

Promoting, Valuing and Celebrating Science

Achievements in a Christian Setting.

'I am the Good Shepherd; I know my sheep and my sheep know me.' John 10:14

St Paul's Church of England Junior School Science Policy Statement 2022-2023

At the heart of science at St Paul's is a desire to develop our children's curiosity in the world and nurture their scientific knowledge and working scientifically skills. Through this, our children will be equipped to better understand and engage with the world around them to help them thrive now and in the future.

We strive to provide rich and varied learning opportunities for our children; supporting them to conduct enquiries and develop coherent explanations for why certain things happen. We teach methods of enquiry and investigation in order to draw inferences, form hypotheses and reach conclusions. By learning about a wide range of living things, materials, phenomena, the significance of discoveries by real scientists and through asking questions about the real world, children will broaden their understanding. Our children begin to appreciate the way science will affect their future as citizens on a personal, national and global level.

At St Paul's, children are encouraged to investigate, explore and discover through careful and safe experimentation; working on their own and with others. Children talk about their work and its significance, and communicate ideas in a variety of ways to different audiences using scientific language, diagrams, charts and graphs. Through this approach and the efforts of staff, all pupils are encouraged to succeed and taking on the role of scientists!

Our science curriculum has been organised into the following programmes of study and sequenced to allow for progression across the Key Stage:

Plants, Animals including humans, Rocks, Light, Forces and magnets,
Living things and their habitats, States of matter, Sound, Electricity,
Properties and changes of materials, Earth and space, Evolution and inheritance,

Our Aims

At St Paul's, we aim to:

- ✓ Spark and deepen an enthusiasm for science
- ✓ Deliver the National Curriculum Science objectives in ways that are imaginative, purposeful, well controlled and enjoyable
- ✓ Help develop and extend our children's scientific understanding of their world and encourage them to ask meaningful questions to discover more about the world around them
- ✓ Provide opportunities for children to explore the work of real scientists and the significance of their work
- ✓ Make strong, purposeful links between science and other subjects e.g., using ICT in a meaningful way to extend their learning
- ✓ Provide enjoyment and build self-esteem by fostering children's natural curiosity
- ✓ Develop children's working scientifically skills including the use of scientific language, communicating ideas, hypothesising, experimenting and interpreting results to form conclusions
- ✓ Develop a responsibility for their own health and safety and that of others when undertaking scientific activities
- ✓ Develop respect for living things and the environment
- ✓ Provide opportunities to engage in activities that are challenging, creative, relevant and motivating encourage children to see that science is all around them

Our Strategies

At St Paul's CofE VC Junior School we seek to involve a wide range of strategies to meet the individual needs of our children in studying science by providing:

- ✓ A scheme of work and medium-term plans in each year group based on the National Curriculum programmes of study that ensures a range of progression and skills
- ✓ An emphasis on the children conducting different types of enquiries (such as Observation Over Time (OOT), Comparative Tests (CT), Identifying, Grouping and Classifying (IGC))
- ✓ A focus on a particular aspect of working scientifically (such as setting up an enquiry)
- ✓ A variety of teaching methods including whole class, group and individual work
- ✓ Time to explore what children already know and understand from their own experiences, what they have learnt so far as well as questions that they would like to investigate
- ✓ Activities, including specialist visitors, trips and exploration of the school grounds throughout the school year, to develop understanding of the environment and the impact this has on their lives
- ✓ Access to well-resourced and maintained specialist science equipment suited to the ability and needs of the children.

Our Resources

At St Paul's we have:

- ✓ A well-maintained central resource area with additional resource boxes to support units of work for each year group
- ✓ Online planning, teaching and assessment resources for staff to provide support in the delivery of science
- ✓ Children's books in the library and resource boxes relevant to units studied
- ✓ Extensive and diverse outdoor facilities that provide a local context for the children's learning throughout the year.

Our Curriculum Leaders

The members of staff responsible for the leadership and development of science throughout the school are Anna Muggleton and Andrew Berry. They will:

- ✓ Seek to enthuse children and staff about science and promote high standards of achievement and high-quality provision
- ✓ Advise and support staff in the planning, delivery and assessment of science
- ✓ Manage and develop all resources for science
- ✓ Monitor and evaluate science throughout the school
- ✓ Keep up to date with current developments by attending courses, liaising with colleagues from other schools, and use this as a basis for staff development activities
- ✓ Ensure SEND children can access the curriculum and can participate in science activities
- ✓ Lead assessment in science through the moderation of pupils' work, pupil interviews and the analysis of teacher assessment
- ✓ Ensure the action plan is current and regularly reviewed
- ✓ Continue to promote and raise the profile of science throughout the school.

Assessment, Record Keeping and Reporting

In order to ensure continuity, progression and high standards of achievement in science, assessment for every child will include:

- ✓ Assessment and record keeping will be carried out regularly by class teachers against both understanding and working scientifically objectives to ensure the right support and challenge is offered across lessons.
- ✓ Teachers will track pupil progress to assess whether children are on track to meet Age Related Expectations.
- ✓ Termly work sampling and pupil conferences with a selection of pupils from across the year groups will provide curriculum leaders with valuable insight into the knowledge and skills being acquired.
- ✓ Regular science learning walks to ensure a consistent approach across lessons and year groups.
- ✓ Frequent discussions and audits of staff will help curriculum leaders to provide effective support and further staff confidence in teaching the subject.

- ✓ A summative assessment of each child's progress in science will be provided in their end of year report.

To support the planning of science in our school, the following documents are available:

- ✓ National Curriculum, guidance and resources
- ✓ Long Term Plan – Yearly Overview
- ✓ Medium Term Planning
- ✓ PLAN Knowledge and Vocabulary Matrices
- ✓ St. Paul's CofE Junior School Working Scientifically Progression Document
- ✓ TAPs Focussed Assessment for Working Scientifically Plans.

SEND and Equal Opportunity

We are committed to providing a teaching environment conducive to learning where each child is valued, respected and challenged regardless of ability, race, gender, religion, social background, culture or disability. All children have their specific needs met through differentiated work and TA support is provided in relation to identified needs for individuals and groups.

Parental Involvement:

At St Paul's CE Junior School, we will encourage parental involvement by:

- ✓ ensuring science is celebrated across the school and meaningful cross curricula links are made
- ✓ encouraging all families to complete a home project as part of our science week
- ✓ shining a light on the STEM connections there are through our school community including the pupils' family and friends
- ✓ encouraging parents to attend the meet the teacher evenings
- ✓ supporting parents and carers to assist their children with any science topic homework
- ✓ providing curriculum and other information for parents on our website, including links and resources for science at home.

Our Success Criteria

We expect 90% of our children to attain standards in line with or above those stated in the National Curriculum age related expectations.

