



Our Mission Statement:

We aim to provide a positive learning experience in a safe and respectful environment. We strive to teach an inspiring and inclusive curriculum that promotes a love of learning. As a Christian school we endeavour to develop the spiritual and moral values of all members of the St. Matthew's family, and a meaningful and loving relationship with God. We want our children to be cheerful and independent individuals who reach their potential and are proud of their achievements. We hope to develop confident, caring citizens who are well prepared to enjoy happy and rewarding lives.

## Science

### Intent, Implementation and Impact

***“Education is not the learning of facts but the training of the mind to think.”***

***Albert Einstein***

#### Intent

At St. Matthew's C of E Primary School, we aim to foster a natural curiosity and excitement about the world through a stimulating, engaging and challenging learning environment. All children will be provided with a broad and balanced Science curriculum in line with the National Curriculum 2014. Through this they will develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.

Our Science curriculum allows all children to obtain the knowledge and skills needed to help them to think like a scientist, developing an understanding of scientific processes and to understand the uses and implications of science both today and in the future.

Our children will be immersed in a vocabulary rich environment using scientific language taught, built upon and revisited throughout the different Key Stages. They will develop and use a range of skills including observation, planning and investigation as well as being encouraged to question the world around them with the intention of becoming independent learners.

## **Implementation**

All children are taught Science in a weekly discrete lesson. To ensure high standards of teaching and learning, we implement a curriculum that is progressive and that gives full coverage of the 2014 National Curriculum programmes of study for Science and Understanding of the World in the EYFS. Through teacher modelling and planned questioning we want our children to be amazed by the world around them as we recognise that our children often lack experiences.

At the start of each topic teachers find out what the children already know/understand and use this to adapt the curriculum to the needs of the learners. Children reflect on their previous learning throughout, building on prior knowledge and linking ideas together, which enable them to ask questions and to become enquiry-based learners.

Building a subject rich vocabulary is important and so there is an emphasis placed upon activities that will transfer information from the working memory into the long-term memory. This is achieved through the use of displays, knowledge mats and quizzes.

During each topic there are planned opportunities for children to develop their enquiry skills within the five types of scientific enquiry – observation over time, pattern seeking, identifying, classifying and grouping, comparative and fair testing and research using secondary sources. This allows for a progression in skills as the children increase in age and ability and allow teachers to plan high quality science lessons.

All children have access to a range of quality resources including science equipment, digital technology, practical experiences and photographs. They will also use a range of secondary resources to develop their knowledge and understanding. Where applicable, children will take part in off site educational visits and also welcome science visitors into the classroom as a way to enhance their learning experiences.

## **Impact**

Every lesson delivered includes a strong focus on the skills of scientific enquiry through an investigative and exploratory approach that makes learning exciting and memorable. Children take away a deeper understanding of both science content and scientific method.

We aim to ensure that not only do children acquire the appropriate age-related knowledge linked to the National Curriculum but that they are also equipped to continue their scientific journey within their everyday lives.

Children will:

- Achieve age-related expectations in Science at the end of their cohort year.
- Retain knowledge that is pertinent to Science within a real-life context.
- Develop a wide variety of skills linked to both scientific knowledge and understanding and scientific enquiry and investigative skills.
- Understand and use a rich and varied scientific vocabulary.
- Question ideas and reflect on knowledge.
- Work practically and collaboratively to investigate and experiment.
- Explain processes they have taken and be able to reason scientifically.
- Have high aspirations for their future.

Formative assessment is the main tool for assessing the impact of Science at St. Matthew's C of E Primary School. This allows for misconceptions and gaps to be addressed immediately.

Assessment at St. Matthew's C of E Primary School is teacher based and formed using a range of informal strategies;

- Initial and final concept maps.
- Children's contributions to class discussions
- Verbal and written outcomes from learning
- Observations and careful questioning of pupils working scientifically.
- Quiz questions.

Judgements will be made as to whether pupils are emerging, at expected or exceeding at Working Scientifically and emerging or at expected for their conceptual understanding and knowledge. These judgements will be recorded within Target Tracker.

At regular intervals the Science lead will scrutinise books and planning, conduct pupil conferences, observe the quality of teaching and monitor outcomes of assessment to ensure that standards and coverage are being met. This allows the impact of the curriculum to be accurately assessed.