South Witham Academy's Curriculum Intent and Implementation for Science

Intent

At South Witham Academy we strive to provide a high-quality science education that develops children's understanding of the world through the scientific disciplines of biology, chemistry and physics. We recognise how science impacts every aspect of daily life, and without science humankind would not have made progress throughout history. As one of the core subjects taught at primary level, we give the teaching and learning of science the prominence it deserves.

Learning science is concerned with increasing pupils' knowledge of our world, and with developing skills associated with science as a process of enquiry. Our science curriculum develops the natural curiosity of each child no matter their demographic, encourages them to have respect for living organisms, and instil in pupils the importance of caring for the natural environment.

We believe that as well as being able to understand a scientific enquiry for themselves, it is important our children can also explain this coherently and with a critical mind to someone else.

We provide a range of different types of scientific enquiry throughout children's time at South Witham Academy and also encourage open-ended questioning, where they decide how to try to find answer. It is important children are not always directly guided to the 'right' answer and they realise that some of the most significant scientific advancements occurred from mistakes or someone saying 'What if…?'

In the words of Carl Sagan, an astronomer and astrophysicist, "Somewhere, something incredible is waiting to be known".

Implementation

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children can achieve high standards in science.

Teaching is set out thus:

- Science will be taught as set out by the year group requirements of the National Curriculum. This is a strategy to enable the accumulation of knowledge and allows progress in repeated topics through the years.
- Through our planning, we involve problem solving opportunities, allowing children to find out for themselves how to answer questions in a variety of practical means. Children are encouraged to ask their own questions and be given appropriate equipment to use their scientific skills to discover the answers.
- Engaging lessons are created with each lesson having both practical and knowledge elements. Teachers use precise questioning in class to test conceptual knowledge and skills and children are regularly assessed to identify those children with gaps in learning, so that all children keep up.
- We build upon the learning and skill development of previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting and using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.

•Working Scientifically skills are explicit in lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the theme of the lesson.

•Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and workshops with experts.