

Science Curriculum

Science is an essential skill, which is vital to the world's future and prosperity. We aim to instil in our children a sense of awe, wonder and curiosity about the world, whilst enabling them to understand and apply the fundamental principles and concepts of science through the disciplines of biology, chemistry and physics.

INTENT		IMPLEMENTATION		IMPACT	
Alignment to National Curriculum	In line with the National Curriculum, we ensure that our children: develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics; develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them; are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. Our curriculum is underpinned by the 'big ideas' of science	Pedagogical Approaches	The pedagogical approaches to the teaching of science are closely aligned to the approaches and principles of teaching in other subject areas, with the key elements being: <ul style="list-style-type: none"> • Deliberate and intentional retrieval of previous knowledge to build on previous learning • Regular checkpoints and formative assessments to tailor lessons to the needs of pupils • Positive relationships that create the conditions conducive to effective learning • High levels of subject knowledge 	Approach to Assessment	We understand that learning happens over time rather than in a single lesson. As a result of our carefully designed and planned curriculum, pupils' develop detailed knowledge and skills across the curriculum and, as a result, achieve well. Assessment is done formatively during lessons, and at the end of each lesson teachers will assess the children's current level of skills. Degree of mastery of these skills will be recorded and used to inform teacher judgment on a termly basis.
End Points	Working scientifically is represented as procedural knowledge. children revisit and deepen their knowledge and understanding in each year group as they progress through school. Substantive knowledge represents the science content that is taught in each year group – the content we want the children to know and remember.	Teachers' Expert Knowledge	Teachers are given regular opportunities to access CPD. The subject leader provides regular updates to staff. The culture of the school promotes openness and honesty in relation to proactively seeking support; this may be reflected in PDM content, and discussions between colleagues.	Performance Data	There is no published data for science at primary school. The school tracks foundation subjects broadly to ensure that pupils are working within the curriculum expectations for their year group. This is reported to parents within the end-of-year report.
Sequencing	The Big Ideas are introduced, revisited and referenced in different year groups as the children move through school to enable them to make connections with prior learning, and to help them understand how their current learning relates to a specific scientific discipline.	Promoting Discussion and Understanding	In all lessons, discussion is integral in order to deepen thinking and promote understanding. Pupils are given regular opportunities to explore and discuss questions at an age-appropriate level. Teachers use their strong knowledge of the progression in the curriculum in order to ask questions which lead children to develop the understanding we intend to promote.	Pupils' Work	Children's work will be used as a way of securing and showing learning and not simply a record of activities done in class. Children should be able to refer back through their work, to support themselves with new learning and retrieve key elements of previous learning. Evidence will be recorded in a variety of forms.
Alignment with EYFS	Understanding the world involves guiding children to make sense of their physical world. In developing the children's understanding of the world, we build upon their personal experiences which increases their knowledge and sense of the world around them. These personal experiences and the opportunities provided in provision foster their understanding of our ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Understanding of the world with a focus on the natural world is part of our core provision all year round. Children are given opportunities and experiences to enable them to meet the expected level of development	Knowing More and Remembering More	Children are encouraged to reflect on previous learning and use that to explain their current understanding. Teachers are clear about the progress and achievements of the pupils they teach, and how their learning might be improved. Teaching actively promotes recall and retrieval strategies to commit knowledge to long term memory	Talking to Pupils	The subject leader will dedicate time regularly to the scrutiny of books, discussion with teachers, enhancing subject knowledge, and discussion with pupils. Pupils will have the opportunity to talk about their work, their enjoyment and understanding of the lessons, and how much they can recall, and their responses will be used to inform an evaluation of the quality of teaching and learning.

Local Context	We use our school and local environment to support our learning and scientific fieldwork when appropriate. In recognition of our diverse community, we ensure that the science curriculum references great scientists from a range of ethnic and social backgrounds, cultures and genders.	Teacher Assessment	Teachers assess formatively in each lesson. Children will have opportunities to evaluate and recognise their own success and teachers will carry out formative assessment for learning through the use of checkpoints. Task design allows children to demonstrate their progress. Teachers endeavour to carry out live feedback in line with research about which forms of marking and feedback have most impact.		
---------------	--	--------------------	---	--	--