



THURSBY PRIMARY SCHOOL

Intent, Implementation and Impact Statement

Science

Intent

What follows is what we want our science curriculum to achieve for all children by the time they leave our school, because we passionately believe that our children deserve the best. Our science curriculum is designed to be rich in enquiry, grounded in meaningful practical experiences, and structured so that children build a secure understanding of the natural world. Teachers plan and deliver lessons that foster curiosity, encourage careful observation and develop the ability to think critically and logically. There is a clear understanding in school of how scientific knowledge and scientific enquiry intertwine, and how both support deeper learning, reasoning and metacognition.

The ability to ask questions, test ideas, interpret evidence and articulate scientific thinking is a vital life skill that supports success in learning and beyond. By embedding science across the school's culture and weaving it through the wider curriculum, children respond to high expectations, explicit teaching of vocabulary, and consistent modelling of accurate scientific talk and recording. Classrooms buzz with purposeful investigation: from children in EYFS exploring the world around them to upper KS2 pupils evaluating results and forming conclusions based on evidence.

We recognise how vital scientific understanding is for children, and we want to equip them with the tools needed to make sense of an increasingly scientific and technological world. Our science curriculum will enable children to:

- Build secure, well-connected scientific knowledge across biology, chemistry and physics;
- Use accurate scientific vocabulary to describe processes, patterns and phenomena;
- Ask questions, make predictions and identify how to answer them through different types of enquiry;
- Plan and conduct investigations safely and systematically;
- Record, present and interpret data using appropriate methods;
- Draw conclusions based on evidence and evaluate the reliability of their results;
- Appreciate the relevance of science to everyday life and the wider world.

Implementation

Science is incorporated across our broad and balanced curriculum to develop secure understanding and higher-order thinking. At Thursby Primary School, science is embedded within the curriculum through carefully planned lessons that build conceptual understanding and scientific enquiry skills in tandem. Children are given regular opportunities to investigate, observe, test, classify, compare and analyse.

Our school curriculum is rich in opportunities for scientific thinking:

- **At Thursby, science contributes strongly to assessment for learning.** Teachers use probing questions, discussion and retrieval practice to identify misconceptions and strengthen understanding. Pupils are encouraged to explain their ideas, apply vocabulary and justify their conclusions.
- **Maths** – Scientific enquiry is supported through data handling, measurement and pattern-spotting. Children develop confidence interpreting tables, charts and simple statistics, and apply these skills when analysing results.

- **Writing** – In English lessons, children apply scientific vocabulary accurately in explanations, reports and fact files. Through Talk for Writing, pupils rehearse oral structures that help them articulate cause, effect and comparison, strengthening the clarity of their scientific writing.
- **Phonics & Early Reading** – In EYFS and KS1, Little Wandle supports the accurate decoding of scientific vocabulary. This enables young children to access knowledge-rich texts and engage with simple scientific concepts confidently.
- **Whole Class Reading** – During reading lessons, children encounter a range of nonfiction texts, diagrams and explanations. They learn to extract information, interpret scientific content and respond to questions requiring evidence from the text.
- **Knowledge Organisers** – Used from Year 1 to Year 6, these outline key knowledge, vocabulary and questions for each unit. They support retrieval, deepen understanding and structure home/school dialogue.
- **Sentence Stems** – In every science lesson, children use stems that encourage precision (e.g., *I observed that...*, *The pattern I noticed was...*, *My conclusion is... because...*). This scaffolds high-quality talk and supports written outcomes.
- **ICT** – Children use technology to record results, present data, take photographs of investigations or model scientific ideas. They also share findings with peers, strengthening their digital scientific literacy.
- **PE** – Linked where relevant, for example through the science of the body, health and exercise. Children discuss the impact of physical activity on their bodies and use simple measurements (pulse, breathing rate, etc.) to gather evidence.
- **Science-specific Provision** – Scientific literacy is developed through hands-on investigations, outdoor learning, observing seasonal change and embedding the ‘working scientifically’ objectives. Children learn to question predictions, test ideas, reflect on findings and articulate concepts clearly and precisely.
- **RE** – Discovery RE prompts children to consider different worldviews. Discussions around creation, the natural world and environmental responsibility strengthen children’s understanding of science as a human endeavour.
- **Pupil Voice** – Through school council and subject leader interviews, children discuss their learning, explain concepts and share what they remember from their units. This informs curriculum refinement.
- **EYFS** – The foundation for scientific enquiry begins here. Children explore the natural world, investigate materials, observe changes and use simple language to describe what they see. Staff model curiosity and scaffold language, noticing and addressing early barriers.

Impact

The impact of science is visible across school. Children develop secure scientific knowledge alongside the confidence to investigate, question and explain. They show curiosity, resilience and enthusiasm during practical work and can articulate both what they have learned and how they have learned it.

Their scientific reasoning becomes increasingly precise and evidence informed as they move through school.

Progress in science is not solely measured through written outcomes; it is also seen in the quality of children's explanations, the accuracy of their vocabulary and the confidence with which they apply their knowledge to new situations. When listening to pupils discuss an investigation, justify their conclusions, or explain a scientific concept, the depth of learning is clear.

At Thursby, we do not track science through formal numerical data. Instead, judgements in science reflect the progress pupils make in understanding key concepts, using scientific vocabulary, applying enquiry skills and retaining knowledge over time. These judgements assess whether children are working towards age-related expectations, meeting them or exceeding them.

Subject leaders quality assure these judgements using first-hand evidence: lesson observations, pupil interviews, work scrutinies, quizzes, retrieval tasks and samples of children's recorded work. Low-stakes quizzing and knowledge organiser retrieval tasks help teachers identify what children remember and where further teaching is needed.

These ongoing assessments inform the development of the science curriculum and ensure that all children are ready for the next stage of their scientific learning.

Inclusive Learning for SEND in Science

At Thursby School we maintain equal opportunities in line with the Equality Act 2010, the SEND Code of Practice 2015 and our school SEND policy. All children, regardless of ability, SEND, Disadvantaged, race, religion, gender, EAL (non-exhaustive list) are offered equal opportunities to access, develop and be supported in MFL learning

At Thursby Primary School, we believe that every child is entitled to receive a high-quality, broad and balanced education regardless of their needs or disabilities. All of our children can expect to receive an education that enables them to achieve the best possible outcomes and become confident and able to communicate their own views and understanding in their own preferred styles. Some ways in which we provide for such a curriculum are:

- Stem sentences – provide the language to the children so they can give opinions.
- Dual coded word mats/resources/displays to support access
- Use of stories to support understanding, linking to real life experiences
- Key words displayed
- Use of shorter/less complex sentences in resources given
- Writing frames where possible
- Providing flashcards (dual coded)
- ICT resources to support accessibility/alternative ways for children to record their ideas and opinions
- Use of simple instructions – small steps
- Careful and appropriate modelling to support understanding
- Visual aids and dual coding
- Videos of examples and practice
- Choosing appropriate resources and manipulatives for each individual child's need
- Provide additional ways to record information

- Ensure any sensory difficulties are considered at the point of planning
- Pre-teach key information so they feel prepared for the lesson and can be an 'expert'
- Carefully consider seating/buddy system, ensure those who need additional adult support have access to this particularly at the start
- Provide clear, specific instructions and outline expectations

Every teacher at Thursby Primary School is a teacher of SEND. Our provision is led by the SENDCo and is enhanced by the collaboration of teachers, senior leaders, learning support staff, external agencies/professionals, parents and most importantly of all – the child. Therefore, provision may vary from classroom to classroom to ensure the specific needs of all children are met in accordance to their own individuality.