

INTENT

At Valewood, we encourage children to be inquisitive. The science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes.

In Reception, science is taught through each of the 7 areas of learning and development. Within Physical Development the children discuss being healthy, including a healthy diet. Understanding the World gives children countless opportunities to question and explore the world around them. Expressive Arts and Design links with sound and materials which are looked at in greater detail in the following phases. The children's learning takes place in an enabling environment so that scientific opportunities are always available.

The 2014 National Curriculum for Science aims to ensure that all children develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. In Key Stage 1, the children follow the units set out within this curriculum developing their knowledge and applying their skills when working scientifically.

In Key Stage 2 concepts looked at in the previous Key Stage are developed further. In lower Key Stage 2 we enable pupils to broaden their scientific view of the world around them. In upper Key Stage 2 we enable pupils to develop a deeper understanding of a wide range of scientific ideas. Children are equipped with the scientific skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this.

IMPLEMENTATION

1. Science will be taught in blocks by the class teacher. This is a strategy to enable the achievement of a greater depth of knowledge.
2. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge.
3. Children's Rights underpin our Science curriculum. This includes making connections between the UNCRC and having high aspirations. It enables the children to reflect on how different societies use Science to make advancements so that technology, health and education can be improved. By considering children's rights it enables the children to reflect how Science impacts on the world and themselves.
4. Teachers use precise questioning in class to test conceptual knowledge and skills and assess children regularly to identify those children with gaps in learning, so that all children keep up.
5. We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence. Pre and post topic assessment questions are also used to enhance and embed the learning.
6. Working Scientifically skills are embedded into 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.
7. Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class.

IMPACT

The successful approach at Valewood results in a fun, engaging, high-quality science education, that provides children with the foundations and knowledge for understanding the world.

Frequent, continuous and progressive learning outside the classroom is embedded throughout the science curriculum. Through various workshops, trips and interactions with experts and local charities, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity. Children learn the possibilities for careers in science and learn from and work with professionals during our Science focused weeks. From this exposure to a range of different scientists from various backgrounds, all children feel they are scientists and capable of achieving. Children at Valewood enjoy science and this results in motivated learners with sound scientific understanding.

To ensure knowledge is revised and transferred to the long-term memory, teachers have collaboratively decided on 5 key questions which children will know the answers to. These questions for each unit will be used throughout the academic

year and questions from previous years will also be used to ensure knowledge is revisited. Knowledge organisers have been developed which explicitly set out learning and vocabulary for each unit of work.

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