Thurlaston CE (Aided) Primary School
Teaching and living the Christian way of life

Science Policy

Approved ……

Date ……
Review date ……

Science Policy

This policy outlines the guiding principles by which this school will implement Science in the National Curriculum in England, in the context of the governing body's curriculum policy statement and its staffing, health & safety and equal-opportunities policies.

Our Rationale for Teaching Science

Science is a body of knowledge built up through 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. We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

1. **Our Aims in Teaching Science Include the Following.**
   - 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**

Teaching science (National Curriculum) in ways that are imaginative, purposeful, well managed and enjoyable.

- Giving clear and accurate teacher explanations and offering skillful questioning.
- Making links between science and other subjects.
- Science is a core subject in the National Curricula (for England, Wales and Northern Ireland).

In England, it has four attainment targets and a statement of breadth of study.
These are:

Sc1 Scientific enquiry;
Sc2 Life and living processes;
Sc3 Materials and their properties;
Sc4 Physical processes.

Our role is to teach scientific enquiry through the contexts of the three main content areas. The breadth of study statement in the National Curriculum is concerned with issues such as the use of ICT, scientific language and health & safety. Children in Class 1 are taught the science elements of the foundation stage document through the Early- Learning Curriculum: Understanding of the World.

3. How Science is Structured through the School

Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of (National Curriculum Science and science in the Foundation stage). Science teaching in the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our school.

- The school broadly follows the National Curriculum Science (in England) and topics may be taught weekly or in blocks (topics.)
- The National Curriculum is taught as described below, following the yearly curriculum map, agreed after whole-staff discussion. This ensures progression between year groups and guarantees topics are revisited.
- Teachers are expected to adapt and modify the plans to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available.
- We must ensure that any modification does not overlook any areas of the National Curriculum.

We have modified the scheme of work as follows:

- Generally, two units are taught each term.
- Units on Life and Living Processes are commonly taught in the spring and summer terms.

4. Our Approach to Science

The essential elements describing how science is taught in our school are described below.

- Teachers' planning and pupil activities are adapted to the needs of each cohort.
- We use ICT widely in science. Children are given the opportunity to practice science skills and enhance their presentation using carefully chosen software.
- We use ICT for enquiry work, such as data logging.
- 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.
- 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.
- Teachers plan for children to complete as many enquiries as possible during each unit.
- We use cross-curricular links to science with, for example, design and technology units.
- We develop science informally through science clubs such as Gardening Club, 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.

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- 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 recognise that science may strongly engage our gifted and talented children, and we aim to challenge and extend them.
- 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.

- We assess for learning (AfL). Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve.
- We mark each piece of work positively, making it clear verbally, or on paper, where the work is good, and how it could be further improved.
- Children are teacher assessed during and at the end of each unit. Their names are entered into Symphony Assessment grids that tracks whether they are below, on track or above age related expectations.
- Once a year, we scrutinise the children's work together to assess presentation, marking, cross curricular links and differentiation to ensure that standards are consistent across classes. There are pupil interviews to gather how the children feel.
- Assessment records are reviewed annually.
- The school science coordinator monitors progress through the school by sampling children's work at regular intervals, scrutinising planning and interviewing a cross section of children in the school.
- From the above monitoring, children who are not succeeding, and children who demonstrate high ability in science, are identified and supported within lessons.
- Written reports to parents are made once a year, describing each child's attitude to science, his/her progress in scientific enquiry and understanding of the content of science.

(Adapted from the CLEAPSS Model Policy)