Science

Curriculum Intent

What is our Intent? What are we trying to achieve with our Science curriculum?

The Science curriculum at Apley Wood Primary Academy aims to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and application of Science, today and for the future.

All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions. Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged. Concepts taught are 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.

Knowledge of scientific processes is gained throughout a child's journey through school. Learning in Key Stage Two builds on prior learning in Key Stage One which, in turn, builds on solid foundations gained in the Early Years Foundation Stage. Our Science curriculum uses the National Curriculum to ensure that children gain the knowledge they need to become successful scientists at primary school and beyond, fostering an interest in the subject – much needed by today's society.

Curriculum Implementation

How do we deliver and assess our curriculum? How do we accomplish this?

At Apley, scientific knowledge and enquiry skills are embedded in each project the children study, whilst knowledge and skills are revisited and developed throughout their time at school. 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.

Alongside our weekly Science lessons, we hold an annual STEM week, where children are given the opportunities to generate their own questions to investigate. During this week, we have visitors from local STEM related businesses, who spend their time with the children and provide them with a range of STEM experiences. This week allows children to work off timetable, but we ensure high levels of writing and links to maths are evident in their work. To begin the week, the children are invited to dress up as a STEM related career and often we have children dressing up as something they aspire to be, like palaeontologists, astronauts or engineers. In addition to our STEM week, children experience educational visits linked to their Science topics, which enhance the subject. We regularly visit our new forest school area within our school grounds or visit our neighbouring Apley Woods.

To facilitate this learning process, teachers plan the following:

- A sequence of learning which builds on prior knowledge, skills and understanding;
- Opportunities to explore, revisit, understand and use technical vocabulary related to Science;
- A well thought out sequence of lessons for each subject that results in progression and depth;
- Trips and visiting experts who will enhance the learning experience;
- A means to display and celebrate the pupils' work in their class;
- A way to share their learning with parents and the local community.

Curriculum Impact

What is the Impact of our curriculum? What difference is our curriculum making to our pupils?

Our Science Curriculum is high quality, well thought out and is planned to ensure progression. If children are keeping up with the curriculum, they are deemed to be making good progress in line with age related expectations.

In addition, we measure the impact of our curriculum through the following methods:

- A reflection on standards achieved against the planned outcomes;
- Pupil discussions about their learning - which includes discussion of their thoughts, ideas, processing and evaluations of work;
- Termly teacher assessment against the progression document to assess if the child is working at age related expectations for Science;
- The teaching of Science is also monitored on a termly basis through book scrutinies, learning walks or pupil voice activities;
- In EYFS, observations and assessments are completed regularly throughout the week.