

Science

Science is taught as a separate lesson where we encourage our pupils to be curious about natural phenomena and to be excited by the process of understanding the world around them.

Key scientific terminology is introduced each lesson and knowledge is built upon throughout the school and across year groups. Pupils are encouraged to work scientifically, carrying out simple tests and experiments, whilst using equipment to gather and record data where appropriate.

Whilst at St Peter's C E Academy, children will learn about plants, animals including humans, materials, habitats, rocks, light, forces, states of matter, sound, electricity, earth and space and evolution and inheritance.

During National Science week, in the month of March, the children have the opportunity to engage more closely with science. We invite expert visitors to the school to deliver science lessons. Atomic Tom, a local based scientist, delivers engaging, exciting practical, hands on sessions. This, coupled with a range of science focused lessons during the week, allows the children to enrich their scientific knowledge.

See the link below for the National Curriculum Science Programmes of Study for KS2:

<https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study/national-curriculum-in-england-science-programmes-of-study>

Intent

At St Peter's C E Academy, we recognise the importance of Science in every aspect of daily life. As one of the core subjects taught in Primary Schools, we give the teaching and learning of Science the prominence it requires.

Science is important to St Peter's as it allows children to deepen their knowledge and understanding of the world around them, developing skills associated with scientific enquiry. We believe that every child deserves the opportunity to explore their natural curiosity of our world and beyond. We aim to encourage, respect for all living creatures and their environments.

In conjunction with the aims of the National Curriculum, our Science teaching offers opportunities for the children who attend St Peter's C E Academy to:

- 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;
- be equipped with the scientific knowledge required to understand the uses and implications of Science, today and for the future.
- develop the essential scientific enquiry skills to deepen their scientific knowledge.

- use a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including I.C.T., diagrams, graphs and charts.
- develop a respect for the materials and equipment they handle with regard to their own, and other children's safety.
- develop an enthusiasm and enjoyment of scientific learning and discovery.

The National Curriculum provides structure and skill development for the science curriculum being taught throughout the school. There is a yearly plan for this subject that provides progression in scientific skills and understanding of the concepts taught across the key stages.

Implementation

At St Peter's, teachers plan lessons through the use of CUSP (Curriculum with Unity Schools Partnership) which pays close attention to guidance provided by the National Curriculum sequence and content. It is infused with evidence-led practice and enriched with retrieval studies to ensure long-term retention of foundational knowledge. The foundations of CUSP science are implemented and reinforced throughout KS2. Our ambitious interpretation of the National Curriculum places knowledge, vocabulary, working and thinking scientifically at the heart of our principles, structure and practice.

The planning includes problem solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom.

Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, they assess children at the beginning of each lesson with retrieval tests and at the end of units of work through knowledge-based tests.

We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.

Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching.

Teachers demonstrate how to use scientific equipment, and model skills needed in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and educational trips whenever possible.

The science curriculum and its delivery is monitored by the subject leader through observation, pupil voice and book monitoring. Staff are supported where needed to further enhance the teaching and learning within science and training opportunities are available when required.

Impact

At St Peter's, we believe in allowing all of our learners the opportunity to enjoy a fun, engaging high quality science curriculum. Our aim is to build a solid foundation in science that will enthuse and inspire and provide the necessary skills they will require for secondary education. First-hand experiences, quality teaching and access to a knowledge-based curriculum will allow the children to gain a greater understanding of the role science plays in the world around them. Thus, paving the way for them to let their light shine, encouraging future scientists, and for them all to have a deep respect for the world we live in. They will recognise that as care-takers they have a part to play in protecting the natural environment and resources our world has to offer.

St Peter's C E Academy long term plan for science.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Enrichment				British Science Week		
Year 3	Chemistry: Rocks and Soils	Biology: Animals, including humans	Physics: Forces and Magnets	Biology: Plants	Physics: Light	Biology: Animals including humans (revisit) Chemistry: Rocks (revisit)
Year 4	Physics: Sound	Physics: Electricity	Chemistry: States of Matter	Biology: Animals, including humans: Digestive System	Biology: Living Things and their habitat	Biology: Living Things and their habitats (revisit)
Year 5	Biology: Living things and their habitats	Physics: Forces	Physics: Earth and Space	Biology: Animals, including humans: Human development	Chemistry: Properties and Changes of Materials	Biology: Living things and their habitats (revisit)
Year 6	Biology: <i>Living things and their habitats</i>	Physics: Light	Biology: <i>Circulatory system</i>	Biology: Water transportation	Physics: Electricity	Biology: Evolution and inheritance