

SCIENCE AT ST THOMAS'



BIG IDEAS



Humankind

Understanding what it means to be human and the cause and effect of human behaviour.

This invites children to find out what it means to be human, including the workings of human anatomy and how to keep safe



Processes

Understanding the many dynamic and physical processes that shape the world around us.

This invites children to find out about the diverse and dynamic physical processes that are present in, and have a significant impact on, places, the environment and the world around them. They explore the physics of force and movement and investigate the phenomena of electricity, light and sound



Nature

Understanding the complexities and interdependence of the plant and animal species that inhabit the world's many ecosystems.

This invites children to find out about the diverse natural environments of the world and the plethora of species, both plant and animal, that live in them. They explore the characteristics and features of a range of habitats and study how living things interact within them. They examine the effects of economic and technological development on the natural world and consider the impact of human actions.

Through this big idea, children discover the conditions needed for living things to thrive and survive.



Materials

Understanding the unique and physical properties of all matter and how we interact with them.

This big idea invites children to explore the properties of all matter, including that which is living and non-living. It explores how materials are both formed and change. Through this big idea, children develop an understanding of the uses of materials and their unique, physical properties that make them fit for purpose.



Change

Understanding why and how things have changed over time.

INTENT

The aim at St Thomas is to provide opportunities for children to develop as independent, confident, resilient and successful, life-long learners.

Through the implementation of a broad and balanced curriculum, we aim for our children to have high aspirations and to make an active and positive contribution to their school, community and wider society, now and in the future. The pupils are given opportunities to work with STEM ambassadors to inspire and create an awareness of the STEM careers available to them.

Our science curriculum is developed to inspire and cultivate confident young scientists. The children construct an understanding of the world through practical and investigative learning opportunities which allows them to explore, ask questions, and become independent learners. Our curriculum is based on a progressive teaching and learning cycle that puts children at its heart ensuring progress for all. To develop our children's cultural capital, we provide a range of opportunities to learn outside in our Forest school and beyond Kilnhurst through school visits.

IMPLEMENTATION

The Science curriculum is a 'spiral curriculum' where concepts are regularly revisited to ensure that meaningful connections are made.

The children are taught progressively in each year where prior learning is used as a foundation for new learning which is subsequently well developed.

We supplement the Cornerstones Long Term Plan using Science Investigations to ensure there is full curriculum coverage for all Key Stages.

DEEP LEARNING AND RETRIEVAL

The whole curriculum at St Thomas is structured to promote and exploit opportunities to make sure new learning is committed to long term memory. This is done by the way in which the curriculum is structured overall as a spiral curriculum in the main.

Teachers use Science 'Knowledge Organisers' to assess what learning has taken place. Questions will cover not only what is currently taught but what has gone before, but in the previous; term, year group and Key Stage.

Testing out 'sticky knowledge' happens each lesson and in every subject.

Remembering what has been taught and explored is celebrated and is a core part of the approach at St Thomas.

CONCEPTS

The Science curriculum at St Thomas is derived from the National Curriculum programme of study. The curriculum is delivered using the National Curriculum in all year groups and covers:

- The Human Body
- Healthy Lifestyles
- Staying safe
- Pattern Seeking
- Changes
- Questioning
- Investigation

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This invites children to find out about the causes and consequences of change and evolution. They investigate and explore how events unfold and develop an understanding of timelines and chronology



Investigation

Understanding the importance of asking questions, formulating hypotheses, gathering information and analysing evidence.

answers in response to original, familiar and more complex questions. They explore ways to create hypotheses, gather evidence and begin to evaluate data. They experiment with different ways to present information and ideas and make informed choices to solve problems. Through this big idea, children start to think critically, make meaningful connections and reflect thoughtfully on evidence and ideas.

This big idea invites children to be curious and search for

Prior learning is referenced throughout the scheme of work and children become very familiar with the content and structure.

- Observation
- Report and Conclude
- Gather and record Data
- Survival
- Physical Things
- Living Things
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We use Cornerstones as the basis for our science provision to ensure consistency of approach and expectation across the school.