



St Paul's Church of England Primary School Science Policy

Adopted by: Curriculum and Achievement Committee

On: 2nd November 2022

Review: Autumn 2025

1. Purpose

The purpose of this policy is to explain why and how Science is taught at St Paul's. As science is part of the national curriculum this policy explains how the school meets its statutory duties to teach it. This policy will outline the purpose, practice and management of the teaching of science, explaining how it is taught, learned and assessed. It will also set out the roles and responsibilities of staff to ensure that the subject is taught effectively.

2. Vision

The vision for science teaching at St Paul's is to prepare our children for life in an increasingly scientific and technological world. The teaching of science will also foster a concern about and active care for our environment. As the children move up through the school, they will acquire a growing understanding of scientific ideas and of working scientifically. Children will be encouraged to develop a "can do" and "let's try again differently" approach to their scientific learning. As they move up through the school they will build on the scientific skills and knowledge that they have learnt in previous years.

3. Aims and Objectives

Our aims for the teaching of science ties closely in with that of the national curriculum which seeks to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

4. Roles and Responsibilities

Governors

- To ensure that Science is taught in line with National Curriculum requirements in the school
- To identify a subject specialist governor to liaise with the subject leader, acting as an advocate for the subject and providing deeper understanding to the governing body.

- To receive and consider an annual report on the subject from the subject leader

Subject Leader

- To provide long term/medium term planning to support teaching staff in delivering the full curriculum, ensuring effective coverage.
- To provide support and guidance to teaching staff including practical class teaching support to support and develop the practice of all teaching staff in the subject.
- To monitor and evaluate planning, teaching, pupil work, learning environment, parental feedback, pupil voice and other forms of scrutiny to identify strengths and opportunities for further development in the subject.
- To have an overview of the quality of teaching and learning across all phases of the school.
- To write and keep up-to-date policies and other relevant subject documentation.
- To maintain a subject leader file to include monitoring activities and outcomes, action planning, budget and resource wishlists, inventory resources, curriculum plans and other curriculum initiative documentation etc.
- To plan and provide INSET/CPD training either with an external provider or internally by the subject leader to support all teaching staff.
- To support the effective induction of new staff into the school
- To work one-to-one with staff needing additional support to deliver the curriculum effectively.
- To keep up-to-date with relevant subject networks, professional organisations and others to ensure that you are the abreast of national and local developments in the subject and can speak authoritatively about the subject.
- To attend and actively seek out CPD to develop your own professional knowledge and skills in the subject.
- To disseminate curriculum developments with the wider teaching staff.
- To engage with other subject leaders and organisations, exploiting these links to enhance the curriculum offer.
- To order, store, audit and maintain resources to support effective teaching and learning in the subject across the school.
- To manage and collate assessment of the subject.
- To prepare an annual report on the subject for governors.

Teaching Staff (this may include HLTAs)

- To use the school's subject curriculum in order to plan challenging and effective lessons for pupils of all abilities in your class.
- To plan lessons using the school's agreed planning templates, recording and storing them in line with school procedures
- To use the resources provided in school to teach effective lessons.

- To seek help and advice from the Subject Leader if needed to ensure that lessons are effectively delivered.
- To mark and assess pupils work in a timely and effective way, in line with school procedures.
- To provide assessment information to the subject leader in line with the school's assessment schedule.
- To participate in subject monitoring activities.

Pupils

- To participate actively in learning activities, doing your best and helping others to learn too.
- To complete homework and classwork activities to the best of your ability at all times.

5. Curriculum Organisation

Science is taught as a discrete subject throughout Key Stage 1 and 2 throughout the school year. There is one science lesson a week in each class.

Currently St Paul's is using the Twinkl Science Planning Scheme to support the teaching of science. This ensures that the correct topics are covered across the school according to the National Curriculum 2014 and also ensure variety and variation across the year groups.

In the future we are looking to phase in an alternative science scheme.

The following table lays out the topics which are taught during each term in each National Curriculum year group.

	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 1	Everyday Materials	Seasonal Change Autumn - Winter	Animals including humans		Seasonal Change Spring - Summer	Plants
Year 2	Uses of materials	Living things	Animals including humans		Plants	The Environment
Year 3	Animals including humans	Rocks	Plants		Light	Forces and magnets
Year 4	States of matter	Electricity	Living Things		Animals including humans	Sound
Year 5	Earth and Space	Materials	Forces		Animals including humans	Living things
Year 6	Animals	Evolution and inheritance	Electricity		Living things	Light

In the Early Years Foundation Stage science is covered under the Understanding the World area of development. Children in Nursery and Reception are encouraged to study and engage in the world around them, to make comments about the natural world and take note of similarities differences and changes.

They are encouraged to explore and experiment and begin to understand cause and effect.

Knowledge, skills and experiences

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. 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. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this 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, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. 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.

Pupils should read, spell and pronounce scientific vocabulary correctly.

'Working and thinking scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content

Teaching and Learning

Whilst the vast majority of science lessons take place in the classroom teachers are asked to take their children "outside the classroom" for a minimum of one lesson per half term. Practical and experimental lessons should take place regularly across all topics and throughout the year.

Children with SEN are expected to take an active role in science lessons and be given equal opportunities to engage with learning and resources with the support of teaching and support staff.

6. Assessment, Attainment and Progress

Pupils will be assessed and their progression recorded in line with the school's Assessment Policy.

Pupils will be assessed continuously throughout the year, as well as undertaking a summative assessment at the end of each academic year.

Throughout the year, teachers will plan on-going creative assessment opportunities in order to gauge whether pupils have achieved the key learning objectives.

Assessment in science is based upon scientific knowledge and understanding, rather than achievement in English or maths.

Assessment will be undertaken in various forms, including the following:

- Talking to pupils and asking questions.
- Discussing pupils' work with them.
- Marking work against the learning objective.
- Specific assignments for individual pupils.
- Observing practical tasks and activities.
- Pupils' self-evaluation of their work.

Formative assessment, which is carried out informally throughout the year, enables teachers to identify pupils' understanding of subjects and informs their immediate lesson planning.

Parents will be provided with a written report about their child's progress during the summer term every year. These will include information on the pupils' attitude towards science, progress in understanding scientific methods, ability to investigate.

Verbal reports will be provided at parent-teacher interviews during the Autumn and Spring terms.

7. Resources

There is a large bank of resources available to support the teaching of science available in the resources room.

Resources should be collected no earlier than the day before the lesson takes place and returned promptly after they are finished to make them available for other classes to use.

Breakages be removed from the stock and should be reported to the science leader quickly in order that new ones can be purchased.

Consumable resources should be requested at the beginning of a topic and a minimum of 3 weeks before the lesson takes place.

8. Display

Each classroom should have a science display for each topic. This can be a wall or a table top one.

It should display key vocabulary related to the term's science topic.

Science displays should include pupils work and photos/diagrams to support learning of the current topic as well as real world objects/items wherever possible.