

Summerhill Infant School

Science



Intent

*Inspiring, nurturing and supporting each child, every day to develop citizens for the future.
Our School lays the foundation for a lifetime love of learning.*

The 2014 National Curriculum for Science aims to ensure that all children:

develop scientific knowledge and conceptual understanding of biology, chemistry and physics through a general science based topic led curriculum.

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 Summerhill infant school we understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this.

We encourage children to be curious and ask questions about the world, during their time at Summerhill Infants. The Science curriculum encourages our children to be inquisitive about our world and beyond. It promotes respect for all living and non-living things. The Science curriculum at Summerhill Infants includes the acquisition of knowledge, concepts, skills and promotes positive attitudes. Our curriculum ensures that the Working Scientifically skills are developed throughout the children's time at the school while **teaching the science knowledge content of the National Curriculum.**

We are aware that the children at Summerhill come with a wide range of different life experiences and knowledge of the world. Many of our children have had limited opportunities to explore the world around them, so before each topic children will be given the opportunity and time to explore the resources with the intention that they will raise questions and be inspired to find out more. In addition, to address this issue, we plan our curriculum to include many hands on experiences, using the local environment, educational visitors and visits. We identify and track our vulnerable learners across all areas of the curriculum including science.

Implementation

At Summerhill Infant school we aim to create a positive attitude to science learning and foster the understanding that all children are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following;

Play based. Hands on, investigative approach

Giving the children concrete and meaningful experiences on which to build their knowledge.

Opportunities to revisit prior learning as a platform for next steps.

Science is taught through planned topics in EYFS (Reception) and Key Stage 1 (Year 1 & 2).

EYFS (Reception)

Science is taught as part of the Knowledge and Understanding part of the curriculum. It is incorporated into topics such as Mini-beasts and Water where the children find out about animals. Science is also taught by following the children's interests with lots of opportunities for children to explore the world around them. Watching it change and changing it themselves. E.g. by growing flowers, fruit and vegetables. The children have lots of opportunities to acquire the scientific language by teachers modelling the correct language. This supports our growing number of EAL children.

Whole School

Through our planning, children are encouraged to raise their own problems and ask their own questions. Then they are given opportunities to use their scientific skills to research and discover the answers and reach conclusions. Planning involves teachers creating engaging lessons, involving high-quality resources to support the understanding of conceptual knowledge, this includes lots of hands on resources as well as good quality secondary resources. Teachers use precise open end questioning in class to test conceptual knowledge and skills. Children are regularly assessed against Target Tracker statements, to identify those children with gaps in learning, so these can be closed. Children are encouraged to talk to each other, to explain their knowledge and understanding. This allows our EAL children to practise using new topic based vocabulary.

Across Summerhill we have a clear progression of learning so that learning and skills development build on the previous year. As the children's knowledge and understanding increases they become more independent and able to work with a partner or small group on scientific enquiry. As they moved to year 2 they become more proficient in raising scientific questions and developing investigation skill, such as collecting data and reaching conclusions. We make cross curricular links where appropriate for example Geography and Science in Year 2's Endangered Animals topic. PE, DT and Science in year 1's All About Me topic.

Scientific skills are embedded in all lessons to ensure these skills are being developed in all year groups. Direct teaching is used to introduce challenging concepts and new vocabulary. These are developed in-keeping with the topics and the use of our word aware programme.

In Reception teachers demonstrate how to use scientific equipment safely, and model many Working Scientifically skills this continues in year 1 & year 2 with children gradually taking on more of the skills independently. Teachers find opportunities to develop children's understanding of their surroundings in the many outdoor spaces in St George and the surrounding area. We inspire and excite the children with events and visits from experts, such as Bristol Zoo and Bristol University outreach, allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills.

Impact

At the end of each year most children will have acquired age appropriate knowledge related to the science curriculum. They will also have acquired the skills they need to continue to develop a scientific understanding of the world around them.

All children will have:

A wider variety of skills needed for scientific enquiry, which will support them in study, work and a successful adult life.

A wider vocabulary which will enable them to fully demonstrate their understanding.

An enthusiasm and interest in investigating the world around them.

Monitoring

Impact will be measured by: -

- using target tracker statements highlighted at the end of each topic.

- Pupil conferences combined with written evidence.

All written work will be clearly linked to learning objectives from the National Curriculum.