

# Science Curriculum Map

At the South Hams Federation, we have chosen The United Learning Curriculum to underpin the teaching and learning of Science.

Why have we chosen The United Learning Curriculum?

The United Curriculum for science provides all pupils, regardless of their background, with:

Substantive knowledge:

- Ensuring pupils master core content through the development of key concepts and timely revisiting of key knowledge
- Sequencing the curriculum and selecting knowledge to allow for gradual development of vertical concepts – the ‘big ideas’ in science – to provide firm foundations for KS3 and KS4
- Preventing common misconceptions that are often formed at an early age and prove problematic at the later stages of pupils’ science education
- Purposefully teaching appropriate knowledge that goes beyond the KS1 and KS2 national curriculum, to aid current and future understanding, and to smooth the transition to KS3
- Encouraging pupils to apply and make connections between the disciplines of science, the wider curriculum and the wider world

Disciplinary knowledge:

- Sequencing Working Scientifically elements so that they are explicitly taught and practised alongside the substantive knowledge, and regularly reviewed and built upon across the years and key stages

## Science Curriculum Map

- Planning practical tasks that have a clear purpose: to demonstrate or prove substantive concepts, or to allow pupils to deliberately practice working scientifically skills in a relevant context

Curiosity and excitement about science:

- Selecting examples and applications of science that inspires pupils' curiosity about the world and natural phenomena
- Ensuring that all pupils can see themselves reflected in the science curriculum, by highlighting present-day role models and the contributions of scientists from a wide range of backgrounds; and considering social and cultural values around scientific ideas.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Biology	Biology Physics	Chemistry	Chemistry	Biology	Biology
	Plants	Seasonal Changes	Materials	Materials	Animals	Humans
	Identifying and naming common plants and describing basic structures	Observing changes across four seasons and describing associated weather	Distinguishing objects from their material, and describing simple properties	Consolidation and Review	Naming reptiles, fish, amphibians, birds and mammals; carnivores, herbivores, omnivores	Human body parts and senses

## Science Curriculum Map

--	--	--	--	--	--	--

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 2	Biology	Biology	Chemistry	Biology	Chemistry	Chemistry
	Plant Growth	Needs of Animals	Uses of Materials	Living Things and Habitats	Solids, Liquids and Gases	Solids, Liquids and Gases
	Plants grow from seeds, and require water, light and a suitable temperature	Animals need water, food and air to survive and to have offspring	Comparisons of an object's material with its use; impact of bending, twisting on solid objects	Introduction to habitats, micro-habitats , and simple food chains	How the same substances can exist as solids, liquids and gases	Consolidation and Review

## Science Curriculum Map

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	Chemistry	Physics	Biology	Biology	Physics	Physics
	Rocks	Light	Organisms	Plants	Forces and Motion	Magnetism
	Comparisons of types of rocks and how fossils are formed	Relationship between light and how we see; the formation of shadows	The role of muscles and skeletons; the importance of nutrients	Features of flowering plants and what they need to survive	Introducing pushes and pulls; opposing forces, and balanced forces	Contact and non-contact forces, including friction and magnetism

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 4	Biology	Biology	Chemistry	Physics	Physics	Chemistry
	Classifying Organisms	Food and Digestion	Particle Model	Sounds	Electricity	Properties of Materials
	Introduction to classifying animals and	The human digestive system and	States of matter in relation to	Relationship between strength of	Simple series circuits	Considering physical and chemical

## Science Curriculum Map

	their environment	food relationships in ecosystems	particle arrangement	vibrations and volume of sound		properties
--	-------------------	----------------------------------	----------------------	--------------------------------	--	------------

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5	Chemistry	Physics	Biology	Biology	Physics	Physics
	Separating Mixtures	Energy	Life Cycles	Human Development	Forces	Earth and Space
	Identifying and separating mixtures; reversible and non-reversible changes	Introducing the concept of energy stores and energy transfers; relate this to prior knowledge	Life cycles of a mammal, amphibian, insect, bird, and some reproduction processes	Human development to old age	Gravity, air and water resistance and friction; introduction to pulleys	Movements of planets and the Moon, and relationship to day and night

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 6	Physics	Biology	Physics	Biology	Biology	Chemistry

## Science Curriculum Map

	Electricity	Evolution	Light	Further Classification	The Human Body	Physical and Chemical Changes
	Investigating variations in series and parallel circuits, and how electricity is generated	Fossils; introduction to the idea that adaptation may lead to evolution	How light travels and is reflected, and how this allows us to see	Further classification of organisms based on characteristics	Human circulatory system; transport of nutrients within the body	Identifying physical and chemical changes