

Science at Langford Village Academy



Intent

At Langford Village Academy our intention is to enable all children to develop their understanding of the world around them to the best of their ability and to acquire specific skills and knowledge to help them to think scientifically. We aim for the children to gain an understanding of scientific processes and also an understanding of the uses and implications of Science, today and for the future.

At Langford Village Academy, scientific enquiry skills are taught discreetly in weekly Science lessons. Topics such as Plants, are taught in Key Stage One and studied again in further detail throughout Key Stage Two. This model allows children to build upon their prior knowledge and increases their enthusiasm for the topics whilst embedding this procedural knowledge into the long-term memory.

All children are encouraged to develop and use a range of skills as listed in Science 1 in the National Curriculum. These skills include:

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions.

Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged. Concepts taught should be reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

In Foundation Stage the 'Understanding of the World' is covered by offering a wide range of enjoyable, practical activities, many of which are independent and open-ended.

Implementation

In ensuring high standards of teaching and learning in science, we implement a curriculum that is progressive throughout the whole school.

Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of, 'The National Curriculum programmes of study for Science 2014' and, 'Understanding of the World' in the Early Years Foundation Stage. Science teaching at Langford Village Academy involves adapting and extending the curriculum to match all pupils' needs. Though Science is taught as discrete units and lessons, we do, when possible link it to the other topics taught in class.

Science units are taught on a two year rolling programme in Key Stages 1 and 2. This ensures progression between year groups and guarantees topics are covered. Teachers plan to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available.

We ensure that all children are provided with rich learning experiences that aim to:

Prepare our children for life in an increasingly scientific and technological world today and in the future.

Help our children acquire a growing understanding of the nature, processes and methods of scientific ideas.

Help develop and extend our children's scientific concept of their world.

Build on our children's natural curiosity and developing a scientific approach to problems.

Encouraging open-mindedness, self-assessment, perseverance and developing the skills of investigation – including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.

Develop the use of scientific language, recording and techniques.

Develop the use of computing in investigating and recording.

Make links between science and other subjects.

Impact

The impact of Science lessons at LVA will be immediately apparent in the lessons. The opportunities for children to demonstrate their level of understanding will be evident through the Scientific discussions and enquiry. A greater level of independence is expected of children in KS2.

Misconceptions are addressed in whole class discussions or when possible in 1:1. The children are encouraged to self-assess their work to indicate their own level of understanding.

This informed teacher assessment is compared against age-related expectations for each term of the academic year. Demonstrable solid understanding of all the blocks within a term will meet age-related expectations for that stage of the year. Through the internal assessment process, gaps in understanding can be identified and addressed and parents can be informed of their child's progress over the course of the year to date.