School Vision Statement

Tenbury Primary Academy is a welcoming, inclusive and nurturing family with Christian values at our core. We are dedicated to promoting friendship, compassion and respect to enable everyone to flourish. With courage and perseverance we aim to be the best that we can be.

'Therefore encourage one another and build each other up.'

Thessalonians 5:11

Science at Tenbury CE Primary Academy

CURRICULUM

Tenbury Curriculum Intent

The vision for our curriculum is to equip children with the skills to be safe, confident and creative, inspire them to ask questions and explore possibilities about their changing world and enable them to make a positive difference in both our local and global communities of the future. Staff and pupils will achieve this together, supporting each other along the way, working collaboratively and encouraging one another to be reflective thinkers.

Children are born scientists having a natural curiosity about the world around them and a passion for exploration and discovery. At Tenbury CE Primary Academy, we endeavour to nurture the scientist in each child by providing opportunities to use scientific knowledge, investigation and discovery to help them make sense of the world around them. Understanding the process of investigative Science enables our children to believe they can make a lifelong difference in the world they live in.

What Science looks like in our School

- Aspiring scientists with a sense of scientific awe and wonder
- Inspiring, challenging and investigative cross-curricular and discrete lessons
- Opportunities to explore and experiment with children planning, carrying out, recording and concluding

I N T E N T

- Opportunities for children to talk about their discoveries
- Development of their understanding of the world and natural phenomena
- Lessons that reflect scientific knowledge of biology, chemistry and physics
- Exciting and creative investigations working indoors and outdoors using a range of equipment
- Children who are becoming proficient in using science and scientific vocabulary to explain what is occurring, predict how things will behave and analyse causes.
- Learning about the achievements of famous key scientists past and present

By the end of EYFS pupils will:

In Reception science is an integral part of the topic work covered during the year. We follow the objectives set out in the Early Years Foundation Stage Framework which underpin the curriculum planning for children aged three to five. Knowledge and Understanding of the World contributes to a child's personal and social development, and allows the child to explore and make sense of the world around them, developing curiosity, investigation and questioning.

By the end of Key Stage 1 pupils will:

Explore knowledge of plants, animals including humans, everyday materials and their uses, seasonal changes and living things and habitats.

By working scientifically in each of the above content areas they will have developed their skills to:

- ask simple questions and recognising that they can be answered in different ways
- observe closely, using simple equipment
- perform simple tests
- identify and classify
- use their observations and ideas to suggest answers to questions
- gather and record data to help in answering questions

By the end of Lower Key Stage 2 pupils will:

Explore knowledge of plants, animals including humans, Rocks, Light, Forces and Magnets, States of Matter, Evolution and Inheritance, Sound and Electricity.

By working scientifically in each of the above content areas they will have developed their skills to:

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests
- make systematic and careful observations and, where appropriate, take accurate measurements using standard units, use a range of equipment, including thermometers and data loggers
- gather, record, classify and present data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

	• report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identify differences, similarities or changes related to simple scientific ideas and processes • use straightforward scientific evidence to answer questions or to support their findings By the end of Upper Key Stage 2 pupils will: Explore knowledge of plants, animals including humans, living things and their habitats, properties and changes of materials, Earth and Space, Forces, Evolution and Inheritance, Light and Electricity By working scientifically in each of the above content areas they will have developed their skills to: • plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • use test results to make predictions to set up further comparative and fair tests • report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations • identify scientific evidence that has been used to support or refute ideas or arguments

CURRICULUM

This is how it works:

- Weekly lesson provided through cross curricular or discrete lessons
- Clear progression of skills developed throughout school
- Progression of knowledge developed each year
- Children will have had many opportunities to work scientifically both indoors and outdoors
- Workshops and science days or science week which develop children's sense of scientific wonder and interest

This is what adults do:

- Teachers work collaboratively to support each other in the teaching of science, understanding and applying current developments in the subject, and providing direction for the subject in the school.
- Curriculum leader evaluates the strengths and weaknesses in the subject and indicate areas for further improvement.
- Create a positive learning environment to encourage curiosity, questioning, investigation and discussion
- Engage in appropriate professional development and continue a professional dialogue about science teaching

IMPLEMENTATION

This is how we support:

We teach science to all children, whatever their ability, in accordance with the school curriculum policy of providing a broad and balanced education to all children.

- Teachers provide learning opportunities matched to the needs of children with learning difficulties.
- Small group or 1:1 where needed
- A range of equipment and resources so children can make progress

This is how we challenge:

- Differentiated lessons
- Additional activities to stretch learning or develop skills

This is how we ensure all children can access the curriculum:

- EAL and SEN children are introduced to vocabulary before the lesson when appropriate
- Peer support
- Providing equipment that may support individuals including knowledge organisers

CURRICULUM IMPACT

This is what you might typically see:

- Happy and engaged learners
- Curious children who ask questions and take part in discussions
- A range of lessons including knowledge based and working scientifically
- Display of language in the classroom with children using this
- Confident children who are willing to question, investigate and persevere

This is how we know how well our children are doing:

- Informal judgements based on observation during lessons.
- End of unit assessments using 'Insight' our tracking system
- Summative assessment discussed during transition meeting with next class teacher
- Summative assessment made in end of year report by class teacher
- Regular formative assessment strategies that revisit prior learning and help to embed knowledge in the long term memory, e.g Flashback Four

This is how Science contributes to the spiritual, moral, social and cultural development of the child:

Within Science lessons children are given the opportunity to foster and indulge in their curiosity of the world. They discuss science and scientists looking at their impact upon our modern world, debating the rights and wrongs of these discoveries.

Cultural Capital:

Through our teaching of Science children are learning about the world around them and building a sense of their place within it. Through investigative science children learn about our own environment and how to look after it and learn to question how science has shaped the world. They learn about scientists and their work and understand how scientist's discoveries shape our future. Additionally they learn how to look after themselves and keep themselves safe, healthy and fit.

This is the impact of the teaching:

As a result of the delivery of our Science curriculum at Tenbury you would typically see confident and engaged children who talk about themselves as scientists, talk enthusiastically about the subject and reflect on their learning. Children will be working in groups, pairs and independently demonstrating that they are self-motivated, resilient, curious and able to discuss what they have discovered. Children can confidently refer to how they have worked scientifically, what this means and why they use these skills as scientists. Examples of their work will be evidenced in topic and class books. Children are able to talk about the relevance and importance of science and the impact science has on the world around us.