



Science Policy

Review Spring 2025

Intent

At our school, our science curriculum is designed with a strong intent to foster curiosity and encourage children to question the world around them. We believe in creating young minds that are naturally inquisitive and have a thirst for knowledge. Our curriculum aims to inspire and empower children to explore, discover, and make sense of the scientific wonders that surround them.

Through engaging and hands-on activities, we aim to ignite a sense of wonder and curiosity in our students. We encourage them to ask questions, investigate, and seek answers independently. By developing their questioning skills, we enable them to think critically, analyse information, and develop a deeper understanding of scientific concepts.

We promote a growth mindset within our science curriculum, emphasising that it's okay to make mistakes and learn from them. We encourage children to embrace challenges and view them as opportunities for growth. By nurturing their scientific curiosity, we aim to develop problem-solving skills, boost creativity, and enhance their ability to think outside the box.

Our Science curriculum also emphasises the importance of collaboration and communication. Through group projects, discussions, and presentations, we provide opportunities for children to share their findings, exchange ideas, and learn from one another. We believe that fostering a supportive and collaborative learning environment helps children develop strong interpersonal skills and become effective communicators.

Overall, our science curriculum intends to create lifelong learners who are not afraid to question, explore, and seek answers. By nurturing their curiosity, critical thinking skills, and scientific mindset, we aim to equip our children with the tools necessary to navigate and contribute to an ever-evolving world.

Purposes of Learning

In general, the school endeavours to: -

- Give opportunities for first-hand experience of learning scientific knowledge, skills, principles and vocabulary according to the requirements of the NC;
- Enable children to understand scientific principles;
- Develop and investigative and enquiring attitude towards both prescriptive and open-ended practical investigations, using both primary and secondary sources and gain the ability to recall and apply the knowledge and skills in familiar and unfamiliar situations;
- Enable children to enjoy and appreciate the relevance of scientific learning in the context of a wide body of knowledge and skills within their everyday environment and life;
- Appreciate the importance of scientific discovery, both past and present, in improving the quality of life for the individual and communities;
- Evaluate the implications of scientific innovations, both past and present, on the environment.

National Curriculum Key Stages One and Two

Firstly, our curriculum aligns with the Early Learning Goals and the National Curriculum. This means that within: The Early Years:

- Pupils should explore the natural world around them, making observations and drawing pictures of animals and plants.
- Pupils should know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
- They should understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Key Stage 1:

- Pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them.
- Pupils will encouraged to be curious and ask questions about what they notice.
- Pupils should develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions.

- They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.

Lower Key Stage 2:

- Pupils should be enabled to broaden their scientific view of the world around them through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions.
- They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them.
- They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.'

Upper Key Stage 2:

- Pupils to develop a deeper understanding of a wide range of scientific ideas through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically.
- Children should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates.
- They should begin to recognise that scientific ideas change and develop over time and select the most appropriate ways to answer science questions using different types of scientific enquiry.
- Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

Implementation

Children will work scientifically focussing on the following areas: observing, classifying, finding patterns, research and fair testing.

Alongside encouraging children to enjoy and engage in Science, our main goals when teaching Science are:

To encourage children's curiosity and allow them to ask questions and develop the skills they need to answer those questions about scientific phenomena through different types of scientific enquiries. This will be achieved by children working scientifically through the range of science-based units of learning across school.

To develop children's substantive knowledge, vocabulary and disciplinary knowledge through a knowledge rich curriculum which is mapped out in the Science Progression document. This is also encouraged by lots of practical science activities in classes across school.

At St Wilfrid's, we recognise that we are preparing children for their next phase and to ultimately, prepare them to be creative, curious and ambitious citizens. Through our Science curriculum, we believe that we can provide our children with foundational knowledge, concepts and skills, and encourage a sense of excitement and curiosity. This is supported through our curriculum mapping within and across year groups.

Enriching our curriculum and the experience of our children is very important to us and staff will seek out opportunities to enhance the provision through visits and visitors in to school linked to science. In participating in these the children experience a range of activities that focus on pushing their limits in order to build their confidence and social skills, through a variety of inspirational activities.

We have a whole school Science Curriculum Overview which shows what topics are being taught and when. Teachers plan for equipping children with substantive and disciplinary knowledge

Key questions are planned for in order to encourage active learning and challenge for all children.

As a school, we aim:

- To provide the opportunity for children to explore and ask questions about where they live and their environment, the plants and animals they find there and how to care for living things.
- To observe how and why things happen and work, and begin to compare patterns and changes.
- To develop scientific knowledge, skills and understanding which is highlighted within the learning objective.
- To introduce children to a variety of plants and animals, materials and physical phenomena.
- To give children the chance to work scientifically. This should be embedded in each unit of Science that is taught through practical investigations and a variety of research methods, including books and ICT.
- Each year, to ensure that children experience each main type of scientific enquiry: Observation (including over time), pattern seeking, fair testing, identifying and classifying and researching using secondary sources.
- Use a range of scientific equipment to take measurements and record and present findings in different ways.
- To encourage children to take increasing responsibility for their work, working independently and in groups.
- To provide the opportunity to work on open-ended questions, where children have planned and set up their own investigations.
- To support children in reviewing and consolidating their learning before moving on without a secure understanding.
- To provide an environment where questioning and discussion is aimed to develop higher order thinking skills rather than pure recall of facts.
- To enrich and extend understanding through providing the opportunities for the pupils to apply, evaluate, justify and explain the knowledge and understanding they have developed.
- To embed key scientific vocabulary.

Records and Assessment:

Assessment for learning is made through short-term observations of children during scientific investigations, through discussion with the children, through children's written work, end of unit assessments and through their own self-assessment.

Teachers have the responsibility to assess children and record this on O'Track termly. Impact will also be measured through the following ways by the Science Subject Leader:

- Book looks
- Displays
- School social media and Class Dojo
- Learning walks
- Observations
- Pupil voice

Staffing/ Resources

The class teacher has the responsibility to teach the children a broad Science Curriculum and assess the progress within Science. Staff will have the opportunity to engage in science development online and through staff meetings. Staff are equipped with a wide range of resources to support the Science curriculum. Resources will be audited to ensure the correct equipment is used in the correct year group and at the right time and to also identify where

resources need replacing or upgrading. Year group specific resources are stored in classrooms however some shared equipment is stored in the cupboard between Year 2 & 3.

Safety

Children are taught about hazards, risks and risk control during Science sessions. They should begin to recognise hazards and take steps to control risks to themselves and others around them. There are resources that are kept in school to ensure children and staff are at minimal risk such as, safety goggles.

Equal Opportunities

All aspects of Science are taught in a way that includes all children regardless of their gender, background, culture or physical ability. Learning objectives are set in line with our Special Needs and Equality Policies.

Management and Role of Co-ordinator

The school has a collegiate approach to all planning. Reciprocal support is provided by the Key Stage Co-ordinator and also by the Head. The subject co-ordinator is given time annually to monitor the running of the school policy. The role of the subject co-ordinator, however, is to take a lead in assisting and supporting their colleagues in delivering their particular subject area.

The specific roles are: -

- To receive and disseminate documentation/ information regarding best practise in science;
- To encourage and support the professional development of all the teaching staff;
- To support and liaise with staff in the planning of the school's delivery of science within the National Curriculum (NC);
- To oversee the coverage and appropriate supports in place for SEN children in science;
- To request the necessary resources for science;
- To oversee the agreed recording and assessment of science.
- To oversee moderation of standards for science in terms of the Attainment Targets within the NC.
- To support staff in terms of required knowledge for the teaching of science, including problems and investigations
- To support staff with the use of ICT and relevant resources
- To Liaise with the Science Governor to ensure they are kept up to date with key changes/ findings from monitoring.