



Thomas Bullock Academy

Science

'It is through science that we prove, but through intuition that we discover.' Jules Henri Poincare

Science Vision

Being a scientist at Thomas Bullock prepares children for their future lives, to enable them to understand the world around them. Science allows pupils to "Let their light shine" by giving them opportunities to be able to problem solve and explore ideas and concepts through their scientific skills. All children take part in a weekly Science lessons and the subject is linked to other areas of learning wherever possible.

The aims and objectives of science are in line with the National Curriculum and enables children to:

- develop lively, enquiring minds and the ability to question.
- learn scientific skills and knowledge
- build on their natural curiosity, so they are able to problem solve and investigate ideas
- develop understanding of the nature, processes and methods of science through different types of science enquires that help them to answer scientific questions about the world around them.
- be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

Intent:

Science lessons are delivered as part of the curriculum offer. Objectives for lessons are underpinned by the National Curriculum, with Switched on Science scheme used to support planning. Science lessons are well planned and structured to ensure that new skills are learnt and imparted through effectively teaching a sequence of lessons, developing pupils' curiosity and offering pupils a practical experience to explore concepts in a range of different topics. Teachers have access to in school science resources but also TSN science boxes to offer supplementary resources. Children revisit units in order to develop their understanding and scientific enquiry.

Implementation:

In our Early Years:

Science is taught as an integral part of the topic work. We relate the scientific aspect of the children's work to the objectives set out in the Early Learning Goals included in Knowledge and Understanding the World.

KS1 and KS2 are taught to work scientifically by:

- Questioning
- Scientific enquiry – observing changes, finding patterns, grouping and classifying, fair testing and researching using secondary sources
- Drawing conclusions based on data and observations
- Using evidence to justify ideas
- Using scientific knowledge to explain findings

In Key Stage 1 pupils are taught scientific knowledge and skills related to the following units:

Plants, Animals including humans, Everyday Materials, Seasonal Changes and Living things and their habitats

In Lower Key Stage 2 pupils are taught scientific knowledge and skills related to the following units:

Plants, Animals including humans, Rocks, Light, Forces and Magnets, Living things and their habitats, States of matter, Sound and Electricity

In Upper Key Stage 2 pupils are taught scientific knowledge and skills related to the following units:

Living things and their habitats, Animals including humans, Properties and changes of materials, Earth and Space, Forces, Evolution and inheritance, Light and Electricity

Impact

Through our science curriculum we aim to ensure:

- Children will be able to question ideas and reflect on knowledge.
- Children will work collaboratively and practically to investigate and experiment.
- Children gain a wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
- A wide vocabulary which will enable to articulate their understanding of taught concepts.

As an inclusive school, we recognise the need to tailor our approach to support children with Special Educational Needs as well as those who would benefit from further challenge. We recognise that in all classes there are children of widely ranging abilities and we strive to provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child.

Cultural Capital links to Science

Our hope is that building science capital will have a positive effect on young people's lives – not just in terms of encouraging more young people to continue into science, technology, engineering and mathematics (STEM) jobs, but more importantly, we hope that building science capital is a tool for social justice, to help improve people's lives and life chances. Therefore, we as a school are investing in developing a STEAM room including technology, robotics and coding, alongside of practical science investigations.