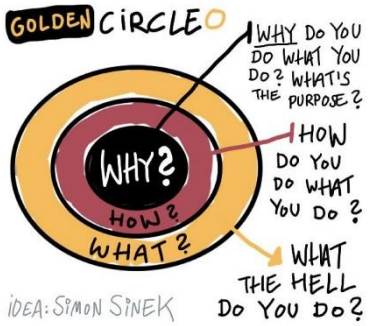
HIMBLETON CE PRIMARY SCHOOL AND NURSERY

Nurture, Nature, Knowledge:
Enabling inquisitive thinkers and inspired learners with kind hearts.

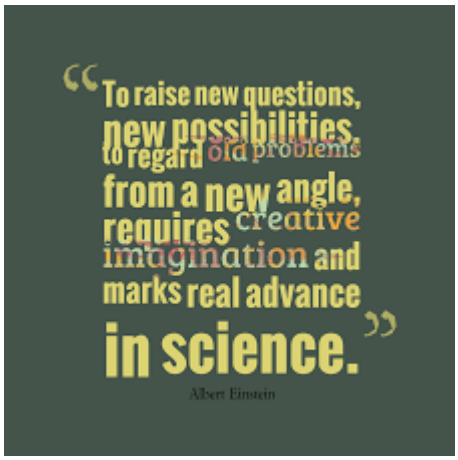
The Himbleton Approach to the Teaching of Science



SCIENCE

Intent

"To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science." - Albert Einstein



Why do we do what we do?

A high quality science education provides the foundations for understanding the world and is of fundamental importance in every aspect of daily life. Through building up a body of key foundational knowledge and concepts, pupils are encouraged to recognise the importance of investigation, explanation and develop a sense of excitement and curiosity about natural phenomena. Children are encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes and effects. Science in our school is about developing children's enquiry skills and approaches that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills. Therefore, we ensure that all children are exposed to high quality teaching and learning experiences, which allow children to explore their outdoor environment and locality. Children are immersed in scientific vocabulary, which aids children's knowledge and understanding of key concepts and the world around them.

Implementation

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation 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;

● Science is taught discretely, following a two year rolling programme in EYFS, KS1, Lower KS2 and Upper KS2. Science is delivered in units following the guidance from the National Curriculum programmes of study for science 2014. These are reviewed regularly.

● Teachers 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, 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 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.

● Rich opportunities for children to conduct controlled experiments are frequent throughout our curriculum and are enhanced with regular local outdoor learning opportunities, external and internal science trips and workshops lead by science professionals. Teachers demonstrate how to use scientific equipment, and the Working Scientifically skills in order to embed scientific knowledge, skills and understanding.

●Teachers encourage the development of all our school values and key curriculum drivers whilst also developing investigative skills– including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.

Impact

What are the outcomes for our children?

A fun, engaging, high-quality science education, where children recognise the importance of investigation, explanation and develop a sense of excitement and curiosity, providing children with the foundations and knowledge for understanding the world.
Frequent opportunities for contextual, progressive learning outside the classroom and high quality investigations, allow children to gain rich knowledge and skills that they can apply and use to develop and investigate their growing curiosities and future enquiries.
Through 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 understand the possibilities for careers in science, as a result of our community links and connection with national agencies, working with science professionals, having access to positive role models within the field and participating in a wide variety of trips and workshops.
Children have a positive learning attitude to science and develop their skills and knowledge through enquiry within the curriculum. This results in inspired, curious, resilient and enthusiastic learners and scientists of the future.

How do we know that we have achieved these outcomes?

Assessment

Our teachers assess the children's work in Science, through marking of books and observations during lessons. Assessments are made against the specific objectives set out in the National Curriculum and the Durham skills Progression Document, and recorded in Science books. In addition, low stakes quizzes at the end of each unit assess the children's 'Sticky Knowledge' and scientific understanding. We have clear expectations of what the pupils will know, understand and be able to do at the end of each Key Stage, outlined in Himbleton's Science Core Knowledge document. Teachers are supported with resources to know how to prepare children for their next phase of education. These resources include the Durham progression of skills document, unit overviews, progression maps and Himbleton's Science Core Knowledge document.

Pupil subject knowledge audit

Twice a year, Science Subject Leader carries out yearly monitoring interviews with a sample of children from each year group across the school. The interviews aim to assess children's vocabulary, analysis, enquiry skills and understanding surrounding taught scientific concepts. The purpose of this is to ensure that knowledge and skills are embedded, all children show progressive understanding a vocabulary surrounding science and that they understand how to enhance their scientific skills and knowledge. In addition, this is an opportunity to ensure children continue to be engaged and motivated in Science, whilst giving them the opportunity to share their enthusiasm and enquiries they wish to explore further within our curriculum.

"Enabling inquisitive thinkers and inspired learners with kind hearts."

Building on these themes, we believe that our Science curriculum contributes to the outworking of our whole school vision as it has an invaluable part to play in developing awareness of the wider world and preparing our children for life beyond Himbleton.