



Science Long Term Plan

This Long-Term Scheme of Work meets the requirements of the National Curriculum.

The Long-Term Scheme of Work has been developed to provide an accessible, broad, and balanced, progressive, sequential plan for the teaching of science.

Curriculum implementation for Pre-Formal and Engagement learners [non subject specific] will include, for example:

- Reaching towards and handling a range of sensory media.
- Co-operating with shared exploration and supported participation e.g., accepting hand over hand support to explore new/different types of media.
- Showing a preference for a particular type of media e.g., showing a preference for wet media by visually attending and smiling when exploring it.
- Requesting for 'more' of a preferred material/media using preferred mode of communication.
- Visually attending to their actions.
- Responding to effects made when printing by vocalising /stilling / turning towards / smiling / displaying animated body language / requesting 'more').
- Remembering learned responses over a short period of time e.g., dipping fruit in paint and making a print.
- Sustaining concentration for specified periods of time. Impact Examples of pupil's individual responses and progress:

For pupils able to access Semi-Formal/ Formal [pre-requisite skills] learning pathways implementation will include:

- Independently exploring a range of objects and materials provided.
- Communicating their actions before and after a change to materials e.g., melting ice.
- Recalling some simple facts from the previous week's learning.
- Responding to some scientific questions through their preferred method of communication e.g. 'Is it hot or cold?'
- Using basic tools/utensils to create a 'change' in materials e.g., mixing water and hot chocolate powder using a spoon.
- Observing the effect of their own and others' actions.
- Locating familiar objects from a small selection.

Formal learners [subject specific learning] will access a differentiated National Curriculum science framework. Delivery will involve the 'spiralised approach' to learning where skills and knowledge are revisited throughout school at a greater depth to allow for consolidation.

Early Years

Seven key features of effective practice as identified in the DfE Development Matters guidance (July 2021): The best for every child; High-quality care; The Curriculum; Pedagogy; Assessment; Self-regulation and executive function; Partnership with parents.

In planning and guiding what children learn, practitioners will reflect on the 3 characteristics of effective learning: playing & exploring, active learning, creating and thinking critically. Children will encounter early science learning, as part of their growing understanding of the world around them.

Communication and Language

Children have opportunities to;

Listen and actively respond to stories, songs and poems from different sources and traditions

Develop their own narratives in relation to stories they hear

Personal, social and emotional development

Children have opportunities to;

Develop understanding that their needs, views, cultures and beliefs are treated with respect by trusted adults

Work towards shared attention with groups of people, including adults and children

Play and explore cultural objects

Work together within consistently applied codes of behaviour

Learn about right and wrong and why these issues matter

Respond to significant experiences, showing a range of feelings

Have developing awareness of their own needs, views and feelings

Have developing awareness of the needs, views and feelings of others, beginning to show sensitivity to other's needs and form positive relationships

Understanding the world

Children have opportunities to;

Become aware of similarities and differences between themselves and others and among families, communities and traditions

Begin to know about their own cultures and beliefs and those of other people

Explore, observe, discover places and objects that matter in different cultures and beliefs

Expressive Arts and Design

Children have opportunities to;

Use their imagination to create through art, music, dance, play, role-play and stories to represent their own ideas, thoughts and feelings

Respond in a variety of ways to what they see, hear, smell, touch and taste

Literacy

Children have opportunities to;

Be given access to a wide range of materials to encounter religions and worldviews

Maths

Children have opportunities to;

Recognise, create and describe some patterns and sort and order objects simply

Key Stage 1 to Key Stage 3 Learning							
Cognitive Level	Pre-Key Stage 1 Learning	Key Stage 1	Lower Key Stage 2	Upper Key Stage 2	Key Stage 3		
	Pre-Requisite Skills	NC Year 1 and 2	NC Year 3 and 4	NC Year 5 and 6	NC Year 7	NC Year 8	NC Year 9
Autumn A	Animals including Humans	Animals including Humans	Animals including Humans	Animals including Humans Evolution and Inheritance	Structure and function of living organisms	Materials and Energy	Genetics and Evolution
Autumn B	Materials and Rocks	Materials	Rocks States of Matter	Properties and Changes of Materials	The Particulate Nature of Atoms Atoms, Elements and Compounds	Pure and impure substances Chemical Reactions	Energetics The Periodic Table
Spring A	Seasons	Seasonal Changes	Sound	Earth and Space Light	Energy	Motion and Forces	Waves
Spring B	Living things and their Habitats	Living things and their Habitats	Forces and Magnets	Living things and their Habitats	Structure and function of living organisms	Materials and Energy	Genetics and Evolution
Summer A	Plants	Plants	Light	Forces	The Particulate Nature of Atoms Atoms, Elements and Compounds	Pure and impure substances Chemical Reactions	Materials Earth and Atmosphere
Summer B	Forces, Motions and Magnets	Uses of Everyday Materials	Electricity	Electricity	Electricity and Electromagnetism	Matter	Space Physics

Key Stage 4 and Post 16 Learning							
Accreditation / Qualification	AQA UAS (KS4)	AQA UAS (Post 16)	ASDAN Units (KS4)	ASDAN Units (Post 16)	ELC Science	GCSE (Year 1)	GCSE (Year2)
Autumn A					Component 1: The Human Body	Cell Biology	Organisation
Autumn B					Component 3: Elements, Mixtures and Compounds	Cell Biology	Organisation
Spring A					Component 5: Energy, Force and The Structure of Matter	Infection and Response	Bioenergetics Ecology
Spring B					Component 2: Environment, Evolution and Inheritance	Infection and Response	Bioenergetics Ecology
Summer A					Component 4: Chemistry in our World	Homeostasis	Inheritance, Variation and Evolution
Summer B					Component 6: Electricity, Magnetism and Waves	Homeostasis	Inheritance, Variation and Evolution

Post 16 – Preparation for Adulthood Programme – Allocation of time for science is clearly identifiable and linked to ASDAN units