Holy Trinity CofE Primary School

Science Policy

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Vision Statement

At Holy Trinity we believe that all people are precious and honoured in God's sight. From this belief comes a determination for all within our community to experience life in all its fullness, as promised by Jesus.

We embrace the holistic development for all in our community so that they may flourish academically, emotionally, and spiritually.

All that we do is underpinned by the modelling and promotion of six core values. These are: Justice, Service, Perseverance, Gratitude, Compassion, Courage and build on previous values of Peace, Hope, Friendship, Respect, Honesty and Forgiveness.

We offer a vision of human flourishing for all, one that embraces excellence and academic rigor, but sets them in a wider framework.

Introduction

At Holy Trinity Church of England Primary School, Science is an essential part of our broad, balanced and ambitious curriculum. Through high-quality science teaching, pupils develop scientific knowledge, conceptual understanding and practical enquiry skills that enable them to make sense of the natural and physical world.

Our curriculum reflects our school vision of human flourishing and provides opportunities for all pupils to develop intellectually, socially, morally and spiritually. Science encourages pupils to ask questions, investigate, solve problems and develop an appreciation of the impact science has on everyday life.

We aim to inspire pupils to become lifelong learners who are curious about the world and confident in applying scientific knowledge and skills in a range of contexts.

Vision for Teaching and Learning

Curriculum Intent

At Holy Trinity CofE Primary School our Science curriculum is designed to:

- Open pupils' minds to a range of possibilities and future careers in science and related fields.
- Develop curiosity, creativity and a love of learning through scientific enquiry.
- Raise aspirations and encourage children to understand their ability to shape the future.
- Build secure scientific knowledge and understanding through practical experiences.
- Enable pupils to make informed decisions about their health, environment and the wider world.
- Develop scientific vocabulary and communication skills.
- Encourage pupils to appreciate the contribution science makes to society.
- Foster respect and stewardship for God's creation.
- Encourage pupils with inclusive needs to question and to become change makers.
- Promote British Values through respectful discussion, collaborative learning and informed decision-making.

Through science we aim to ensure that all pupils:

- Develop a secure understanding of scientific concepts.
- Ask questions and investigate the world around them.
- Apply mathematical knowledge within scientific contexts.
- Analyse evidence and draw conclusions.
- Communicate scientific ideas accurately and confidently.
- Recognise how science influences everyday life and future developments.
- Ensure pupils gain the qualifications and experiences needed for future employment within the scientific field.

Implementation

Curriculum Drivers

Science contributes directly to the three curriculum drivers that underpin learning at Holy Trinity:

Possibilities

Pupils explore the diverse opportunities science offers, including future careers and technological developments. They develop aspirations and understand how science shapes the modern world.

Questioning

Scientific enquiry promotes curiosity, critical thinking and a love of learning. Pupils are encouraged to ask questions, investigate ideas and seek evidence-based answers.

Spirituality

Science provides opportunities for awe and wonder, encouraging pupils to reflect on the complexity and beauty of creation. Pupils develop courage to challenge injustice, consider ethical issues and take responsibility for caring for the environment.

Aims of Science

Through the teaching of Science, pupils will:

- Develop scientific knowledge and conceptual understanding.
- Learn about biology, chemistry and physics through the National Curriculum.
- Develop understanding of the nature, processes and methods of science.
- Use scientific enquiry to investigate questions and solve problems.
- Develop observation, measurement, classification and communication skills.
- Apply mathematical knowledge to scientific investigations.
- Develop resilience, independence and confidence as learners.
- Understand the relevance of science in everyday life.
- Recognise the contributions of scientists from diverse backgrounds and cultures.
- Develop an awareness of environmental issues and sustainability.

Key Concepts

Our Science curriculum is built around four key concepts which underpin every learning journey:

Scientific Communication

Pupils develop and use accurate scientific vocabulary, record findings appropriately and communicate conclusions clearly.

Application of Mathematical Knowledge

Pupils apply mathematical skills including measuring, recording, interpreting data and identifying patterns.

Observation and Enquiry

Pupils ask questions, make predictions, observe carefully and investigate scientifically.

Analyse and Conclude

Pupils interpret results, evaluate evidence, identify patterns and draw reasoned conclusions.

Working Scientifically

Working Scientifically is embedded throughout all areas of science learning.

Pupils are taught to:

- Ask relevant questions.
- Plan and carry out enquiries.
- Make careful observations.
- Gather, record and present data.
- Use scientific equipment safely and accurately.
- Identify patterns and relationships.
- Draw conclusions from evidence.
- Evaluate methods and suggest improvements.
- Communicate findings using appropriate scientific language.

Teachers use a range of approaches including:

- Comparative fair testing
- Pattern seeking
- Research using secondary sources
- Observation over time
- Identifying, classifying and grouping

Where appropriate, pupils' own questions and ideas form the basis of scientific enquiries through the usage of post stick note planning.

Science Investigation Days provide opportunities for extended practical enquiry and collaborative problem solving.

Science Teaching and Learning

Science teaching follows our whole-school pedagogy:

Nurture

- Pupils learn in safe, supportive environments.
- Scientific curiosity is encouraged and valued.
- Resources are accessible and learning environments support exploration.
- Staff promote confidence and resilience.

Inspire

- Learning begins with engaging hooks, real-life contexts or big questions.
- Pupils understand the purpose of their learning.
- High expectations are maintained.
- Scientific role models from diverse backgrounds are celebrated.

Enable

- Vocabulary is explicitly taught and revisited.
- Practical investigations develop understanding.
- Teachers model scientific thinking and enquiry.
- Retrieval practice strengthens long-term memory.
- Adaptive teaching ensures access for all learners.
- Challenge is embedded for every pupil.

Achieve

- Pupils become increasingly independent scientists.
- Scientific knowledge is retained and applied.
- Pupils confidently explain and justify their thinking.

- Achievement is recognised and celebrated.

Science Learning Journey

Science units generally follow a consistent structure:

- Engaging hook or wow moment.
- Big Question linked to the unit.
- Pre-assessment of prior knowledge.
- Sequence of smaller enquiry questions.
- Retrieval quizzes revisiting previous learning.
- Explicit teaching of scientific vocabulary.
- Practical investigations and enquiries.
- Opportunities for pupil-led enquiry.
- Analysis and communication of findings.
- Post-assessment.
- Reflection on curriculum drivers and learning.

Assessment

Assessment is ongoing and informs future teaching.

Teachers use:

- Retrieval quizzes
- Questioning
- Observation
- Pupil discussions
- Work scrutiny
- Practical outcomes

- End-of-unit assessments

Termly teacher assessments are recorded and used to identify strengths, gaps and next steps.

Knowledge organisers identify essential learning for each unit and support assessment decisions.

An annual science comment is included within pupil reports.

Inclusion and Adaptive Teaching

Science is for all learners.

Teachers ensure:

- Appropriate scaffolding and support.
- High expectations for all pupils.
- Adaptations for pupils with SEND.
- Opportunities for challenge and deeper thinking.
- Practical learning experiences that enable all pupils to succeed.

All pupils are encouraged to participate fully and develop confidence as scientists.

Resources

The school provides a range of high-quality resources to support science teaching and learning.

The Science Subject Leader will:

- Audit resources regularly.
- Update and replenish resources where necessary.
- Ensure resources support curriculum delivery.

All staff and pupils share responsibility for maintaining and storing resources appropriately.

Roles and Responsibilities

Senior Leadership Team

- Provide strategic leadership for science.
- Monitor standards and outcomes.
- Support professional development.
- Promote the school's Christian vision.

Science Subject Leader

- Lead curriculum development.
- Monitor standards, teaching and learning.
- Support colleagues with planning and assessment.
- Keep informed of current research and developments.
- Provide strategic direction and action planning.

Teachers

- Deliver high-quality science lessons.
- Promote enquiry and scientific thinking.
- Assess pupil progress accurately.
- Ensure all pupils access the curriculum.

Teaching Assistants

- Support learning effectively.
- Promote independence and participation.
- Assist with practical investigations and interventions.

Pupils

- Demonstrate curiosity and resilience.
- Engage fully in scientific enquiry.
- Follow safety expectations.
- Take pride in their learning.

Parents and Carers

- Support scientific learning at home.
- Encourage curiosity and questioning.
- Engage positively with school learning opportunities.

Monitoring and Evaluation

The quality of Science provision will be monitored through:

- Lesson observations.
- Learning walks.
- Planning scrutiny.
- Book scrutiny.
- Pupil voice activities.
- Assessment analysis.
- Curriculum reviews.
- Subject leader monitoring.

Strengths and next steps will be identified and reviewed through the school improvement process.

Conclusion

At Holy Trinity Church of England Primary School, Science supports our vision of life in all its fullness by nurturing curiosity, encouraging enquiry and inspiring pupils to understand and care for the world around them. Through engaging, ambitious and inclusive science teaching, we enable all children to flourish academically, spiritually and personally, equipping them with the knowledge, skills and values they need to make a positive contribution to the future.

Policy Review and Approval

Policy to be reviewed: Every 3 years (or sooner if required).

Next review due: 01/06/2029

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