solid objects	**BIOLOGY** Living things & habitats Introduction to habitats, micro-habitats, and simple food chains	**CHEMISTRY** Solids, liquids and gases How the same substances can exist as solids, liquids and gases	Consolidation and review
3	**CHEMISTRY** Rocks Comparisons of types of rocks and how fossils are formed	**PHYSICS** Light Relationship between light and how we see; the formation of shadows	**BIOLOGY** Organisms The role of muscles and skeletons; the importance of nutrients	**BIOLOGY** Plants Features of flowering plants and what they need to survive	**PHYSICS** Forces & motion Introducing pushes and pulls; opposing forces, and balanced forces	**PHYSICS** Magnetism Contact and non-contact forces, including friction and magnetism
4	**BIOLOGY** Classifying organisms	**BIOLOGY** Food & digestion	**CHEMISTRY** Particle model and states of matter	**PHYSICS** Sounds	**PHYSICS** Electricity Simple series circuits	**CHEMISTRY** Properties of materials Considering physical and chemical properties

	Introduction to classifying animals and their environment	The human digestive system and simple food chains	States of matter in relation to particle arrangement	Relationship between strength of vibrations and volume of sound		
5	**BIOLOGY** Life cycles Life cycles of a mammal, amphibian, insect, bird, and some reproduction	**BIOLOGY** Human development Human development to old age	**BIOLOGY** Evolution Fossils; introduction to the idea that adaptation may lead to evolution	**PHYSICS** Electricity Investigating variations in series and parallel circuits; electricity generation	**PHYSICS** Forces Gravity, air and water resistance and friction; introduction to pulleys	**PHYSICS** Earth and space Movements of planets and the Moon, and relationship to day and night
5	**CHEMISTRY** Separating mixtures Identifying and separating mixtures; reversible and non-reversible changes	**BIOLOGY / CHEMISTRY / PHYSICS** Energy Introducing the concept of energy stores and energy transfers; relate this to prior knowledge	**PHYSICS** Light How light travels and is reflected, and how this allows us to see	**BIOLOGY** Further classification Further classification of organisms based on characteristics	**BIOLOGY** Functions of the human body Human circulatory system; transport of nutrients in the body	**CHEMISTRY** Physical and chemical changes Identifying physical and chemical changes

United Curriculum: Science

