

Big Ideas

Biology: Organisms require a supply of energy & materials for which they often depend on, or compete with, other organisms



Physics: Objects can affect other objects at a distance

Chemistry: The composition of the Earth and its atmosphere and the process occurring within them shape the Earth's surface and its climate

Working Scientifically: Science is a search to explain and understand phenomena in the natural world. Scientific enquiry supports this search through pattern seeking, observing over time, comparative & fair testing, identifying, classifying and grouping and research using secondary sources.



Science



We believe that a quality Science curriculum should develop and sustain children's sense of wonder, fascination and curiosity in the natural world, an enjoyment of scientific activity and understanding of how natural phenomena can be explained. Through high quality teaching, we aim to inspire the acquisition of scientific knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the Working Scientifically skills and an understanding of Scientific Enquiry are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently. We believe that the ability and understanding to use and apply science will give our children the tools they need to participate fully and make informed decisions as members of society that affect their own and others well-being and the environment.

Content and sequencing



- EYFS: Understanding the World (The Natural World), Personal, Social & Emotional Development (Managing Self)
- Class 2: Animals Including Humans, Plants, Everyday Materials, Uses of Everyday Materials, Living Things and their Habitats, Seasonal Change
- Class 3: Plants, Everyday Materials, Uses of Everyday Materials, Living Things and their Habitats, Animals Including Humans
- Class 4: Animals Including Humans, Plants, Forces & Magnets, Sound, Rocks, States of Matter,
- Class 5: Living Things and their Habitats, Light, Electricity, Properties & Changes in Materials
- Class 6: Animals Including Humans, Living Things and their Habitats, Evolution & Inheritance, Forces, Earth & Space, Electricity.

Vocabulary



- Identified through progression documents
- Conveyed through knowledge organisers for units

Enrichment



- STEM Goblin Car Project
- Forest School
- Science related school trips and visits (eg. Cambridge Science Centre, The Big Bang Science Fair, Norwich City Energy Trip, The Genome Analysis Centre)
- Visitor experts
- British Science Week, International Space Week, Recycling Week

Progress



- Units of work are carefully sequenced so prior knowledge and concepts are built upon from previous year groups and units.
- Our curriculum is the progression model.
- Precise questioning in class is used to test conceptual knowledge and skills, and assessments including low stakes quizzes at the beginning and end of each unit inform formative and summative assessments. In this way children with gaps in learning can be identified and planned for so that all pupils keep up.

Support



- Everyone has access to the NC programmes of study
- High quality unit and year group specific teaching and learning resources from The Association of Science Education have been provided for all teachers.
- Floor books used as an assessment tool to record pupil voice (scribed for SEN/EAL and pupils who find writing down their understanding challenging)/scientific vocabulary/understanding in all five areas of Scientific Enquiry
- Learning is scaffolded/extended for those children who need it using resources, support staff and extension questions found in unit specific knowledge organisers.
- VNET-supporting best practise.

Links with English, Maths & Design and Technology



- Links are made with core subjects (Maths & English) and Design and Technology to ensure opportunities to extend learning and achieve a greater depth of knowledge.
- Reports and recount writing
- Measurement
- Statistics
- STEM Goblin Car Project

