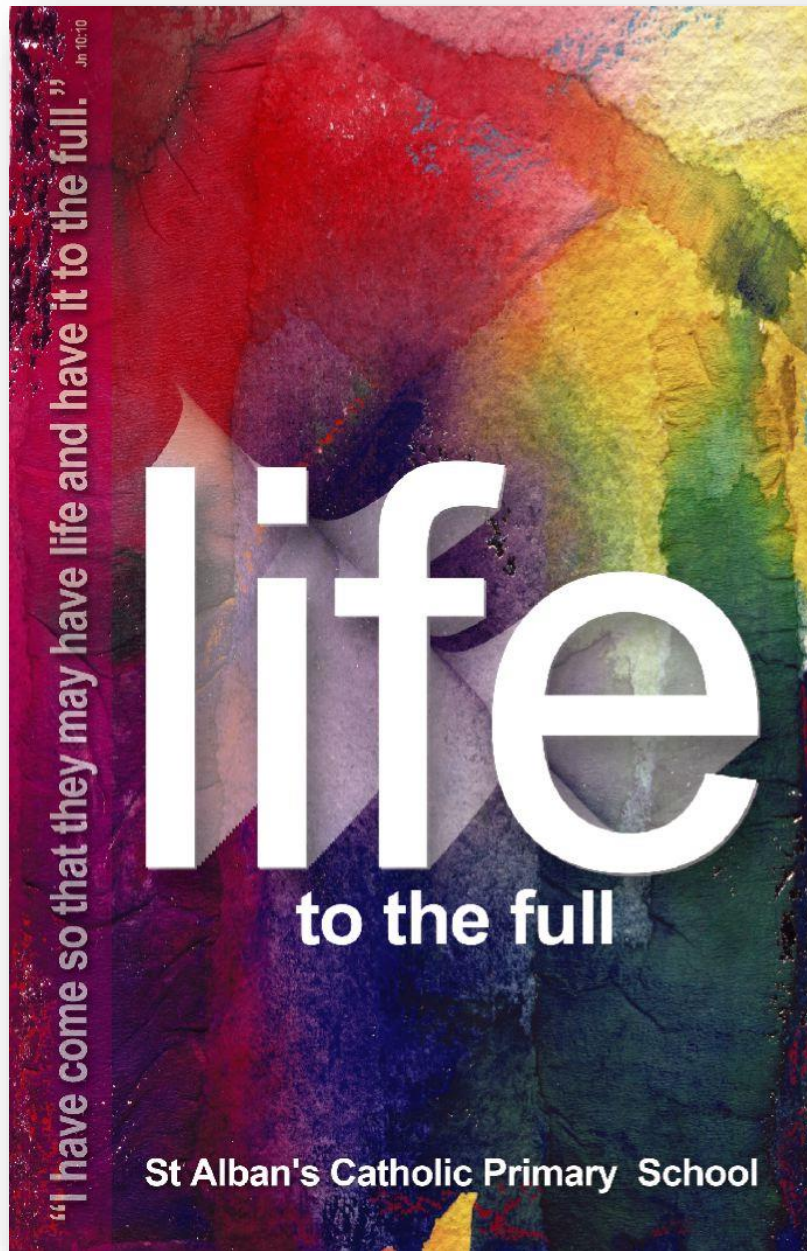


St Alban's Catholic Primary School



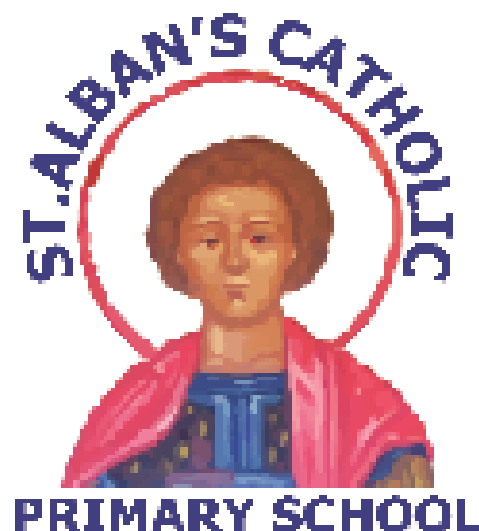
Science Policy

Mission Statement

Jesus said, 'I have come so that they may have life and have it to the full'. (John 10:10)

We will strive towards this vision by:

- Offering a safe and welcoming environment for all;
- Leading the children to a deeper knowledge and understanding of the Catholic faith and fostering the growth of that faith in every member of the school community;
- Enveloping the school in prayer, making worship and liturgy inspiring and meaningful for all;
- Encouraging parents, with the parish community, to fulfil their responsibilities towards the spiritual development of their children especially in regard to the weekly celebration of Mass;
- Ensuring that all children are provided with a challenging and broad curriculum and are offered a wide variety of experiences;
- Expecting the highest standards of achievement and behaviour from all;
- Working in partnership with families to ensure each child reaches their potential.



Rationale

At St. Alban's Primary School, we believe that science stimulates and excites children's natural curiosity about the world around them. This enables children to build upon their knowledge of the world around them in practical contexts, engaging all children in an exciting learning environment.

At St. Alban's Primary School, we believe that science will lead to a better understanding of ourselves and the world. It provides opportunities to appreciate scientific facts and concepts and to experience scientific discovery.

Science at St. Alban's Primary School, is about developing children's ideas and ways of working that enable us to make sense of the world in which they live through investigation, as well as using and applying process skills.

Aims

- Engage children as learners at many levels through linking ideas with practical experience.
- Help children to learn to question and discuss scientific issues that may affect their own lives.
- Help children develop, model and evaluate explanations through scientific methods of collecting evidence using critical and creative thought.
- Show children how major scientific ideas contribute to technological change and how this impacts on improving the quality of our everyday lives.
- Help children recognise the cultural significance of science and trace its development.
- To increase the child's knowledge and understanding of the world.
- To develop attitudes of curiosity, originality, co-operation, perseverance, open-mindedness, self-criticism, responsibility and independence in thinking.
- To enable children to effectively and confidently communicate their scientific predictions and discoveries as they are given the opportunity to observe, describe, illustrate, hypothesise, evaluate and interpret, using appropriate scientific vocabulary.
- To develop children's understanding of the effects of their actions on the environment.

Implementation of Policy

At St. Alban's Primary School, scientific method is about developing and evaluating explanations through experimental evidence and modelling. This is an ignition to critical and creative thought. Through science, children understand how major scientific ideas contribute to technological change - impacting on industry, business and medicine and improving the quality of life. Children recognise the cultural significance of science and trace its world-wide development. They learn to question and discuss science-based issues that may affect their own lives, the direction of society and the future of the world.

Science is not just a question of knowing facts and understanding concepts. It is also about encouraging children to behave scientifically (posing questions to be investigated, hypothesising, recording and analysing).

At St. Alban's Primary School, teachers aim to present science in practical contexts which are relevant to the children's experiences. This will involve learning in class, group and individual situations. Some content is taught directly, but enlivened through practical demonstrations. Activities follow on from class discussions/investigations and enable children to communicate their findings in a variety of ways.

At St. Alban's Primary School, we use ICT to support the teaching and learning of science. Children are given the opportunity to practice science skills and enhance their presentation using software. We use iPads to record scientific investigations and an array of apps to support scientific enquiry.

At St. Alban's Primary School, science is celebrated around the school through displays of children's work, their findings and multimedia images. We use cross-curricula links to science with, for example, design and technology. We develop science informally through Science Week celebrations, school visits and science club too.

At St. Alban's Primary School, to deliver the National Curriculum, the staff aim to promote a broad and balanced science education which enables progression and continuity between classes. We aim to teach science in ways that are imaginative, purposeful, well managed and enjoyable. Teachers will give clear and accurate explanations and offer skilful questioning, whilst making links between science and other subjects where possible.

At St. Alban's Primary School, additionally, the practical nature of science is recognised and opportunities for learning through play and firsthand experience should be provided, especially in the early years. Science plays an important role in the development of investigative skills and draws upon strong mathematical links, for example measurement, pattern recognition, graphical skills and data handling.

Early Years

At St. Alban's Primary School, children in Foundation stage will be introduced to science through the Early Years Foundation Stage (EYFS) Curriculum Guidance. The Early Learning Goals (ELGs) for 'Knowledge and Understanding of the World' forms the foundation for later work in Science, (Design and Technology, History, Geography and ICT).

Wherever possible the children are provided with activities based on first-hand experience that encourage exploration, observation, problem solving, prediction, critical thinking, decision making and discussion. We provide an environment with a wide range of indoor and outdoor experiences that stimulate their interest and curiosity.

At St. Alban's Primary School, children are provided with a broad range of opportunities and experiences in science, enabling them to work towards their early learning goals.

At St. Alban's Primary School, children develop their understanding of the world around them on a daily basis, using their senses to explore and learn about objects and materials. Children are given holistic learning experiences, incorporating elements of science in their everyday activities.

KS1

At St. Alban's Primary School, children observe, explore and ask questions about living things, materials and physical wonders. They begin to work together to collect evidence to help them answer questions and to link this to simple scientific ideas. They begin to evaluate evidence and consider whether tests or comparisons are preparing for the future in a caring environment.

At St. Alban's Primary School, they use reference materials including ICT to find out more about scientific ideas. They share ideas and communicate them using scientific language, drawings, charts and tables with the help of ICT where appropriate.

Following the National Curriculum requirements, children further develop their understanding of the world around them which they have gained in the Foundation Stage. Children are able to observe, explore and ask questions about living things, materials and physical phenomena.

Children begin to work collaboratively with others, enabling them to develop their scientific knowledge and understanding and to link scientific concepts. Children communicate ideas orally using taught scientific language and begin to develop written methods for communicating their ideas (to include drawings, diagrams, use of ICT, tables and charts).

KS2

At St. Alban's Primary School, children learn about a wider range of living things, materials and physical phenomena. They make links between ideas and explain things using simple models and theories. They apply their knowledge and understanding of scientific ideas to familiar phenomena, everyday things and their personal health. They think about the effects of scientific and technological developments on the environment and in other contexts. They carry out more systematic investigations, working on their own and with others.

Following the National Curriculum requirements, children learn, explore and ask questions about a wider range of living things, materials and physical phenomena. Children think about the impact of scientific developments and technologies on themselves and the world around them.

At St. Alban's Primary School, children are encouraged to develop an independent approach to their science learning, through asking questions, suggesting improvements to their work and supporting each other towards achieving a heightened understanding of scientific concepts.

Progression

At St. Alban's Primary School, as children move from Early Years to KS1 and up to KS2, science teaching and effective assessment should allow opportunities for them to progress:

- From using everyday language to increasingly precise use of technical, scientific vocabulary, notation and symbols.
- From personal scientific knowledge in a few areas to understanding in a wider range of areas and knowing how these link together.
- From describing events and phenomena to explaining events and phenomena.
- From explaining phenomena in terms of their own ideas, to explaining phenomena in terms of scientifically accepted ideas or models.
- From participating in adult lead practical, scientific investigations to developing and undertaking their own scientific investigations, independently.
- From unstructured exploration to more systematic investigation of a question or questions developed independently.
- From using simple drawings, diagrams and charts to represent and communicate scientific information, to using more conventional diagrams and graphs.

More Able Learners

More able learners will be identified as part of our formative and summative assessment procedures. We will provide for their needs through a framework of high-quality teaching which focuses on ensuring the children are challenged appropriately.

Health and Safety

At St. Alban's Primary School, all children will be made explicitly aware of the relevance of health and safety issues when undertaking scientific work. This will be specifically highlighted when they are asked to undertake scientific investigations, with additional adults being used effectively to assist with the safe running of all necessary science lessons.

Resources

At St. Alban's Primary School, we have a plethora of science equipment to support the teaching of science. Equipment will be updated as required, within the allocated science budget.

ICT

At St. Alban's Primary School, children will be given opportunities to apply and develop their ICT capability throughout their science lessons, through the use of science/ICT software, allowing them to utilise equipment such as data loggers and interactive microscopes, as well as graph and chart software, and the internet.

Monitoring

At St. Alban's Primary School, monitoring of the standards of children's' work and of the quality of teaching in science is carried out through observations of lessons and whole school book scrutinies.

Equal Opportunities

At St. Alban's Primary School, we believe that every individual within the school has the opportunity to achieve their full potential and has the same chance and equal access to all areas of the curriculum.

In science this means that all children will have the opportunity:

- To develop the process of systematic enquiry.
- To relate their understanding of science to everyday life and in environmental contexts.
- To communicate using appropriate vocabulary and present scientific information in a number of ways.
- To explore aspects of health and safety when working with living things and materials.
- To carry out experimental and investigative science.
- To develop and apply their ICT capability in their study of science. Staff members to make every effort to use stimuli that reflect the cultural diversity of our school and to draw on children own experiences.

Assessment

At St Alban's Primary School, we assess the children's work in science by making informal judgements as we observe the children during lessons. Once the children complete a unit of work, we make a summary judgement of the work for children and consider whether they have yet to obtain, obtained or exceeded the expectations of the unit. We record assessments and use these to plan future work.

The Role of the Science Subject Leader

At St. Alban's Primary School the science subject leader will:

- Manage the provision and deployment of resources and give guidance on classroom organisation support.
- Inspire colleagues to deliver high quality teaching and learning opportunities.
- Lead INSET within the school, and investigate suitable courses elsewhere.
- Act as a contact point between the school and support agencies, including the LA.
- Write, monitor and evaluate an action plan for science and for the School Improvement Plan.
- Lead the evaluation and review of the school's science policy.
- Bid for and manage the budget for this curriculum area.
- Monitor and review the Science provision within the school.

Disability Equality Impact Assessment

This policy has been written with reference to and in consideration of the school's Disability Equality Scheme. Assessment will include consideration of issues identified by the involvement of disabled children, staff and parents and any information the school holds on disabled children, staff and parents.