Tanworth-in-Arden Church of England Primary School and Nursery

In God's family, learning, loving, growing to be our very best.

POLICY:	Science Policy
APPROVED:	January 2020
DATE OF NEXT REVIEW:	January 2022

This policy document was adopted by the staff of Tanworth-in-Arden CofE Primary School and Nursery and was endorsed by the school governors. This policy outlines the guiding principles by which this school will implement science learning in the context of the Trustees curriculum policy statement and its staffing, health & safety and equal-opportunities policies. It is reviewed periodically.

1. Our rationale for teaching science

Science is a body of knowledge built up through the experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills. Science is also a collaborative activity where ideas and suggestions are shared and investigated together. Through practical activities and team work, children experience and learn how to work together have mutual respect for one another and value social cohesion.

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability. Our aims in teaching science include:

- Preparing our children for life in an increasingly scientific and technological world.
- Fostering concern about, and active care for, our environment.
- Helping our children acquire a growing understanding of scientific ideas.
- Helping develop and extend our children's scientific concept of their world.
- Developing our children's understanding of the international and collaborative nature of science.

Attitudes

- Encouraging the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and responsibility.
- Building our children's self-confidence to enable them to work independently.
- Developing our children's social skills to work cooperatively with others.
- Providing our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

- Giving our children an understanding of scientific processes.
- Helping our children to acquire practical scientific skills.
- Developing the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording and techniques.
- Developing the use of ICT in investigating and recording.
- Enabling our children to become effective communicators of scientific ideas, facts and data.

2. Our teaching aims

- Teach science in ways that are imaginative, purposeful, well managed and enjoyable.
- Encourage and support children to ask questions about the world and use scientific processes to try and answer them.
- Support children to make links between science and other subjects.

Science is a core subject in the National Curriculum.

3. How science is structured through the school

Planning for science is a process in which all teaching staff are involved. Delivering a broad and balanced science education to our children is a core principle of our school. Science teaching in the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our school.

KS1 and Foundation stage teachers teach science for a minimum of one hour each week.

KS2 teachers teach science for a minimum of two hours per week.

In KS1 and Foundation stage, a minimum of one third of lessons overall include practical scientific enquiry.

In KS2, a minimum of 50% of lessons overall include practical scientific enquiry.

The school ensures that a broad and balanced science curriculum is followed in which enquiry is at the heart of our children's scientific learning.

Our science scheme of learning is available on the school website and was agreed after whole-staff discussion. It ensures progression between year groups and guarantees topics are revisited. Teachers adapt and modify the model plans to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available.

To better suit the needs of individual classes, units may have been moved between years or amalgamated, where appropriate. However science is taught every half term throughout the school year.

4. Our approach to science

- We have adopted parts of a commercial primary science scheme, which are adapted to our circumstances.
- The SoL, Teachers' notes and pupil task sheets have been adapted to the needs of our children.
- We use ICT widely in science. Children are given the opportunity to practice science skills and enhance presentations using carefully-chosen software.
- We use ICT for enquiry work including, video capture, activities, and data logging.
- We use the school's intranet to share science resources e.g. videos and software.
- The school combines these secondary sources with first-hand scientific enquiries, building children's science skills.
- We actively teach science skills, and reinforce learning with selected enquiry simulations only when a hands-on practical activity cannot be done.
- We encourage children to ask and answer their own questions as far as practicable.
- Children complete at least two full enquiries each term, taking increasing responsibility for their planning, carrying them out and recording/interpreting the results.
- We use homework to support school and class activities. This relates to the school's overall homework policy.
- We sometimes use cross-curricula links to teach science with, for example, technology units.
- We develop science informally through science clubs, school visits, parent meetings and other out-of-school activities.

5. Equal opportunities in science

Science is taught within the guidelines of the school's equal-opportunities policy.

- We ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class, physical or intellectual ability.
- Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.
- We aim to teach science in a broad global and historical context, using the widest possible perspective and including the contributions of people of many different backgrounds.
- We draw examples from other cultures, recognising that simple technology may be superior to complex solutions.
- We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.
- In our teaching, science is closely linked with literacy and mathematics.
- We recognise the particular importance of first-hand experience for motivating children with learning difficulties.
- We exploit science's special contribution to children's developing creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.

6. Assessment and recording in science

We use assessment to inform and develop our teaching.

- Topics begin with an assessment of what children already know.
- We assess for learning (AfL). Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve. Activities during, and at the end of, each topic record achievement and celebrate success.
- We mark work positively, making it clear verbally, or on paper, where the work is good, and how it could be further improved. Children's work is compared with age appropriate exemplification. We moderate children's work termly to ensure consistency. Assessment records are reviewed regularly.
- We have a tracking system to follow children's progress. The school science coordinator monitors progress through the school by sampling children's work at regular intervals. Children who are not succeeding, or children who demonstrate high ability in science, are identified and supported.
- The school uses commercial end-of-unit tests to assess summatively. Assessment data is used to highlight areas where intervention or catch-up work is needed. Equally important is the continuous assessment of children's work, much of which is informal. This assessment is used to inform teaching throughout the school.
- The Y2 & Y6 staff assess children's attainment and progress at the end of each key stage. This is based on assessment records and work samples from across the key stage and is support by the science coordinator and previous class teachers if needed.
- Reports to parents are made verbally each term, and written once a year, describing each child's attitude to science, his/her progress in scientific enquiry and understanding of the content of science.

Review

This science policy will be reviewed by the science curriculum leader and the senior management team.