



Montgomery Science Statement

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Intent

The 2014 national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.
- are equipped with the scientific skills required to understand the uses and implications of science, today and for the future.

At Montgomery Primary School, it is our intention 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.

Our curriculum will enable children to become enquiry-based learners through researching, investigating, and evaluating experiences. It will encourage a respect for living organisms and for the physical environment.

Children will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. 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.

Implementation

Our science curriculum at Montgomery is ambitious and starts right from Nursery. Using the content of the National Curriculum and the Early Years Framework we have sequenced our science curriculum, so children learn in a logical step by step manner.

In EYFS children start to question the world around them and make sense of it. The EYFS Curriculum for Understanding the World is taught in variety of ways through adult led and adult-supported tasks and child-initiated learning in well-resourced provision areas, both indoors and outdoors. These provide opportunities for students to be challenged and learn through play by fostering active participation. Learning is delivered through half termly topics where the children will learn about plants, animals, their senses, the seasons and materials.

In KS1 children learn about plants, animals including humans, materials, seasonal change & living things. Knowledge is recapped from year 1 to year 2 to ensure a deeper understanding and that knowledge is built upon.

In KS2, all of these topics are looked at again to deepen understanding and then new topics are also introduced: rocks, forces and magnets, electricity, light, sound, evolution & space. Our science progression map takes into account knowledge previously learnt in order for it to be recapped and built upon in each year. Subject specific vocabulary is taught in each unit and then repeated to consolidate learning.

We are using the White Rose science scheme to help sequence and plan science across the school into our own progression map. It is designed to enable children to build and consolidate knowledge and tackle new concepts by utilising their understanding of previous learning.

Disciplinary knowledge (working scientifically objectives) is embedded within the substantive knowledge allowing children's scientific knowledge of 'how to be a scientist and how scientists work' to be developed through the children's school career and new vocabulary and challenging concepts are introduced through teaching.

In KS1 children will observe closely, use simple equipment, perform simple tests and make observations to answer enquiry questions. In LKS2, children go on to gather, record, classify and present data in a variety of ways, record findings using scientific language, set up their own practical enquiries, comparative tests and fair tests and take accurate measurements. In UKS2, children will plan different types of scientific enquiry to answer questions, take measurements using scientific equipment, record data of increasing complexity, report findings from enquiries including conclusions and causal relationships and identify scientific evidence that has been used to support or refute ideas or arguments.

Each half term focuses on one of these areas for assessment which best fits the topic and practical activities of that subject. These are assessed using the TAPS (Teacher assessment in primary science) focussed assessment lesson plans. This includes knowledge of concepts such as variables and predictions, as well as knowing how to carry out procedures such as using a thermometer to make accurate measurements.

Impact

The successful approach at Montgomery Primary School results in a fun, engaging, high-quality science education that provides children with the foundations and knowledge for understanding the world. Through various workshops, trips and interactions with experts during science / STEM weeks, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity.

Children will:

- Demonstrate a love of science work and an interest in further study.
- 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.

We will measure the impact of the science curriculum through pupil discussions and interviewing the pupils about their learning (pupil voice), book scrutiny, governor monitoring, moderation staff meetings with opportunities for dialogue between teachers and annual reporting and tracking of standards across the curriculum.

Links to Whole School Curriculum Vision

As children progress through Montgomery, science will have a variety of first-hand experiences in class and out. Children will learn about their environment and the wider world around them. This will offer the opportunity to consider the impact we have on our environment and will be underpinned by the school strapline 'Taking care of the future'.

Our vision: In science children will have a variety of first-hand experiences in class and out which will allow them to explore their curiosity. Children will learn about their environment and the wider world around them including the impact they have on it.

Our science principles: Science at Montgomery is outstanding when...

- We are being curious, passionate and excited about our learning.
- We are determined to succeed through exploration, trial and error.
- We work together to challenge each other.
- We see science in action within the classroom and community.
- We have the self-belief to question our findings.
- We use scientific vocabulary.