SCIENCE POLICY
(ref: Teaching and Learning Policy)

This Policy reflects St. Andrew's Church of England Primary School's Christian ethos and mission statement. It was written with our Christian values of Perseverance and Responsibility in mind.

Our School Vision

At St Andrew's CE Primary School, we aim to bring children to a place where they can realise their full potential. Our Christian values are the foundation of all we do and each one is a facet of the central value, love, which 'always protects, always trusts, always hopes, always perseveres.' (1 Corinthians 13:7)

Our Science Vision

We aim to spark children's natural curiosity and instil a sense of love and protection of the world around them. We empower children to persevere ask questions through scientific exploration. By developing children's scientific understanding, we nurture hope and trust through understanding of the world around them. In these ways, we strive for our children to reach their full potential as we prepare them for a life in an increasingly scientific and technological world.

Aims and Objectives

Science teaches children understanding of natural phenomena and aims to stimulate their natural curiosity and encourage them to find out why things happen. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world about us. Science in our school provides children with the opportunities to develop their knowledge and understanding of the world in which they live through practical experience and from a variety of sources of information. At St Andrew's we aim to deliver 40% of our Science teaching through practical investigations to develop pupil's enquiry skills and cognitive ability.

The aims of Science are:

- To build on children's natural curiosity;
- To prepare our children for a life in an increasingly scientific and technological world;
- To foster concern about, and actively care for, our environment;
- To help develop and extend our children's scientific concept of their world;
- To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics;
- To develop understanding of the nature, processes and methods of science through different types of scientific enquiries that help our children answer scientific questions about the world around them;
- To equip children with the scientific knowledge required to understand the uses and implications of science, today and for the future;
- To work safely and carefully.

Planning

Science is a core subject of the National Curriculum and at St. Andrew's CE Primary School we teach the knowledge, skills and understanding set out in the National Curriculum 2014. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we build planned progression into our Science curriculum so that the children are increasingly challenged as they move through the school.

Teachers use a variety of teacher-written national curriculum centred planning combined with a range of

planning schemes (for example; PlanBee, Click4Science, Twinkl etc.). This enables teachers to incorporate and combine subject-specific scientific knowledge and scientific investigation skills together in their planning and teaching to ensure pupils learning is rooted in relevant, real life understanding. Teachers are able to incorporate topic-specific experiments and pupil-led investigations into their planning to achieve 40% practical investigation in their teaching across the academic year. Every unit is centred around a key investigation question which are detailed on St Andrew's Science curriculum overview.

We carry out curriculum planning in Science in three phases: long-term, medium-term and short-term. The long-term plan maps the Science topics studied in each term during the year. The children may study Science topics in conjunction with other subjects. The medium-term plans give details of each unit of work for each term. The Science Leader can access and regularly reviews these plans. The shortterm plans are written by the class teacher and are a plan for each lesson. These plans include the specific learning objectives for each lesson and the investigations/activities to be carried out. The shortterm plans discussed with the Science Leader.

The Early Years Foundation Stage

In the Early Years Foundation Stage, Science is taught within the area of learning and development known as Understanding of the World. Understanding of the World is taught through adopting a themed, holistic approach, with an emphasis on learning through playing and exploring, through the experiences and opportunities which are offered and through discussion and following the children's own interests. Children are encouraged to raise questions, to use topic-based vocabulary and to suggest solutions and answers. They are helped to notice similarities and discuss patterns and change through their observations and investigations.

Equal Opportunities and Inclusion

At St. Andrew's CE Primary School we teach Science to all children, whatever their ability. Science forms part of the school's curriculum policy to provide a broad and balanced education to all children. We provide learning opportunities matched to the needs of all children and we take into account the targets set for individual children in their individual Pupil Profiles and EHCPs. (ref: Equal Opportunities, SEN policy).

Assessment, Recording and Reporting

We assess children's work in Science by making informal judgements as we observe the children during lessons, through planned assessment activities linked to the key objectives and orally through questioning. On completion of an assessment piece of work, the teacher marks the work and comments verbal and written as necessary.

Assessments take place at the end of each unit of work through teacher assessment in KS1, Lower KS2 and Upper KS2. Teachers assess for scientific subject knowledge through a combination of in-class observations, book looks, end of unit quizzes and formal written tasks. Within each unit of work, teachers assess pupil's scientific skills and methodology against the 'working scientifically' skills detailed in the National Curriculum. We utilise the TAPS (Teacher Assessment in Primary Schools) assessment scheme to inform our assessment of scientific skills. This scheme combines teacher assessment and focused observation of pupil-led investigations centred around specific enquiry skills.

At the end of a unit of work, the teacher makes a summary judgement of each child's scientific knowledge and skills in relation to the National Curriculum expectations of attainment and this is recorded in termly assessment grids whereby teachers assess and place their pupils under 'emerging', 'expected' or 'exceeding'. The Science Lead has access to these assessment grids to help track pupil progress across the whole school.

Parents receive an oral report on their child's progress twice a year at parents' evenings and also a written report annually.
In EYFS, assessment is a continuous process. Teachers use the EYFS Development Matters and Early Learning Goal statements to assess progress.

Resources

There are resources available in school to support the teaching of all Science units that are covered across the key stages. Science resources are kept centrally in the resource cupboard. St Andrew's is equipped with a mobile experiment workbench which can be moved from classroom to classroom to equip, assist and demonstrate practical experiments.

Health and safety

Health and safety is paramount and a continuous strand of the curriculum. Teachers must be familiar with the current health and safety regulations and carry out risk assessments as and when appropriate e.g. where science activities take children out of the school grounds or when the level of risk is above that normally found in the classroom. (ref: Health and Safety Policy)

Monitoring and Review

The monitoring of the standards of children's work and of the quality of teaching and learning in science is carried out by the Science Leader. The work of the Science Leader also involves supporting colleagues in the teaching of Science, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The Leader meets the subject link governor regularly to discuss the development of Science in school. The monitoring of science encompasses:

- The scrutiny of short term planning
- Classroom observation and feedback
- Reviewing children's work
- Analysis of data and written assessments
- Monitoring of assessment and record-keeping, marking
- Reporting to the Teaching and Learning Committee as requested by the Headteacher
- Working with other schools and sharing practice as part of the Thame Partnership Science Network

Extra-curricular activities

During the school year a range of trips, events and activities are organized to enhance the Science curriculum. For example: Science themed weeks and WOW days, Science clubs, visitors and workshops, entry to county/country competitions, and gifted and talented days.

Date: September 2023

Review Date: September 2026

Signed (Chair of Governors) Seb Hearmon