

Science Curriculum Intention Statement

INTENT

Science is recognised as the third core curriculum subject alongside English and Mathematics and provides an enjoyable and stimulating way to put into practise the skills acquired in the other two core subject areas. Science in our school is intended to excite, inspire and engage our students to help them develop an understanding of the world around them in terms of biology, chemistry and physics. Science in our school provides a range of opportunities for all children to learn scientific knowledge; develop an understanding of the methods and processes of science; and an understanding of the uses of Science today and for the future. They will have opportunities to explore, discover and investigate the immediate environment of the classroom, school grounds, home and the wider environment.

IMPLEMENTATION

The teaching of Science focuses on progressive development of knowledge. Each lesson is linked to the development of a deep understanding of scientific knowledge, in line with the National Curriculum objectives. The initial assessment of children's understanding and gathering of children's questions allow teachers to focus learning on the children's current level of understanding. Mind maps and open questioning allows teachers to identify misconceptions and address these.

They progressively develop a knowledge and understanding of scientific concepts and facts through practical 'hands on' activities. Teachers often present a study unit in Science through a theme or topic, however on occasion Science is taught as a discrete subject/unit of work.

National Curriculum Science includes:

- Life & Its Processes (Plants, Animals & Ourselves).
- Materials & Their Properties (Solids, Liquids & Gases).
- Physical Processes (Forces, Energy, Light, Sound & Spaces).

Our children are taught and encouraged to use appropriate scientific language to discuss and explain their findings and thoughts to others. Knowledge organisers at the start of each topic are used to support correct use and understanding of scientific vocabulary and are used by teachers throughout the unit to support the development of understanding. Staff are encouraged to use creative ways teaching new vocabulary and frequent revisiting of key words is encouraged.

Teachers select appropriate methods to assess knowledge (from a range of suggested methods) and record outcomes on Target Tracker. This official recording of attainment allows progress to be monitored and shared with subsequent teachers. They are then able to build on this knowledge. Each unit begins with a look back at what children

remember. Revisiting learning through the use of Ogden Trust power points, and discussion is encouraged throughout the school.

As well as developing scientific knowledge, we also aim to introduce our children to introduce our children to the process of working scientifically from an early age. The skills of observing, sorting, grouping, comparing, raising questions, predicting, testing, seeking patterns or relationships, interpreting, evaluating, communicating and recording through investigation are taught through practical investigation opportunities. These are not taught separately but are part of each topic. Teachers plan these into schemes of work and ensure that a range of them are covered in each unit. Each strand is covered multiple times over the course of a year and is monitored by children and adults using 'Working Scientifically Monitoring Sheets' that are stuck in the front of each child's book. These skills are also progressive and develop in complexity as children move up through the school. Attainment of these is also recorded on Target Tracker for future monitoring and revisiting.

Staff are encouraged to allow children opportunities to ask questions and suggest future lines of enquiry, leading their own learning at the start and throughout topics. They develop their skills to allow them to tackle new problems and consider real situations with increased confidence and make informed decisions based on previous experience.

Pupils are made aware of hazards involved in using and handling certain materials and living things. Teachers and support staff are also regularly kept up to date with current health and safety advice using CLEAPSS.

We are fortunate to have a spacious outside area meaning children have opportunities to explore their environment and have practical hands-on opportunities to extend their learning. Each child has an opportunity to experience their environment more closely with a Forest School practitioner as part of Forest school during their time in our school. The school has a large, well equipped Science Room with well organised resources. Practical, hands on lessons can be set up in advance so that children can enjoy more time investigating and deepening learning.

Our school is an established part of an Ogden Trust partnership. This allows us to participate in the Ogden Trust network events, regular meetings for sharing good practice, opportunities to develop science curriculum, moderation opportunities, network events and access to high quality CPD for all staff. We can access support and resources from other schools in the cluster and Warwick University.

IMPACT

We strive to ensure that the impact of the Science curriculum we provide will give children the confidence and motivation to continue to further develop their skills into the next stage of their education and life experiences. This confidence is displayed through our annual Science Week and the Warwick University Science Fair.

Assessment of these skills are also evidenced using both individual class books and the school assessment system.

Children learn the possibilities for careers in science as a result of our community links and connection with local and national agencies such as the STEM association.

The school Science curriculum has been recognised for its quality by the Primary Science Quality Mark.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

We use summative assessment to determine children's understanding and inform teachers planning.

Final end of year assessments are made using assessment criteria that has been developed in line with the national curriculum and Target Tracker.