



# Science Curriculum Overview



# Science

*"Science education should enhance learners' curiosity, wonder and questioning, building on their natural inclination to seek meaning and understanding of the world around." (Wynne Harlen)*

Curriculum Coverage											
Biology				Chemistry				Physics			
Upper KS2	Y6		Living Things		Animals and Humans		Evolution and Inheritance		Light and Seeing		Electricity
	Y5		Living Things		Animals and Humans		Materials		Movement, Forces, and magnets		Earth and Space
Lower KS2	Y4		Living Things		Animals and Humans		States of Matter		Sound and Hearing		Electricity
	Y3		Plants		Animals and Humans		Rocks		Movement, Forces and magnets		Light and seeing
KS1	Y2		Plants		Living Things		Animals and Humans		Materials		
	Y1		Plants		Animals and Humans		Seasonal Changes		Materials		

### Intent

Our children:

- gain knowledge in science formed through interesting and exciting experiences that enhance awareness of their own abilities and strengths as a learner. They use their prior knowledge and apply taught skills to solve problems and develop the sophistication of science.
- see learning in science as an ongoing process not a one-off event, making links with how their learning fits with the world around them, including careers.
- will meet the National Curriculum expectations in science, taught by highly qualified staff who support children to develop mastery of concepts and inspire enthusiasm and interest in the subject
- have opportunities to experience learning beyond the classroom. This will allow them to enrich their knowledge by visiting science museums and education laboratories and exploring the natural world all around them.

### Implementation

In response to our mixed-aged classes, our science Curriculum is implemented on a two-yearly programme (Cycle A and Cycle B). This ensures complete curriculum coverage for our pupils. As children progress throughout the school, they develop their knowledge, scientific skills and understanding through a range of topics and practical investigations. By Year 6, all children will have followed our progressive curriculum narrative pathway.

In response to our classes which have 3-year groups, teachers adapt the curriculum to ensure all pupils follow progression of threshold concepts and scientific skills relevant to their age.

The key threshold concepts across the Science curriculum are taught sequentially over time to develop scientific knowledge and skills from EYFS to Y6 and beyond. The curriculum is built around a process of interweaving topics, self-testing, and re-testing to aid the development of long-term memory and mastery of both skills and knowledge required. Children are taught with reference to the 3 scientific disciplines of Biology, Chemistry and Physics:

- **Biology:** Children learn that animals, humans and plants are made up of complex interacting systems to function. They recognise that organisms require a supply of energy to carry out basic functions of life and growth.
- **Chemistry:** Children learn that the Earth is a complex of interacting rock, water, air and life. They explore that particle theory of matter is the abstract idea that helps us develop an understanding of why materials behave as they do.
- **Physics:** Children learn that energy is a powerful and unifying abstract idea which is difficult to define. Forces change the state of rest or motion of the body.

### Impact

Clear outcomes focus and guide Science development plans and drive improvement. Our children:

- demonstrate outstanding progress that reveals a clear learning journey. Children talk enthusiastically about their learning in science.
- are inspired to follow a pathway towards further study in science and aspire to a scientific career