



Trinity St. Peter's

Church of England Primary School

where children shine

Science Curriculum Policy

Guided by Our Faith in Everything That We Say and Do

Our School Vision



At Trinity St. Peter's, we are driven by the belief that every child is a star. In partnership with our local and global community, we equip each child with the skills, values, and mindset to shine.

We are committed to creating a school where every child feels they belong, where differences are recognised and celebrated, and where every individual is valued. Our curriculum is innovative, inclusive, and engaging, inspiring a lifelong love of learning and high aspirations.

We nurture children's growth academically, socially, emotionally, and spiritually. Through personal development and opportunities for pupil voice and leadership, we empower children to shape their futures and make a positive difference in the world.

Together, as a community, we work to ensure equity, success for all, and a deep celebration of diversity, rooted in kindness, inclusion, and mutual support.

Science Vision Statement:

Science at Trinity St Peter's enables pupils to become curious, independent thinkers who can question, investigate and explain the world around them. Through practical and enquiry-based learning, pupils develop scientific knowledge and understanding, apply investigative skills safely and accurately, and begin to recognise the impact of science in everyday life.

Our science curriculum develops curiosity, resilience and critical thinking skills, preparing pupils for later life in an increasingly scientific and technological world. Pupils learn to question, explore and evaluate as scientists, applying their knowledge to real and meaningful contexts.

Intent

The purpose of our Science curriculum is to equip every child with the knowledge, skills and curiosity they need to understand and explore the world around them. We aim to inspire pupils to think and work as scientists, developing a sense of awe and wonder in God's creation and an appreciation of the role of science in everyday life.

We implement the National Curriculum through the Developing Experts scheme to deliver a high-quality, engaging curriculum that encourages pupils to question, investigate and think critically. The curriculum is designed to build pupils' understanding across the key scientific disciplines, with a strong focus on enquiry, observation and evidence-based reasoning. Through practical investigations and purposeful learning experiences, pupils are encouraged to take risks, test ideas and learn from mistakes, developing resilience and independence as learners.

Our curriculum is ambitious and aims to raise aspirations by exposing pupils to the excitement and possibilities within science, including real-world applications and links to future careers. We foster a culture of enquiry where pupils are encouraged to ask thoughtful questions, work collaboratively and communicate their ideas with confidence. Our curriculum also supports pupils' health and wellbeing, enabling them to understand their bodies, make informed choices about healthy lifestyles and explore changes in a safe and supportive environment.

The curriculum is carefully structured using the Developing Experts scheme to ensure progression of knowledge and skills, allowing pupils to build on prior learning and achieve clearly defined end points. Through this, pupils are prepared not only for the next stage of education but for life beyond school as curious, resilient and informed individuals.

Implementation

All of our children will have consistent access to a broad, balanced and high-quality Science curriculum which will:

- Develop pupils' understanding of the world through the key scientific disciplines of biology, chemistry and physics
- Build and apply a secure body of scientific knowledge and conceptual understanding through carefully sequenced learning
- Enable pupils to work scientifically by asking questions, planning enquiries, conducting investigations and evaluating evidence
- Encourage pupils to use scientific vocabulary accurately, communicate findings clearly and make informed conclusions based on evidence
- Foster curiosity and a sense of wonder about the natural world, supporting pupils in understanding how and why things happen

In addition to this curriculum, we teach Science through the school's core values:

Service – Hope – Imagine – Nurture - Enjoy

Service

Science is a way for children to understand and care for the world God has created. Pupils develop an awareness of their responsibility to protect and sustain the environment, recognising how scientific knowledge can be used to serve others and improve lives. Through exploring real-world issues, children learn how science can have a positive impact on communities, encouraging them to act as responsible and compassionate guardians of God's creation.

Hope

Science encourages pupils to approach learning with hope, understanding that discovery takes time, effort and perseverance. Through scientific enquiry, children learn that not all results are as expected, but that mistakes and unexpected outcomes are valuable opportunities for learning. The curriculum promotes resilience by encouraging pupils to test ideas, reflect on results and refine their thinking, helping them to develop confidence in their ability to succeed.

Imagine

Our Science curriculum inspires curiosity and creativity, encouraging pupils to ask questions, think deeply and explore new ideas. Through enquiry-based learning and real-world contexts, children are given opportunities to imagine possibilities, make predictions and develop their own theories. Pupils begin to see themselves as scientists, inspired to explore, discover and contribute to the future.

Nurture

Science provides a safe and supportive environment where pupils can explore, question and learn together. Collaborative investigations promote teamwork, respect and kindness, allowing pupils to share ideas and learn from one another. The curriculum also supports pupils' wellbeing by helping them to understand their bodies, the natural world and how to live healthy lifestyles, building confidence and a sense of belonging.

Enjoy

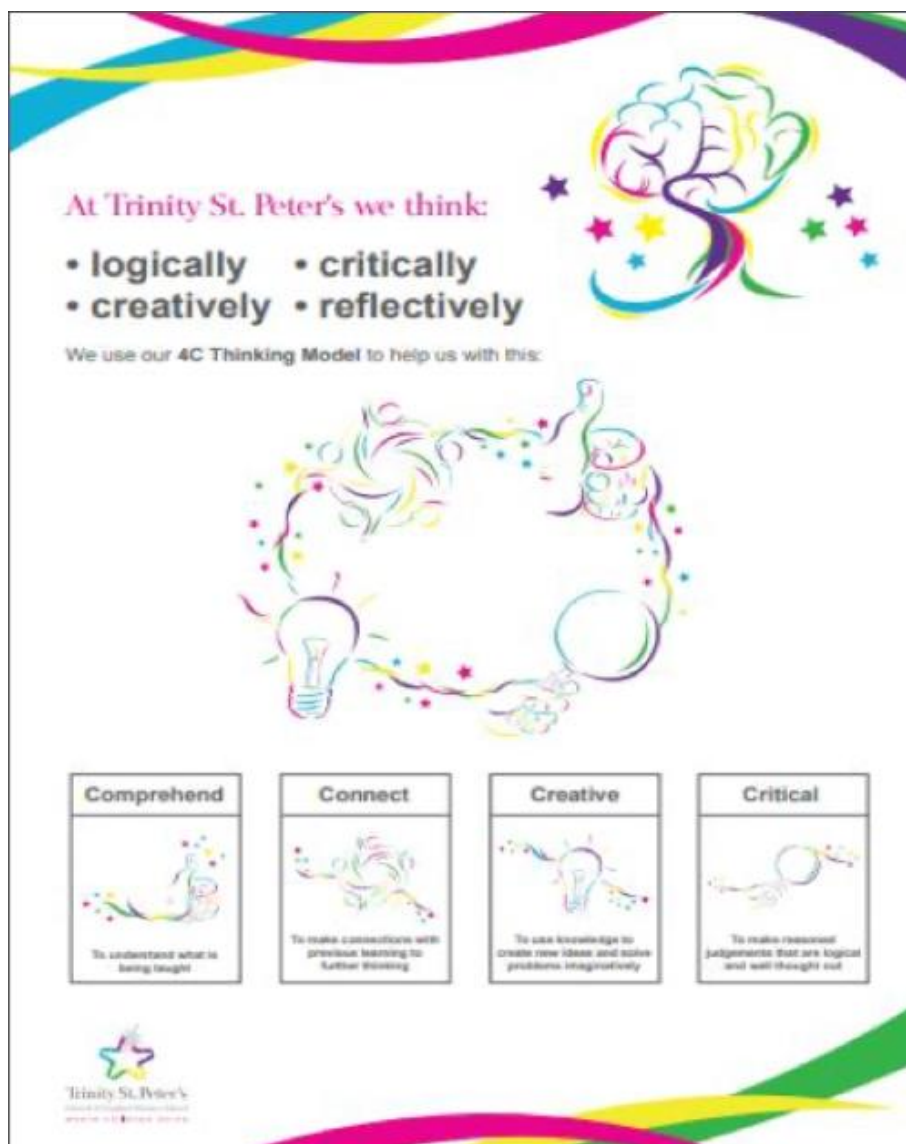
We want our pupils to develop a genuine enjoyment of Science, finding excitement in discovery and investigation. Through engaging, hands-on learning and practical enquiry, children experience the wonder of finding things out for themselves. By creating a positive and stimulating learning environment, we encourage pupils to approach Science with enthusiasm, curiosity and a lifelong love of learning.

In summary, guided by British and Christian values, pupils are encouraged to be respectful, responsible citizens. Through their learning in Science, pupils develop an understanding of the world around them and their place within it. Carefully planned investigations and real-life contexts inspire pupils to ask questions, think critically and believe in their ability to succeed, preparing them for the next stage of education and life in an ever-changing world.

4C Thinking Model

We also embed the school's 4C Thinking Model into all Science lessons.

The 4C Thinking Model (Comprehend, Connect, Creative, Critical) underpins all teaching and learning in Science. It supports pupils in developing their understanding of scientific concepts, making links with prior learning and applying their knowledge across different contexts. Pupils are encouraged to think creatively when forming hypotheses and planning investigations, and to think critically when analysing results and drawing conclusions. Teachers plan opportunities for pupils to reflect on their findings and evaluate their ideas throughout the enquiry process. Thinking Maps are used where appropriate to support pupils in organising their scientific thinking, recording observations and structuring their explanations effectively.



Vocabulary is VITAL

Valued	We value vocabulary in Science and in everything we do.
Identified	Science vocabulary is identified by the Science subject leader and is explicitly planned for.
Taught	Vocabulary is explicitly taught in every lesson. Our Knowledge Organisers are used as a teaching tool for key Science focused vocabulary and the Science medium term plans include additional vocabulary to be taught.
Applied	Once vocabulary is taught, it is applied. Children apply their vocabulary in their speaking and listening, writing and assessment outcomes in Science.
Learned	Vocabulary is revisited and relearned. Vocabulary sticks in the children's long-term memory. Lesson by lesson, year by year, children revisit and relearn key Science vocabulary.

We follow the STAR approach (**S**elect, **T**each, **A**ctivate, **R**evisit) to teach new or unfamiliar vocabulary.

 Our STAR Vocabulary is:	 What does it mean?
 How does this word connect to the topic?	 How can I remember it?

EYFS

Through an 'explosion of experiences', our youngest scientists are exposed to the foundations of their understanding of the world. Carefully planned experiences within Understanding the World provide children with opportunities to explore, observe and question the world around them. High-quality books, stories and rhymes are at the heart of our EYFS curriculum, supporting children in developing curiosity and making sense of their environment. Scientific vocabulary is carefully planned for, and staff model and reinforce this through rich interactions and high-quality provision. The foundations of scientific learning in EYFS are clearly linked to Year 1 and beyond.

Developing a strong grounding in scientific knowledge and skills is essential so that all children build the foundations needed for future learning. Children are encouraged to think like scientists by asking questions, making observations and exploring through play and investigation. Through frequent and varied opportunities to explore and discover, children begin to develop key skills and a growing understanding of the world around them. Engaging themes and stimulating learning experiences foster curiosity, creativity and a positive attitude towards science from the very beginning of their school journey.

Both our staff and children are enthusiastic about Science. Through ongoing CPD, we strive to ensure our teachers have expert subject knowledge. Our pedagogy is firmly based upon our curriculum intent of embedding concepts into long-term memory so that they can be recalled, ensuring that substantive and disciplinary knowledge can be applied fluently.

Using the *Developing Experts* scheme alongside our pedagogical approach ensures that lessons are effectively sequenced, so that new knowledge and skills build on prior learning and lead towards clearly defined end points.

We firmly believe that all children should have full access to our Science curriculum. Lessons and provision are carefully scaffolded where appropriate to meet the needs of all learners, including those with additional needs, ensuring every child can explore, investigate and succeed.

Lesson Structure

The sequence of lessons across Science follows the same structure so prior knowledge is constantly revisited and transferred to long term memory.

Science lesson structure	
Part 1- Fix it	- Time for children to revisit their learning from the previous lesson. - Teacher will address any common misconceptions.
Part 2- Recap	Retrieval practice of previous learnt knowledge, concepts or processes
Part 3- New learning	- New vocabulary or 'Rocket Words' are introduced and used throughout the lesson. - New concept is introduced in a visual, practical way where possible.
Part 4- Independent Task	- Children will complete an activity individually or as a pair or group. - This may include the planning, conducting and analysis of an investigation, using their new knowledge.
Part 5- Plenary	- Opportunity to consolidate learning, gauge levels of understanding and develop pupils' skills in explaining, reasoning, and justifying where appropriate. - Teachers have opportunity for formative assessment of the children's understanding from the lesson and any misconceptions which may need to be addressed either within this part of a lesson or at the start of the next lesson.

Oracy in Science

Opportunities for structured talk are embedded throughout Science lessons. Pupils are encouraged to explain their ideas, justify predictions and evaluate outcomes using scientific vocabulary. Teachers model and scaffold language through sentence stems such as:

- “I think this will happen because...”
- “The evidence shows that...”
- “This is similar to...”
- “Next time I would change...”

This supports deeper understanding and strengthens pupils’ ability to think and communicate as scientists.

Science Long Term Plan

All our planning is based on our key principles and intent for our curriculum.

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Autumn		Winter	Spring	Growth & change Summer	
Year 1	Seasonal change	Animals, including humans 1 – All about me	Everyday Materials 1 – Exploring Everyday Materials	Everyday Materials 2 – Building Unit	Plants	Animals, including humans 2 – All about animals
Year 2	Animals including humans 1- Growth	Uses of everyday materials	Living things and their habitats	Living things and their habitats- habitats around the world	Animals including humans- life cycles	Plants
Year 3	Animals including humans	Forces and magnets	Light	Scientific enquiry	Rocks	Plants
Year 4	Living things and their habitats	Animals including humans	Electricity	Living things and their habitats- conservation	States of matter	Sound
Year 5	Earth and Space	Properties of materials	Changes of materials	Living things and their habitats	Animals including humans	Forces
Year 6	Animals including humans	Living things and their habitats	Electricity	Looking after our environment	Light	Evolution & Inheritance

Progression Documents

A comprehensive set of progression documents from Developing Experts supports teachers in understanding how knowledge and skills build from EYFS to Year 6. These documents ensure clear progression in vocabulary, knowledge and working scientifically skills across the curriculum. These are all accessed by staff through Developing Experts (and are not published in entirety here due to copyright reasons).



Developing Experts – Progression of Skills Document – Year 1

	Year 1 Seasonal Changes	Year 1 Animals, including humans 1 – All about me	Year 1 Everyday Materials 1 – Exploring Everyday Materials	Year 1 Everyday Materials 2 – Building Unit	Year 1 Plants	Year 1 Animals, including humans 2 – All about animals
Asking simple questions and recognise that they can be answered in different ways						
Observe closely, using simple equipment						
Perform simple tests						
Identify and classify						
Using their observations and ideas to suggest answers to questions						
Gather and record data to help in answering questions						

Assessment in Science

Assessment in Science is ongoing and based on pupils' ability to understand scientific concepts, work scientifically and apply their knowledge across biology, chemistry and physics. Teachers assess pupils through:

- Observation during practical investigations and scientific enquiries
- Discussion and pupil voice when exploring ideas and explaining understanding
- Evaluation of outcomes and conclusions drawn from investigations
- Review of recorded work and written outcomes in books

Assessment takes place at key points:

- Start of unit – prior knowledge and understanding
- During lessons – teacher observation, questioning and feedback
- End of unit – assessment through end-of-unit tests and reflection on key learning

Assessment is used to inform future planning and ensure progression across year groups. The *Developing Experts* scheme provides guidance and assessment materials to support teachers in making accurate judgements about pupils' attainment and progress in Science. Lessons follow a structured enquiry-based approach which aligns with our whole-school focus on developing scientific knowledge and Working Scientifically skills.

Subject Leadership and Monitoring

The Science subject leader is responsible for monitoring the quality of teaching and learning across the school. This includes:

- Reviewing planning and curriculum coverage
- Conducting book scrutiny and reviewing evidence of scientific learning
- Gathering pupil voice
- Monitoring progression and outcomes across year groups
- Supporting staff through CPD and guidance

Monitoring ensures that the Science curriculum is implemented consistently and that all pupils receive a high-quality Science education.

Impact

The impact of our Science curriculum is that pupils develop a lifelong curiosity and interest in the world around them. Our well-constructed and well-taught Science curriculum leads to strong outcomes, with pupils demonstrating secure scientific knowledge and a growing ability to think and work as scientists. Our results reflect what our children have learnt. Our philosophy is that a broad and balanced curriculum leads to strong outcomes and the successful attainment of end points at each key stage. National assessments are useful indicators of the outcomes our children achieve.

We ensure all groups of children are given the knowledge and cultural capital they need to succeed in life. We strive to ensure that our pupils are equipped with the skills, through a growth mindset approach, to confidently retrieve and apply key scientific knowledge from their long-term memory.

The quality of pupils' work, at every stage, is of a high standard. Pupils are able to confidently talk about their learning, explain their thinking and use scientific vocabulary accurately when describing investigations and conclusions. All learning is built towards clearly defined end points and, at each stage of their education, we prepare our pupils for the next stage.

We ensure all our children read with increasing fluency and understanding through a focus on disciplinary literacy within Science lessons.

The impact of the Science curriculum is measured through the following:

- Assessment at the end of each unit of work
- Vocabulary and knowledge assessed throughout lessons and sequences
- Pupil voice
- Progress evident in children's books and record of experiences
- Seeking views of parents where appropriate

Policy reviewed: 2025/26

Next review: 2027/28