

Science Policy

St Peter's Academy, Alton

September 2026

Review: July 2027

Contents

1. Subject Statement
2. Teaching and Learning
3. Working Scientifically
4. Assessment
5. Planning and Resources
6. Organisation and Curriculum Coverage
7. Equal Opportunities
8. Inclusion
9. Role of the Science Subject Leader
10. Homework

1. Subject Statement

Intent

At St Peter's Academy, we recognise science as a core subject that enables pupils to develop an understanding of the world around them and their place within it. We aim to provide a high-quality science education that develops pupils' scientific knowledge, conceptual understanding and ability to work scientifically.

The National Curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the disciplines of biology, chemistry and physics;
- develop an understanding of the nature, processes and methods of science through different types of scientific enquiry;
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

At St Peter's Academy, our vision is to engage pupils' natural curiosity and ignite a passion for exploring and discovering the world around them. We want pupils to develop a secure understanding of scientific ideas and to become confident, curious and enthusiastic scientists.

We believe that science should be practical, exploratory and investigative. Wherever appropriate, pupils are given opportunities to observe, question, investigate, measure, classify, research, analyse evidence and communicate their findings. Practical experiences are used purposefully to develop and deepen scientific knowledge rather than simply as activities in their own right.

We recognise that scientific knowledge and scientific skills are closely connected. Pupils need secure subject knowledge in order to work scientifically effectively, while practical enquiry provides valuable opportunities to apply and deepen that knowledge.

Throughout their time at St Peter's, pupils will build upon prior learning and develop an increasingly sophisticated understanding of scientific concepts. Scientific vocabulary is explicitly taught so that pupils can communicate their ideas accurately and confidently.

We encourage pupils to ask questions, challenge their own thinking, recognise when their ideas change in response to evidence and develop an appreciation of the importance of science in everyday life and in the wider world.

Implementation

- All pupils experience a broad and balanced science curriculum that meets the requirements of the National Curriculum.
- Teaching builds systematically on pupils' prior knowledge and identifies important connections between areas of learning.
- Scientific knowledge is explicitly taught and revisited so that pupils develop secure long-term understanding.
- Working Scientifically is embedded within substantive science content rather than taught as a separate topic.
- Pupils experience a range of scientific enquiries, including observing over time, pattern seeking, identifying and classifying, comparative and fair testing, and research using secondary sources.
- Pupils have regular opportunities to ask and answer scientific questions.
- Teachers model scientific thinking, practical techniques and the safe and appropriate use of equipment.
- Scientific vocabulary is explicitly introduced, modelled, revisited and applied.
- Pupils are encouraged to explain their thinking using increasingly precise scientific language.
- Misconceptions are identified and addressed through questioning, discussion, modelling and carefully planned learning activities.
- Pupils are given opportunities to record, analyse and communicate scientific information in a variety of ways.
- Assessment is used to identify gaps in knowledge and inform subsequent teaching.
- All pupils are supported to participate meaningfully in practical science and scientific enquiry.
- Appropriate challenge is provided so that pupils can deepen their knowledge, reasoning and application of scientific ideas.

Where appropriate, science is linked meaningfully to other areas of the curriculum. Outdoor learning, visits, visitors, workshops, Science Week, Wow Weeks, Project Days and the school's 50 Things Venture are used to enrich pupils' scientific experiences.

Impact

- secure and increasingly sophisticated scientific knowledge;
- the ability to recall and apply important scientific concepts;
- accurate and confident use of scientific vocabulary;
- curiosity about the world and the confidence to ask relevant questions;
- the ability to select and use appropriate methods of scientific enquiry;
- careful observations and measurements;
- the ability to record, interpret and communicate evidence;
- the ability to draw conclusions supported by evidence;
- an understanding that scientific ideas can be developed and refined through evidence;
- the ability to identify and address misconceptions;
- connections between different areas of science and between new and prior learning;
- an understanding of the importance and relevance of science in everyday life;

- confidence, resilience and enjoyment when working scientifically.

Our intention is that pupils leave St Peter's with the knowledge, vocabulary and scientific habits of mind needed to continue learning successfully in science at secondary school and beyond.

2. Teaching and Learning

Early Years Foundation Stage

In the Foundation Stage, science is developed primarily through the Understanding the World area of the EYFS Framework. Children are provided with opportunities to explore, observe and talk about the natural and humanly constructed world around them.

- use their senses to explore objects, materials and their environment;
- observe and describe living things, objects and natural phenomena;
- notice similarities, differences, patterns and change;
- ask questions and develop their own ideas;
- explore cause and effect;
- talk about what they have noticed and discovered;
- develop vocabulary to describe their experiences;
- make observations and, where appropriate, record or represent their findings;
- develop an understanding of the natural environment and the place in which they live.

This provides an important foundation for the scientific knowledge and enquiry skills developed throughout Key Stage 1 and Key Stage 2.

Key Stage 1 and Key Stage 2

Science is taught through planned curriculum blocks following the school's rolling programme. This allows pupils to develop sustained knowledge and understanding while ensuring that the required National Curriculum content is covered.

Lessons are carefully sequenced so that pupils can connect new learning to what they already know. Teachers use questioning, discussion, modelling and practical experiences to develop understanding and identify misconceptions.

Practical work is an important part of science at St Peter's. Pupils are given opportunities to handle equipment, make observations, carry out investigations and collect evidence. Practical activities are selected because they support the scientific learning intended in the lesson.

Pupils are encouraged to:

- ask questions;
- predict and explain;
- observe carefully;
- make comparisons;
- classify and group;
- measure;
- gather and record evidence;

- identify patterns;
- carry out comparative and fair tests;
- research using appropriate secondary sources;
- draw conclusions;
- explain their findings using scientific vocabulary.

Teachers explicitly model how to use scientific equipment and how to approach different types of enquiry. As pupils progress through the school, they are expected to take increasing responsibility for planning investigations, selecting equipment, recording evidence and explaining conclusions.

Scientific vocabulary

Vocabulary has a central role within science teaching. Teachers explicitly introduce and revisit subject-specific vocabulary and model its accurate use.

Pupils are encouraged to “talk like a scientist”, using increasingly precise scientific terminology when discussing and recording their ideas. Discussion is used to help pupils articulate their thinking and allows teachers to identify and address misconceptions.

Scientists and the wider world

At the beginning of each planned science block, pupils are introduced to a scientist whose work has a meaningful connection to the topic. Pupils explore how that scientist contributed to scientific knowledge or influenced the wider world.

Where appropriate, pupils are introduced to scientists from a diverse range of backgrounds and historical periods, helping them to understand that science is a human endeavour involving observation, curiosity, creativity, collaboration and evidence.

3. Working Scientifically

Working Scientifically is an integral part of science teaching at St Peter’s. It is not taught as a separate subject or isolated set of activities. Instead, pupils develop scientific enquiry skills through meaningful application to the substantive science content being taught.

Observing over time

Pupils make repeated observations to identify changes and developments over a period of time.

Pattern seeking

Pupils collect evidence to identify patterns and relationships.

Identifying, classifying and grouping

Pupils use observable characteristics to sort, group, identify and classify objects and living things.

Comparative and fair testing

Pupils compare the effect of changing one factor while controlling other relevant variables where appropriate.

Research using secondary sources

Pupils use books, photographs, videos, digital resources and other appropriate sources to answer scientific questions.

Across the school, pupils develop the ability to:

- ask relevant scientific questions;
- make careful and systematic observations;
- select and use appropriate equipment;
- take measurements using appropriate units;
- gather and record data;
- present information using tables, diagrams, charts and graphs where appropriate;
- identify patterns;
- use evidence to support explanations;
- draw conclusions;
- evaluate findings;
- communicate scientific ideas clearly.

As pupils progress through Lower Key Stage 2, they are increasingly expected to make decisions about which type of enquiry is most appropriate for answering a particular question.

4. Assessment

Assessment is an integral part of teaching and learning in science. It is used to identify what pupils know, understand and can do, and to inform future teaching.

Teachers use a range of formative assessment strategies, including:

- questioning and discussion;
- observation of pupils during practical work;
- retrieval of previously taught knowledge;
- review of pupils' explanations;
- assessment of scientific vocabulary;
- examination of written and practical work;
- investigation outcomes;
- quizzes and knowledge checks;
- end-of-unit assessments where appropriate.

At the beginning of lessons, pupils revisit important prior learning through activities such as the school's Scientific Flashback approach. This supports retrieval and helps teachers identify areas requiring further teaching.

Assessment focuses on both scientific knowledge and understanding and Working Scientifically skills. Teachers use assessment information to identify misconceptions, address gaps and provide appropriate support or challenge.

At the end of a science block, key knowledge is checked so that teachers can establish whether pupils have secured the intended learning and identify any areas that require further consolidation.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant National Curriculum programme of study.

5. Planning and Resources

The school uses established science planning resources, including White Rose Science and Grammarsaurus Science, alongside the National Curriculum and other professional resources.

Planning is informed by the school's identified knowledge and skills and, where appropriate, by planning matrices and other subject-specific guidance.

Commercial schemes are used as supporting resources rather than as a substitute for professional curriculum planning. Teachers adapt resources to meet the needs of their pupils and the context of the school.

Planning should ensure that:

- National Curriculum content is covered;
- learning builds on prior knowledge;
- important knowledge is revisited;
- vocabulary is explicitly taught;
- misconceptions are anticipated and addressed;
- pupils experience a range of enquiry types;
- practical activities have a clear scientific purpose;
- pupils have opportunities to record and communicate findings;
- appropriate challenge and support are provided.

Resources should be suitable for the age and ability of pupils and used safely. Teachers should model appropriate use of equipment and ensure that risk is considered before practical activities.

Evidence of high-quality science may include:

- pupils asking and answering scientific questions;
- pupils using accurate scientific vocabulary;
- purposeful practical activity;
- pupils making observations and collecting evidence;
- pupils discussing and explaining their ideas;
- pupils carrying out investigations;
- pupils recording findings in a range of ways;
- pupils using evidence to support conclusions;
- pupils making connections between prior and current learning.

Resources are stored appropriately and reviewed regularly. Scientific books and other resources are available to support both classroom learning and independent research.

6. Organisation and Curriculum Coverage

Science is taught in planned blocks following a rolling programme. The programme is designed to ensure that pupils receive appropriate coverage of the National Curriculum while allowing sufficient time for meaningful exploration and consolidation.

The school currently operates the following rolling programme:

Year A – Class 2 (Years 1 and 2)

Autumn	Spring	Summer
Animals including Humans	Living Things and their Habitats	Living Things and their Habitats

Year A – Class 3 (Years 3 and 4)

Autumn	Spring	Summer
Living Things and their Habitats / Rocks and soils	Forces and Magnets / Animals including Humans Yr3	Plants / Living Things and their Habitats

Year B – Class 2 (Years 1 and 2)

Autumn	Spring	Summer
Changing Seasons	Materials	Plants

Year B – Class 3 (Years 3 and 4)

Autumn	Spring	Summer
Animals including Humans Yr 4 / States of Matter	Sound/ Electricity	Light and Dark

The curriculum will be reviewed regularly to ensure that statutory content is appropriately covered and that pupils build progressively secure knowledge and Working Scientifically skills.

7. Equal Opportunities

At St Peter's Academy, every pupil is entitled to access a high-quality science education.

We are committed to ensuring that pupils are not disadvantaged in their participation in science because of:

- sex or gender;
- race or ethnicity;
- culture;
- disability;
- socioeconomic background;
- religion or belief;
- language;
- additional educational needs.

All pupils should have opportunities to participate in practical investigations, discussion, scientific enquiry and enrichment activities.

8. Inclusion

Science teaching is planned to meet the needs of all pupils. Teachers adapt teaching, resources, language, equipment and outcomes where appropriate so that pupils can participate meaningfully in scientific learning.

For pupils with SEND, appropriate support may include:

- carefully structured instructions;
- visual prompts and models;
- pre-teaching of vocabulary;

- practical and multisensory approaches;
- adapted recording methods;
- additional adult support where appropriate;
- adapted equipment;
- opportunities to rehearse ideas orally;
- appropriate scaffolding and chunking of tasks.

Support should enable pupils to access the scientific learning rather than unnecessarily reducing the scientific ambition of the curriculum.

Pupils who require additional challenge should be encouraged to deepen their understanding by applying knowledge to unfamiliar contexts, explaining ideas in greater depth, evaluating evidence, making connections and undertaking increasingly independent enquiry.

For pupils with speech and language needs, discussion, modelling, visual resources and explicit vocabulary teaching should be used to support both scientific understanding and communication.

Teachers should consider accessibility and safety when planning practical activities so that pupils with physical, sensory, communication or other needs can participate as fully as possible.

9. Role of the Science Subject Leader

The Science Subject Leader is responsible for supporting the development, implementation and monitoring of science across the school.

The subject leader will:

- maintain an overview of the science curriculum;
- ensure that the curriculum reflects the National Curriculum requirements;
- support teachers with planning and progression;
- monitor the quality of science teaching and learning;
- review pupils' work and identify strengths and areas for development;
- monitor the development of scientific knowledge and Working Scientifically skills;
- support staff with subject knowledge and resources;
- maintain and review science resources;
- promote appropriate use of practical science and scientific enquiry;
- monitor inclusion and access to science for all pupils;
- support the development of scientific vocabulary;
- organise and promote enrichment opportunities such as Science Week and Wow Days;
- keep up to date with relevant developments in science education;
- evaluate the impact of the science curriculum;
- contribute to the school's wider monitoring and self-evaluation processes.

Monitoring should be proportionate and should focus on improving the quality and impact of science education.

10. Homework

Homework may be used to reinforce, revisit or extend pupils' science learning.

For pupils in Key Stage 1 and Lower Key Stage 2, science homework is normally set weekly where appropriate and will be linked to current or recently taught learning.

Homework may include:

- retrieval of key scientific knowledge;
- scientific vocabulary;
- research;
- observation tasks;
- activities linked to the local environment;
- preparation for future learning;
- opportunities to discuss science with family members.

Homework should complement classroom learning rather than replace practical scientific experiences.

Policy Review

Date of Policy: September 2026

Policy Review Date: July 2027