



Science Intent, Implementation and Impact

Intent

At St Matthew's, it is our endeavour to provide a high quality science education that provides children with the foundations they need to recognise the importance of science in every aspect of daily life. We want our children to appreciate how science has changed the lives of human beings and know that it is vital to the world's future prosperity. Therefore, all pupils will be taught essential aspects of the knowledge, methods, processes and uses of science.

Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. Children should be taught to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. Our curriculum also encourages children to become enquiry based learners, collaborating through researching, investigating and evaluating experiences.

It will provide opportunities for the critical evaluation of evidence and rational explanation of scientific phenomena as well as opportunity to apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. Children will be immersed in key scientific vocabulary, which supports in the acquisition of scientific knowledge and understanding. The following types of scientific enquiries are woven throughout our curriculum: Pattern Seeking, Comparative/Fair Testing, Researching, Observing Over Time and Identifying, Grouping and Classifying to ensure that children are gaining a full breadth of opportunities to engage in learning as scientists. All aspects of 'Working Scientifically' from the National Curriculum are interwoven throughout our curriculum, again, to ensure that children understand what it means to be a successful scientist.

All children will be provided with a broad and balanced science curriculum, which builds on prior learning and reflects the equality and diversity policies and practice in school.

Implementation

At St Matthew's, Science is taught in units of work half termly. Teachers check prior learning using retrieval practice activities. Critical thinking tasks are used at the start of lessons which allow children to orally explain their understanding. Children are able to build on prior knowledge and link ideas together. Learning is regularly revisited with disciplinary learning too e.g. observing over time etc.



To ensure that a consistent approach to planning and teaching is followed staff at St Matthew's use the following guidance:

- Science should be blocked in order to develop children's deeper understanding of topics however this may be unsuitable for some units
- The EduKent scheme to be used as the main resource for planning supplemented by PLAN documents
- A key question is to be used for each lesson
- Scientific enquiry type displayed each lesson and coded in the children's books
- 6 key words with definitions to be glued in the children's books at the start of each unit as a reference point for children
- Stem sentences to be used to scaffold language and used in discussions
- Critical thinking task (Explorify or Concept Cartoons) to be used at the start of each lesson
- Retrieval practise to be used in lesson 2 and 4. 'Check it' tasks used in lesson 3 and 5. An initial assessment carried out in lesson 1 using the key questions for the unit. The same assessment is then revisited in week 6 at the end of the unit (approximate end of the unit)

Impact

The successful approach to the teaching of science at St Matthew's will result in a fun, engaging, high quality science education, that provides children with the foundations for understanding the world that they can take with them once they complete their primary education.

Assessment at St Matthew's is teacher based and formed using formative and summative strategies e.g. end of unit assessments, written or verbal outcomes etc.

Children at St Matthew's will:

- Demonstrate a love of Science and an interest in further study in this field
- Retain knowledge that is pertinent to Science with a real life context
- Be able to question ideas and reflect on knowledge
- Be able to articulate their understanding of scientific concepts and be able to reason scientifically using rich language linked to science
- Work collaboratively and practically to investigate and experiment