

SCIENCE – Intent, Implementation and Impact

INTENT

At Thrupp Primary School, our science curriculum is designed to inspire and engage all pupils, fostering a deep understanding and appreciation of the natural world. Our intent is to develop scientific knowledge and skills that are transferrable across various contexts.

We aim to:

- Encourage **curiosity** and **reflection** by encouraging pupils to ask questions about the world around them, leading to investigatory behaviours that are critical for scientific learning.
- Provide **aspirational** science education that promotes understanding by ensuring that all pupils acquire the 'sticky knowledge' in fundamental scientific concepts, including biology, chemistry, and physics.
- Foster **resilience** by providing an environment where our pupils feel safe to take risks in their learning, recognising that mistakes are opportunities for growth.
- Create connections and **relate** their learning to the world around them by supporting them to understand the relevance of science to everyday life and its significance to society and their own lives.
- Create life-long **reflective** learners by equipping children with the knowledge required to use and implement science today, tomorrow and for their futures.

Our intention throughout school is to develop an understanding of scientific ideas by using different types of scientific enquiries to answer questions, observe changes over time, notice patterns, group and classify, carry out simple comparative tests and find things out using secondary sources of information.

IMPLEMENTATION

At Thrupp, we teach science in year groups and employ a well-structured, progressive Science curriculum that aligns with the EYFS and National Curriculum. Our children begin their formal science education in the early years foundation stage (EYFS) in Nursery and Reception. This involves learning the foundational knowledge through the area of learning 'Understanding the World: The Natural World.' Children in both Nursery and Reception are provided with a number of rich contexts to learn a wide range of vocabulary, that will be built upon in Year 1 and beyond.

- Science is taught discretely in year groups from Year 1-6.
- We provide our children with diverse learning experiences, deploying a variety of teaching methods, including direct instruction, collaborative group work, and independent explorations, ensuring that lessons are accessible, **aspiring** and engaging for all learners.
- Our knowledge organisers clearly highlight the key substantive knowledge (scientific knowledge and conceptual understanding in the national curriculum), as well as the disciplinary knowledge of scientific observation, investigation and enquiry (working scientifically).

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- We continue to develop their **curiosity** through Key Stage 1 play projects to embed their current and prior learning through focussed tasks, where they are given the opportunity to showcase their learning in a way of their choosing.
- We give our children regular opportunities to engage in practical experiments and demonstrations, facilitating experiential learning, reinforcing theoretical concepts, and developing their **curiosity**. This includes outdoor learning experiences, such as nature walks and environmental studies.
- We use assessment for learning to evaluate our pupils' understanding through formative assessments, such as discussions, quizzes, and reflective tasks, which inform subsequent teaching and support personalisation of learning. Children from year 1 – 6 complete an end of unit quiz each term to apply their learning, and this is used to inform termly and end of year teacher assessment.
- Science sessions are cross-curricular and aim to embed previous learning, deepen understanding and link prior knowledge to their current learning. It is often integrated with other subjects, such as mathematics, geography or art to enhance our children's understanding.
- Our 'Five a Day' approach, including our 'I do, you do, we do' method, is woven through our science curriculum; enabling all children '**To do our best, to be our best.**'

IMPACT

The impact of our Science curriculum at Thrupp is evidenced through a range of measures:

- **Pupil Outcomes:** High attainment levels, with a significant percentage of pupils achieving age-related expectations in science assessments, reflecting robust understanding. Our clear, progressive curriculum enables pupils to successfully build knowledge of science concepts and make connections.
- **Engagement and Enthusiasm:** Positive feedback from pupils through pupil interviews and questionnaires indicate high levels of interest and enjoyment in science lessons.
- **Real-World Application:** Pupils demonstrate the ability to apply scientific concepts to real-life situations.
- **Development of Skills:** Regular assessment for learning and pupil's work show that pupils are developing essential scientific skills, including inquiry, analysis, and communication.
- **Continual Improvement:** Our curriculum is regularly reviewed and adapted based on the latest research and feedback, ensuring that we provide a relevant and challenging Science education that prepares pupils for future academic and life challenges.