Science

"The important thing is not to stop questioning. Curiosity has its own reason for existence." — *Albert Einstein*

Science is a part of our daily life. Everything we do and come across on our life's journey can be linked to science, from cooking and playing football to keeping pets and growing a garden. Science at our school is taught as a discrete subject, meets the requirements of the National Curriculum and is sequenced so that new knowledge and skills build on prior learning. Children explore Science in Early Years as part of Knowledge and Understanding of the World. Through Key Stage 1 and Key Stage 2, children study science throughout the year.

Science lessons are focused on biology, physics and chemistry. Science teaches children to make observations, collect information and to use logical thinking to draw a conclusion.

Pupils are taught to use practical scientific methods, processes and skills to develop their knowledge of science. Areas of study include animals, humans, plants, seasonal changes, living things, electricity, materials, rocks, states of matter, light, sound, earth, space, evolution and inheritance.

We have developed our own science scheme supported by the PLAN documents (PLAN primary science resources support the planning and assessment of the science National Curriculum in England) to support our intent and implementation. It supports effective teaching and learning through the provision of high-quality resources, including medium-term planning and subject knowledge enhancement

INTENT:

At Sherburn C of E Primary Academy, our science curriculum is designed to foster a sense of curiosity and wonder about the natural world while developing a secure foundation of scientific knowledge and conceptual understanding.

We aim to provide breadth and balance in covering all aspects of the National Curriculum, including biology, chemistry and physics. In our development and implementation of a creative, practical and engaging high-quality curriculum we aim to inspire the next generation to succeed and excel in science.

At the heart of our progressive science curriculum is scientific investigation and enquiry. We ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments and investigation, building arguments, and explaining concepts confidently, being familiar with scientific terminology and, most importantly, to continue to ask questions and be curious about their surroundings.

We intend to deliver lessons that are inclusive to all and where children learn through varied systematic investigations, leading to them being equipped for life to ask and answer scientific questions about the world around them.

Our curriculum aims to challenge stereotypes in STEM and inspire the next generation by showcasing a diverse range of professionals and career paths.

We believe science encompasses the acquisition of knowledge, concepts, skills, and positive attitudes. This knowledge is built sequentially, ensuring

that pupils develop a deep understanding of scientific concepts as they progress through school.

IMPLEMENTATION:

The acquisition of key scientific knowledge is an integral part of our science lessons. Science is delivered through a high-quality, hands-on curriculum, ensuring on-going retrieval of prior knowledge, opportunities for real-world connections and oracy skills play an integral part of every lesson.

At Sherburn C of E Primary Academy, teachers create a positive, engaging and exciting atmosphere for science learning within their classrooms and reinforce an expectation that all children are able to meet the high standards in science. Our whole school approach to the teaching and learning of science involves the following:

Working scientifically

Creative planning by teachers, supported by resources such as TAPS, enables pupils to immerse themselves in practical, engaging lessons with opportunities for precise questioning in class to test conceptual knowledge and skills whilst assessing children regularly to identify those children with gaps in learning.

Specialist events

Through enrichment days and STEM events, we promote the profile of science and allow time for the children to be provided with enriched experiences and to feel inspired and excited whilst having the opportunity to develop new skills.

We utilise opportunities such as 'British Science Week' to promote science in our school and throughout our whole school community to showcase

Cross-curricula links

At Sherburn, we plan for problem solving and real-life opportunities that enable children to be active, independent learners while helping them to see the relevance of science in their daily lives. Children are encouraged to ask their own questions and provided with opportunities to allow their curiosity to grow and give them the opportunities to use their scientific skills and research to discover the answers.

Resource use

Bespoke knowledge organisers enable children to learn and retain the important, useful, and powerful vocabulary and knowledge contained within each unit.

Class teachers utilise resources such as 'Explorify' and 'Pictures for Talk" to support and enhance oracy skills within every lesson to nurture active and independent learning.

'A Scientist Just Like Me' from the Primary Science Teaching Trust' supports staff to facilitate discussions about STEM careers and encourage pupils to think like a scientist.

Progression of skills

Science will be taught in planned and carefully organised topic blocks as set out in our **Long Term Plan**.

Our strategy is to tailor our lessons for all pupils through adapted, inclusive planning suited to different needs and abilities, allowing all children to feel inspired.

The progression of skills for knowledge, working scientifically and vocabulary is developed through use of the PLAN documents.

IMPACT:

The impact of the science curriculum is measured by the progress pupils make in their knowledge, skills and attitudes toward science:

Knowledge and understanding

Pupils will develop and retain knowledge of scientific vocabulary and concepts, which they can apply in various contexts, including real-life contexts. They will be able to question ideas and reflect on knowledge.

Scientific enquiry

Pupils will work collaboratively and practically to investigate and experiment using a range of scientific methods and equipment to answer questions and solve problems. They will be able to explain the process they have taken and be able to reason scientifically.

Broadened perspectives

By engaging with diverse STEM role models, pupils' perceptions of what a scientist 'looks like' are challenged, fostering more inclusive aspirations for their own futures.