



# Science Policy



## Introduction

This policy sets out St. Alban's Catholic Primary and Nursery School's aims and strategies for the successful delivery of Science. This policy should be read in conjunction with other relevant school policies such as the Online Safety, Safeguarding, Equal Opportunities, Curriculum, Finance, Teaching & Learning, SEND and Assessment policies.

The policy has been developed by the Science leader in consultation with the SENCO, Leadership Team and teachers. Guidance from experts and pupil, parent and staff voice questionnaires have shaped and will continue to help shape this policy. This policy is based on government recommended and statutory programmes of study.

Due to the fast pace of technology innovation and constantly emerging trends, it is recommended that this policy is reviewed, at minimum, at the start of every academic cycle.

## How is Science a sacred subject?

Science enables us to plummet the mysteries of the mind of the Creator of the universe and inform our world view through a deeper understanding of the inter-connectedness of all levels of creation. Scientific exploration and discovery help students to recognise their potential and responsibility through the development of humility and the dependence on their ability to discern how to make the right choices. Science encourages students to respond to the big questions of the purpose and meaning of life as it works in collaboration with other disciplines within the curriculum.

## Context

St Alban's is an average sized Catholic Primary and Nursery School, a member of St Clare CMAT, Diocese of Hallam and works closely with the Catholic Dearne Valley Family of Schools as well as the Sheffield Catholic Schools who are part of St Clare's. Our mission as a Catholic school is to create and develop a community centred upon the teaching of Jesus Christ where all individuals are enabled to reach their full potential in all elements of their lives. Our age range is 2 to 11 with 217 on roll, 187 FTE R – Y6. St Alban's Nursery opened in September 2021, and is led by teachers and experienced qualified Early Years practitioners and has continued to grow in numbers. St Alban's serves the local parishes of St Alban's Catholic Church of Denaby and Conisbrough and Blessed English Martyrs, Mexborough all of which are in the town of Doncaster. The school is in the highest 20% of socio-economically deprived catchments in the country and is one of the 5 most deprived schools in Doncaster with a changing profile of number of Catholics attending. In recent years, there have been children with more complex needs attending and from Y4 down to our youngest learners in Nursery, 80% of children in these classes fall within the 10% most disadvantaged in the country. At St Alban's 41% children are disadvantaged and a higher than average proportion of children with SEN at 32%, most of whom have speech, language and communication (63%) and/or social, emotional and mental health (27%) needs. Children entering EYFS are doing so with increasingly significant needs and our current Reception class have 44% of children with complex SEN. Most children at St Alban's are of White British heritage, with a lower than average proportion of children with EAL at 3.23%. St Alban's has lower than national levels of stability and since January 2021 there has been a 15% increase in the number on roll (R – Y6) therefore increasing mobility factors. Prior to COVID, attendance was 97.48% but reduced significantly with 27.8% persistently absent in 21/22 academic year. During the school year 22/23, attendance improved at a significantly higher rate than the national primary rate reaching 94.03%, an increase of 2.13% on 21/22 and a reduction to less than national levels for persistent absence at 19.6%.



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## Implementation and Review of Policy

Implementation of the policy will take place after consultation with the Governors in the Spring term 2023. This policy will be reviewed every year by the Head teacher, science leader, the Governing Body and Staff. The next review date is Autumn term 2024.

At St Alban's, it is our intention to recognise the importance of Science in every aspect of daily life. We give the teaching and learning of Science the prominence it requires by either session taught as a block through expeditionary learning or timetabling Science lessons to be taught discretely in every year group. We believe that practical scientific enquiry skills are key to our pupils learning in Science and so each enquiry method is embedded through the topics the children study and these topics are revisited and developed throughout their time at school.

## Intent of the Science Curriculum

All children are supported through practical demonstrations and experiments to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions.

Specialist vocabulary for topics is taught by year group and built up, and effective questioning to communicate ideas is encouraged. Concepts taught are reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

We intend to provide all children regardless of ethnic origin, gender, class, aptitude or disability, with a broad and balanced science curriculum that will develop the natural curiosity of the child, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence. We believe that the St Alban's Science curriculum develops children's learning, results in the acquisition of knowledge and enables children to become enquiry based learners.

## Transition from EYFS to Y1 and Y6 to KS3

In the Foundation Stage of the EYFS Curriculum, the most relevant statements for science are taken from the following areas of learning which prepare them for Science learning in Key Stage 1:

- Communication and Language
- Personal, Social and Emotional Development
- Understanding the World

During Reception, Key Stages 1 and 2, children will follow a progressive scientific investigation model using the Pzaz Science Scheme that is based on the national curriculum areas of study and including all aspects of scientific enquiry skills as mapped out in our Science Curriculum



planning document to ensure that by the end of Key Stage 2 all children have a wide breadth of knowledge and skills within Science to prepare them for Key Stage 3.

## Inclusion and challenge for all learners in different vulnerable groups

At St. Alban's we teach Science to all children, whatever their ability. All children are provided with equal access to the Science curriculum. We aim to provide suitable learning opportunities regardless of gender, ethnicity or home background. Science forms part of the school curriculum policy to provide a broad and balanced education for all children. Through our teaching we provide learning opportunities that enable all pupils to make progress by setting suitable learning challenges and responding to each child's needs. Pupils on the Special Educational Needs register, including those with Education and Health care plans, may have specific targets that can be included in their Science learning.

## Implementation of the Science Curriculum

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children can achieve high standards in science. Teaching is set out thus:

- Science will be taught as set out by the year group requirements of the EYFS framework or the National Curriculum. This is a strategy to enable the accumulation of knowledge and allows progress in repeated topics through the years.
- Through our planning, we involve problem solving opportunities, allowing children to find out for themselves how to answer questions in a variety of practical means. Children are encouraged to ask their own questions and be given appropriate equipment to use their scientific skills to discover the answers.
- Engaging lessons are created with each lesson having both practical and knowledge elements. Teachers use precise questioning in class to test conceptual knowledge and skills and children are regularly assessed to identify those children with gaps in learning, so that all children keep up.
- We build upon the learning and skill development of previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting and 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 explicit in 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. This is developed through the years, in-keeping with the theme of the lesson.
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and workshops with experts.



## Assessment and Recording

Children will be assessed termly against national curriculum objectives. At the start and end of each unit children will complete a vocabulary checklist and will complete a formal assessment at the end of each unit. During science sessions, work completed during each lesson is assessed throughout and evidenced in their books. Children will assess themselves and their learning partners in each lesson using the golden tickets and adults will assess after the children.

## Impact of our Science Curriculum

The successful approach to the teaching of science at St Alban's Catholic Primary and Nursery school will result in a fun, engaging, high quality science education that provides children with the foundations for understanding the world that they can take with them once they complete their primary education. We will ensure children not only acquire the appropriate age-related knowledge linked to the science curriculum, but also skills which equip them to progress from their starting points, and within their everyday lives.

### Children at St Alban's will:

- Retain knowledge that is pertinent to Science with a real life context.
- Be able to question ideas and reflect on knowledge.
- Be able to articulate their understanding of scientific concepts and be able to reason scientifically using rich language linked to science.
- Demonstrate a high ability of mathematical skills through their work, organising, recording and interpreting results.
- Work collaboratively and practically to investigate and experiment.

### We want all our children to have:

- A wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
- A richer vocabulary which will enable to articulate their understanding of taught concepts.
- High aspirations, which will see them through to further study, work and a successful adult life.

Review Date: September 2024

Appendix A: St Alban's Science Curriculum



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