



Trinity and St. Michael's

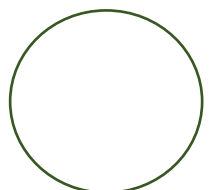
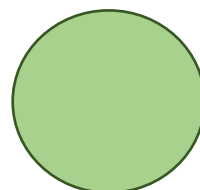
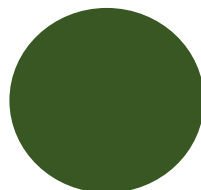
Science Policy

Great are the works of the LORD, studied by all who delight in them.
Psalm 111:2

Do everything in



1 Corinthians 16:13-14



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1 - Intent

We at Trinity and St Michael's recognise and understand the importance of science and scientific enquiry, fostering a love of learning and the world around us.

Science at TSM aims to develop an engaging, practical, and high-quality curriculum to help our children succeed and shine in science. We do this by following the national curriculum and fully adhering to year group expectations. Our aim is to foster a healthy curiosity and interest in science by providing opportunities to work scientifically in lessons where applicable.

At the centre of our progressive science curriculum is scientific investigation. Wherever possible, our aim is to deliver lessons where children learn through various investigations that lead them to be equipped to ask and answer scientific questions about our wonderful world.

At TSM, we believe that science comprises of the acquisition of knowledge, skills, and positive attitudes. Through our science programme of study, the children will acquire and develop the key knowledge that is identified in the national curriculum and our science end points, enabling them to use this knowledge to make a difference in the wider world.

We ensure that the working scientifically outcomes are met and built on by, where possible, including a working scientifically objective alongside our knowledge objective every lesson. This is developed throughout the children's time at TSM so that they can apply their knowledge of science when using equipment, conducting experiments and investigations.

Implementation

At Trinity and St Michaels, teachers create a positive attitude towards science learning within every classroom and help pupils to achieve high standards and a love for science. Our main aims are to enthuse and engage pupils through well planned and structured, engaging and active sessions. Our whole school approach to the teaching and learning of science are achieved through:

- Weekly, 2-hour Science sessions that offer different types of activities including Nearpod sessions, active sessions, learning outside the classroom, experiment and written lessons.
- Topics are blocked according to the national curriculum to allow children to focus in on one topic and study units in depth.
- Teachers are able to manipulate when they teach each unit to allow for cross curricular links where possible.
- Planning involves teachers creating practical, engaging lessons that allows for precise questions to identify misconceptions in lessons so that they can be addressed.
- Assessing knowledge prior to starting a topic to ensure that teaching is informed by the children's starting points and pupil voice to ensure that we consider children's interest.
- Working scientifically skills are embedded into lessons to ensure that skills are systematically developed throughout the children's time with us and new vocabulary and challenging concepts are introduced through direct teaching.
- Teachers become the experts, demonstrating how to use scientific equipment and the working scientifically skills to ensure the scientific understanding is embedded.
- Lessons aim to enable children's curiosity and ask scientific questions to deeper their understanding.
- Summative assessments are carried out a couple of weeks after completing a topic by carrying out a topic specific stage test and results are recorded allowing teachers to identify children who are grater depth, expected or working towards.
- To support teachers, PLAN documents have been introduced to pre-empt misconceptions prior learning of units.



3 - Impact

Science at Trinity and St Michaels allows children to learn about and understand the world around them.

- Most children will achieve age related expectations in Science throughout their time at Trinity and St Michael's.
- Most children will retain scientific knowledge and working scientifically skills that relate to real life contexts.
- Demonstrate a love of science, develop their curiosity and be enthusiastic about science.
- Children will be able to effectively question ideas and reflect on knowledge.
- Children will learn how to work collaboratively and practically with their peers.
- Children will be able to explain processes they have taken and reason why they have done this.
- Children will be confident to use and explain scientific vocabulary.
- Children will be able to articulate their understanding of scientific concepts and be able to reason scientifically using rich language linked to science.



4 – Teaching and Learning

- We base our teaching and learning style in Science around the key principle that good teaching in Science allows children to both **learn the scientific knowledge outlined in the National Curriculum and how to work scientifically**. Our teaching enables children to be curious in and promotes asking questions to expand their knowledge about the world we live in.
- Our teaching and learning styles in Science enable children to explore the world around us in multi-sensory ways therefore presenting lots of different opportunities to learn practically, visually, through engagement with nature and through the use of technology.
- Children carry out research, investigations and experiments in different units which allows them to ask questions, test hypotheses and generate results along with seeing the how things work visually.

5 – Science Curriculum

- Science is a core subject in the National Curriculum and we plan our science in line the the requirements outlined in this document. We also have resources available to support planning and teaching by PLAN, FOCUS EDUCATION and We ensure that knowledge is built on from previous year groups when presented and we frequently assess children's attainment through formative assessments in lessons and through the use of summative assessment at the end of a unit. We aim to meet the standard of work that is implemented in other subjects areas, including English.
- Teachers aim to meet the guidelines of teaching science in KS1 for 1 hour 30 minutes a week and in KS2 for 2 hours a week.
- Mainly, we do not teach working scientifically discretely, but build it into our scientific knowledge lessons.



6 – Foundation Stage

- We teach Science to all children in the school, including those in the reception class.
- Science is not taught discretely in our reception class but is cross curricularly linked with many aspects of the school day.
- Attainment data is collected from the 'Understand the World' strand of the EYFS framework as this strand shows the most links to science.

7 – Science Curriculum Links

Teachers plan discreet lessons but also maximise opportunities for a cross-curricular and creative approach to enhance learning through links to other subjects.

- **Reading** – Science often appears in reading throughout schools, in guided reading sessions and reading for pleasure. In doing this, children are continuously being exposed to scientific vocabulary and concepts which sparks the love for science.
- **History** – As a part of our science curriculum, we explore the work of scientists and how their discoveries have changed what happens in the world today.
- **Art** – Science is taught frequently through art, often as consolidation and visualising concepts. Children use their art skills to demonstrate their knowledge that they have learnt in science whilst verbally recalling the information they have learnt.
- **Physical Education** – Science and PE go hand in hand, often when exploring the Science unit animals including humans. Children often discuss the importance of warm ups and the link to muscles. We discuss the importance of the exercise to be healthy humans.
- **Writing** – Throughout English units there are many opportunities for science to appear and be discussed. Often with units such as explanation texts really allow teachers to included science consolidation.



8 – Science and Inclusion

- We teach Science to all children in school, whatever their ability and their individual needs. Through our Science teaching, we provide a broad and balanced education to all children, including SEN/D children. We strive to meet the needs of all children in our school to allow them to make good progress. Our aim is to challenge and stretch our gifted and talented children to help them reach their potential. For further details, see separate policies: Special Educational Needs; Inclusion.

- When progress falls significantly outside the expected range or exceeds significantly beyond the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs.

9 – Resources

Science resources are managed by the subject leader and are stored in the Science cupboards.

These include:

- Magnifying glasses
- Torches
- Test tubes
- Rocks
- Fossils
- Circuits
- Skeleton model
- Weights
- Scales
- Tape measures
- Trundle wheels
- Teeth
- Rain Gage
- Weather Vain
- Thermometers

Teachers are also encouraged to both make their own resources, pertinent to the topics they are teaching, and to look online for relevant resources.



10 – Monitoring, Evaluation and Review

The coordination and planning of the Science curriculum are the responsibility of the subject leader, who also supports colleagues in their teaching and monitors and keeps informed about current developments in Science. The subject leader attends local network meetings and courses – mostly offered by Lancashire professional Development Service to keep up to date with resources and curriculum development.

The Science subject leader will monitor the effectiveness of the Science curriculum by:

- Reviewing Science curriculum to ensure progression and coverage.
- Regularly monitoring a sample of exercise books, Nearpod work and Blippit regularly across the academic year.
- Delivering training and support.
- Identifying and ordering resources.

This policy will be **reviewed every three years**.

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