Policy & Procedure

Thornton
Primary School

Achieving Success
By Working Together

Science Policy 2023-2026

This policy is reviewed every three years and was agreed by the Governing Body of Thornton Primary School in Summer 2023 **and will be reviewed again in Summer 2026**

Signed: _____ Chair of Governors

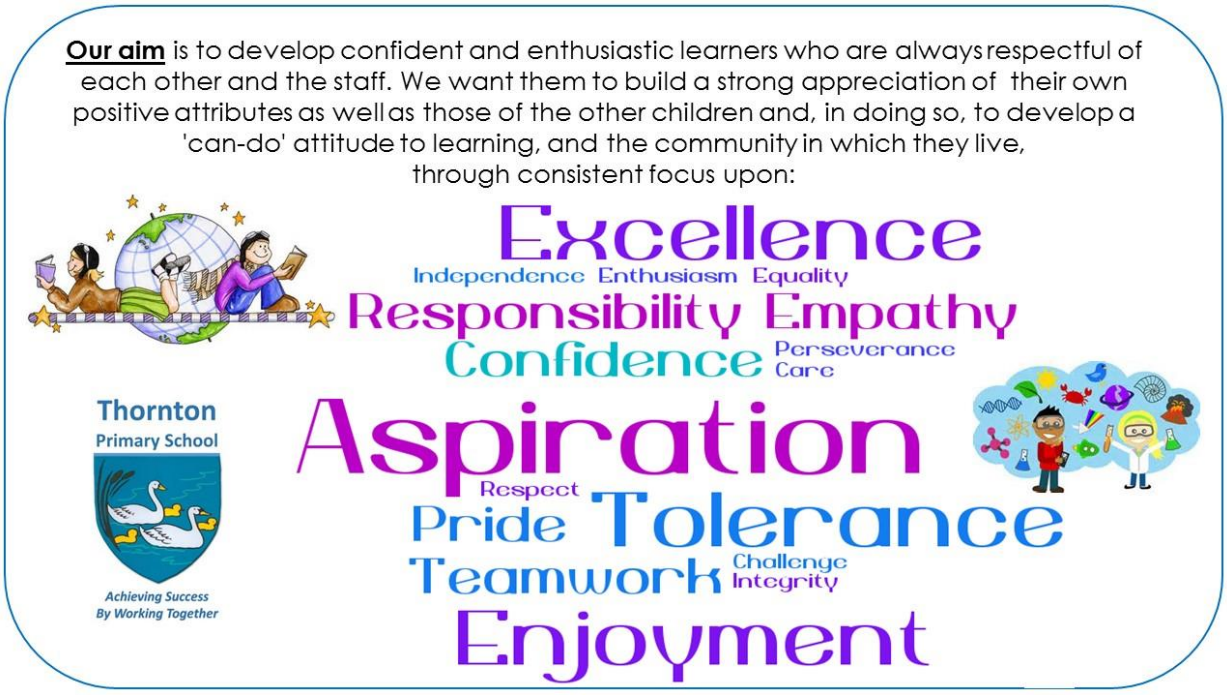
Date: _____

Non-Statutory Policy

Thornton Primary School

Science Policy

Aims and Vision



Our **aims in teaching science** (curriculum intent) are that all children will:

- Develop a strong understanding of the world around them.
- Acquire specific skills and knowledge to help them think scientifically.
- Gain an understanding of scientific processed and an understanding of the uses and implications of Science today and for the future.
- Develop a range of scientific skills including observations, planning and investigations.
- Acquire specialist vocabulary and develop their questioning skills.

These aims are expanded under the key areas listed below.

Content

Knowledge and Understanding

Children will be taught to:

- Develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions.
- Observe changes over a period of time, notice patterns, group and classify things, carry our comparative tests and find things out using secondary resources.
- Broaden their understanding of the world around them.
- Develop a deeper understanding of a wide range of scientific ideas.

- Explore more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates.

Processes and Skills

Children will be taught to:

- Experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them.
- Use first-hand, practical experiences, along with some secondary sources such as books, photographs and videos.
- Explore, talk about, test and develop ideas about everyday phenomena.
- Explore and talk about their own ideas related to Science concepts.

Language and Communication

Children will be taught to:

- Be curious and ask questions about the world around them.
- Use scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.
- Ask their own questions about what they observe and make decisions about which types of scientific enquiry are likely to be the best ways of answering them.
- Draw conclusions and use scientific language to talk and write about what they have found out.

Values and Attitudes

Children will be taught to:

- Broaden their scientific view of the world around them.
- Work with others, listening to their ideas and treating these with respect;
- Consider evidence and evaluate ideas which may or may not fit evidence;
- Develop a respect for the environment and living things;
- Find science enjoyable.

Strategies and implementation
Planning for Continuity and Progression

Long term planning reflects the needs of all children in relation to the National Curriculum. The long term plans shows how the teaching units are distributed across the years of both key stages in a sequence that promotes continuity and progression.

Medium term plans are written using the National Curriculum attainment targets for the content of each unit and working scientifically objectives. They identify learning objectives and outcomes for each unit, with suggested activities to enable these to be achieved and links with other subjects like Maths and English.

Short term planning is the responsibility of individual teachers, who build on the medium term plans by taking account of the needs of the children in their class and identifying the way in which ideas might be taught to meet these needs. Short term plans should include objectives from the National Curriculum from both the content of the area of science as well as working scientifically objectives. Planning should be differentiated accordingly.

Scientific enquiry is integrated into each unit and should appear in most lessons. In each unit throughout the year there are opportunities for children to carry out the process of investigating a scientific idea and explore the children's own questions. Children should have the opportunity to explore a range of enquiry types; observation over time, identifying and classification, fair and comparative testing, research, surveys, pattern seeking, model making and become familiar with these in order to use these methods when planning and carrying out paired and individual enquiries.

Assessment and measuring impact
Teachers will assess pupils' understanding of each topic as work is being taught using a range of AfL techniques and knowledge checks. Informal assessment occurs throughout every lesson through discussion and evaluation of the children's work and understanding. This enables teachers to check that children have grasped the main teaching focus of each lesson. Children's knowledge and understanding will be regularly revisited in the form of retrieval exercise to ensure knowledge becomes embedded in long term memory.

The long, medium and short term plans provide a record of what is being taught in each year group. Formative assessment occurs through discussion in the context of practical tasks and individual discussion, where children evaluate their work and identify areas for future learning.

Pupils' progress is assessed in end of topic assessments though the use of an end of topic assessment to show progress in learning from the beginning of the unit. This is compared to the pre-assessment at the start of the topic.

Cross-curricular links are made in specific subject areas:

- **English** – opportunities to write for varied purposes, with the characteristics of different kinds of writing. For example, chronological reports, recounts, and note taking. Pupils are encouraged to use the correct scientific vocabulary. Reading in Science is also evidenced.
- **Mathematics** – developing skills in data handling, measurements and mathematical relationships
- **Art** – understanding of materials and their properties
- **Geography** – exploring physical processes
- **History** – researching Scientists and their discoveries
- **IT** – data handling, recording and research
- **PSHE** – health and safety education
- **SMSC/British values** – opportunities to discuss social and moral questions and awe and wonder regarding the natural world. Reference is made to scientists from other cultures.

In the Academy's Funding Agreement:

- **the Academy Trust must ensure that the curriculum includes English, mathematics and science**
- **The Academy Trust must not allow any view or theory to be taught as evidence-based if it is contrary to established scientific or historical evidence and explanations**
- **The Academy Trust must provide for the teaching of evolution as a comprehensive, coherent and extensively evidenced theory**

The Role of the Head Teacher

In consultation with the Science subject leader, the Head Teacher:

- Determines the ways Science should support, enrich and extend the curriculum;
- Decides the provision and allocation of resources;
- Decides ways in which developments can be assessed, and records maintained;
- Ensures that Science is used in a way to achieve the aims and objectives of the school;
- Ensures that there is a science policy and subject leader.

The Role of the Science subject leader

The Science subject leader will:

- Ensure the development of a scheme of work for the Science curriculum.
- Promote the integration of Science within appropriate teaching and learning activities;

- Manage the provision and deployment of resources and give guidance on classroom organisation support;
- inspire colleagues to deliver high quality teaching and learning opportunities;
- lead INSET within the school, and investigate suitable courses elsewhere;
- Act as a contact point between the school and support agencies, including the LA;
- analyse data to identify strengths and weaknesses in outcomes; planning for improvement accordingly.
- write, monitor and evaluate an action plan for Science for the School Improvement Plan
- Lead the evaluation and review of the school's Science policy.
- Bid for & manage the budget for this curriculum area;
- Monitor & review the Science provision within the school

Monitoring and Evaluation

The teaching of Science will be monitored through the School Development Plan/Subject Action Plans by the Science subject leader in the first instance and then by the Senior Leadership Team and the Head Teacher. Progress is analysed and areas for development prioritised. Governors are kept informed via a subject report as scheduled in the Monitoring and Evaluation programme. The Link Governor assigned to Science will be kept abreast of developments, progress and changes within the subject.

Health & Safety

Health and safety issues in Science include: the teaching of appropriate procedures when handling equipment, carrying out safe experiments and planning out of school visits. The children are taught to be aware of their own and others' safety. They are expected to display appropriate behaviour at all times. They are taught to respect the environment and how to keep safe within it.

Equality Statement

At Thornton Primary School, we actively seek to encourage equity and equality through our teaching. As such, we seek to advance the equality of opportunity between people who share any of the following characteristic:

- gender;
- ethnicity;
- disability;
- religion or belief;
- sexual orientation;
- gender reassignment;
- pregnancy or maternity.

The use of stereotypes under any of the above headings will always be challenged.

Inclusion

Our school is an inclusive school. We aim to make all pupils feel included in all our activities. We make all our teaching fully inclusive. We recognise the entitlement of all pupils to a balanced, broadly-based curriculum. We have systems in place for early identification of barriers to their learning and participation so that they can

engage in school activities with all other pupils. We acknowledge the need for high expectations and suitable targets for all children.