St Saviour CE Primary School

Science Policy

Isaiah 9:6

For unto us a child is born, unto us a son is given: and the government shall be upon his shoulder: and his name shall be called Wonderful, Counsellor, The mighty God, The everlasting Father, The Prince of Peace.

Science Policy

Striving for excellence whilst caring for all.

Intent

At St Saviour's, we aim to inspire children to become curious, inquisitive and analytical thinkers who develop a broad and secure understanding of the natural world. Through Science, we encourage children to think and work like scientists, developing the knowledge, skills and confidence to ask questions, investigate ideas and make sense of the world around them.

Our Science curriculum enables children to:

- Develop a secure understanding of key scientific knowledge and concepts.
- Ask questions, make observations and explore ideas about the world around them.
- Plan and carry out investigations and practical enquiries.
- Record, analyse and interpret data in a variety of ways.
- Use evidence to draw conclusions and explain their findings.
- Develop scientific vocabulary and communicate their ideas clearly.
- Recognise how Science influences our everyday lives and contributes to developments in society.
- Develop an appreciation of the contributions made by scientists from different backgrounds and cultures.
- Consider environmental issues and understand the importance of caring for our planet.

Our Science Curriculum

Our Science curriculum is based on the National Curriculum and is organised around three key strands:

Scientific knowledge and understanding – developing knowledge of important scientific concepts across Biology, Chemistry and Physics.

Working scientifically – developing the skills and understanding needed to investigate, question, observe, measure, record, analyse and evaluate like scientists.

Science in action – understanding how Science is used in the real world and how scientific discoveries and developments influence our lives and society.

Children revisit key areas of Science throughout their time at St Saviour's, allowing them to build upon prior learning and develop their understanding with increasing depth and complexity. These areas include:

- Plants
- Animals, including humans

- Living things and their habitats
- Materials
- Energy
- Forces, Earth and Space
- Making connections

We follow a spiral approach to learning, meaning that important knowledge and skills are revisited regularly. This allows children to strengthen their understanding, make connections between different areas of Science and apply what they have previously learned to new situations.

Scientific Enquiry

Practical experiences are an important part of our Science curriculum. Children are given opportunities to observe, explore, investigate and experiment, developing their ability to work scientifically.

As children progress through the school, they develop increasingly sophisticated skills in:

- Asking and answering scientific questions.
- Making careful observations and measurements.
- Making predictions.
- Planning and carrying out fair tests and investigations.
- Recording and presenting results.
- Identifying patterns and relationships.
- Drawing conclusions using evidence.
- Evaluating their investigations and suggesting improvements.

We want our children to develop the confidence to question, investigate, discover and explain.

Science Beyond the Classroom

Science is connected to the world around us and we encourage children to recognise its importance in everyday life. Through real-world contexts, children explore issues such as sustainability, biodiversity, climate change and the responsible use of natural resources.

We also introduce children to significant scientists and discoveries, helping them to understand the diverse contributions that have shaped our understanding of the world.

Through discussion, collaboration and debate, children learn to listen to different viewpoints, explain their thinking and use evidence to support their ideas. This helps them to develop critical-thinking skills and become responsible, informed members of society.

Inclusion and Aspiration

At St Saviour's, we believe that every child can be a scientist. Our Science curriculum is designed to be accessible, ambitious and inclusive, enabling all children to participate fully and achieve their potential.

We provide appropriate support and challenge so that children can develop their scientific knowledge, vocabulary and enquiry skills with confidence. We celebrate the diversity of people who have contributed to Science and aim to challenge stereotypes about who can become a scientist.

Ultimately, we want our children to leave St Saviour's with a curiosity about the world, a love of discovery and the confidence to ask questions, think critically and use evidence to understand and improve the world around them.

Implementation

At St Saviour's, Science is taught through a carefully sequenced curriculum that builds children's knowledge, vocabulary and scientific skills over time. Lessons provide opportunities for children to explore, investigate, discuss and apply their learning in meaningful contexts.

Our teaching is designed to develop both scientific knowledge and the skills needed to work scientifically. We use practical experiences, discussion, questioning and investigation to encourage children to be curious, think critically and develop their understanding of the world around them.

A Consistent Approach to Learning

Science lessons follow a clear structure which helps children to connect new learning with what they already know.

Recap and Recall

Lessons begin by revisiting previous learning. Children are encouraged to retrieve key knowledge, vocabulary and scientific concepts from earlier lessons and units. This helps strengthen their memory, identify misconceptions and make connections between new and existing learning.

Attention Grabber

Lessons include an engaging starting point designed to spark curiosity and interest. This might be a question, observation, practical activity, demonstration or discussion that encourages children to think about the scientific ideas they are about to explore.

Main Learning

The main part of the lesson provides opportunities for children to develop their scientific understanding and apply their skills. Children experience a mixture of teacher modelling, guided activities, practical investigations, independent work and collaborative learning.

Where appropriate, children plan and carry out investigations, make observations and measurements, record results, identify patterns and use evidence to draw conclusions.

Wrapping Up

Lessons finish with opportunities for children to reflect on and consolidate their learning. Children may review key vocabulary, explain what they have discovered, discuss their findings or apply their knowledge to a new situation.

Adaptive Teaching and Inclusion

We believe that every child can succeed in Science. Teaching is adapted to ensure that all children can access the curriculum, regardless of their starting point or individual needs.

Teachers use a range of strategies to support and challenge pupils, including:

- Scaffolding to provide additional support or challenge where appropriate.
- Clear instructions and structured activities to support understanding and reduce unnecessary cognitive load.

- Practical and multi-sensory experiences to provide different ways for children to engage with scientific ideas.
- Collaborative learning to develop confidence, communication and scientific discussion.
- Independent learning to develop resilience, confidence and independence.
- Appropriate questioning and additional explanations to address misconceptions and deepen understanding.

The carefully sequenced curriculum enables children to build their knowledge and skills progressively, avoiding unnecessary jumps in complexity and allowing pupils to develop their understanding at an appropriate pace.

Progression and the Spiral Curriculum

Science is taught as a spiral curriculum, with important knowledge, concepts and skills revisited throughout a child's time at St Saviour's.

When children encounter a scientific idea again, they are expected to build on what they already know and explore it with increasing depth and complexity.

This approach enables children to:

- Revisit and strengthen important scientific knowledge.
- Make connections between different areas of Science.
- Develop and apply scientific skills in new contexts.
- Retain key knowledge and vocabulary over time.
- Develop increasingly sophisticated scientific thinking.
- Build confidence in applying their learning independently.

Knowledge Organisers and Vocabulary

Knowledge organisers support each unit by identifying the key knowledge, concepts and vocabulary that children need to understand.

They provide a useful reference point for both teachers and pupils and are used to support:

- Retrieval and recall activities.
- The development of scientific vocabulary.
- Consolidation of key knowledge.
- Independent learning and self-assessment.
- Revisiting important information throughout a unit.

Scientific vocabulary is explicitly taught and revisited so that children develop the language needed to explain their ideas clearly and accurately.

Assessment

Assessment is an integral part of Science teaching at St Saviour's. Teachers continually assess pupils' understanding throughout lessons and use this information to adapt teaching and address misconceptions.

Teachers assess learning through:

- Questioning to check understanding and encourage scientific thinking.

- Observation of children's practical work and application of scientific skills.
- Discussion and collaborative activities, allowing children to explain their thinking.
- Retrieval activities to assess the retention of prior knowledge.
- Practical investigations to assess children's ability to work scientifically.
- Success criteria and opportunities for self- and peer-assessment.
- Reflection activities at the end of lessons to consolidate learning.

Assessment is used to identify what children know, understand and can do, as well as areas where further teaching, support or challenge may be required.

Cross-Curricular Learning

Science provides valuable opportunities for children to make connections with other areas of the curriculum.

Where appropriate, teachers make links between Science and subjects such as English, Mathematics, Computing, Geography and Design and Technology. Children may use mathematical skills to collect and analyse data, develop their writing and oracy through scientific explanations, or use Computing to research, record and present information.

These connections help children understand that Science is not an isolated subject, but an important part of understanding and interacting with the world around them.

Developing Scientific Thinkers

Through our approach to teaching Science, we aim to develop children who are willing to ask questions, explore ideas, investigate problems, use evidence and explain their thinking.

Our children are encouraged to be curious, resilient and reflective learners who understand that scientific learning comes from observing, questioning, testing ideas and learning from what they discover.

Impact

At St Saviour's, the impact of our Science curriculum is seen in the knowledge, understanding, skills and confidence that children develop throughout their time at school.

We want children to leave St Saviour's with a secure understanding of key scientific concepts, the ability to work scientifically and a lasting curiosity about the world around them.

Assessing Learning

Assessment is an ongoing part of Science teaching. Teachers use a range of approaches to understand what children know, what they understand and how confidently they can apply their scientific knowledge and skills.

Formative Assessment

Teachers continually assess learning during lessons through:

- Questioning and discussion.
- Retrieval and recall activities.
- Observation of practical work and investigations.
- Children explaining their scientific thinking.
- Independent and collaborative activities.
- Reviewing children's work and responses.

This ongoing assessment allows teachers to identify misconceptions, address gaps in knowledge and adapt teaching to meet the needs of individual pupils.

Summative Assessment

At appropriate points within units of work, teachers assess children's understanding of the key knowledge, vocabulary and scientific skills that have been taught.

Assessment information is used to monitor children's progress and identify areas for further teaching, consolidation or challenge.

Evidencing Progress

Children demonstrate their learning in a variety of ways. We recognise that Science learning is not only demonstrated through written work.

Evidence of learning may include:

- Written explanations and scientific observations.
- Annotated diagrams and labelled drawings.
- Tables, charts and graphs.
- Results from practical investigations.
- Scientific conclusions and evaluations.
- Research and presentations.
- Practical demonstrations.
- Discussions and verbal explanations.

This range of evidence allows teachers to develop a broad picture of children's scientific knowledge, understanding and ability to work scientifically.

Pupil Voice

Children are encouraged to talk about their learning and explain their scientific thinking. Through discussion and questioning, teachers can assess how well children understand scientific concepts and whether they can use appropriate scientific vocabulary.

Pupil voice also provides opportunities for children to reflect on their learning, explain what they have discovered and identify questions they would like to investigate further.

We want children to be able to confidently explain what they have learned, how they know it and how they can apply it.

What Does Success Look Like?

As children progress through St Saviour's, we expect them to increasingly demonstrate that they can:

- Recall and explain key scientific knowledge.
- Use scientific vocabulary accurately.
- Ask relevant scientific questions.
- Make careful observations and measurements.
- Make predictions and suggest ways to investigate questions.
- Plan and carry out appropriate investigations.
- Record and present results in suitable ways.
- Identify patterns and relationships in data.
- Use evidence to draw conclusions.
- Recognise and explain scientific concepts in familiar and unfamiliar contexts.
- Evaluate investigations and suggest improvements.
- Make connections between different areas of Science.
- Explain how Science influences our lives and the world around us.
- Think critically and use evidence to support their ideas.

Monitoring Progress and Curriculum Impact

Teachers use assessment evidence, children's work and pupil voice to monitor the impact of Science teaching across the school.

This helps teachers and subject leaders to identify strengths, address areas for development and ensure that knowledge and skills are building progressively from year to year.

The progression of knowledge and skills across the curriculum enables teachers to identify what children should know and be able to do at each stage of their learning.

The Impact on Our Children

Ultimately, we want our Science curriculum to develop children who are:

Curious – eager to ask questions and explore the world around them.

Knowledgeable – able to recall and explain important scientific concepts.

Inquisitive – willing to investigate, experiment and find answers to questions.

Critical thinkers – able to analyse evidence, identify patterns and draw reasoned conclusions.

Confident communicators – able to discuss and explain their scientific ideas using appropriate vocabulary.

Independent learners – able to apply their knowledge and scientific skills in new situations.

Responsible citizens – aware of how Science affects people, society and the environment.

Through Science, we aim to nurture children who not only know more Science, but who are confident in thinking, questioning and working like scientists.