INTENT

Vision Statement

At New Scotland Hill
We realise that all children have natural passion and curiosity about learning. We understand that learning and discovery about the world comes from hands-on experiences through exploration and investigation. We call this the joy of finding out.

Our vision is to offer opportunities that are real, that embrace the outdoors and nurture children's curiosity and love of learning about the world. We will do this through a science curriculum which enables them to confidently explore and discover the world whilst enabling them to deepen their understanding.

We aim to provide lessons firmly rooted in scientific enquiry with practical hands-on experiences that encourage curiosity and questioning to help deepen understanding. These lessons, which consolidate prior knowledge, are rooted in scientific skills and vocabulary that help to avoid scientific misconceptions and encourage children's meaningful understanding of the world.

Our science curriculum will promote and develop transferrable skills such as observation, data collection and analysis, communication and team work that will support each child as they explore the world as lifelong learners.

National Curriculum Aims

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Spoken Language

The national curriculum for science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. They must be assisted in making their thinking clear, both to themselves and others.

IMPLEMENTATION

We have created a comprehensive progression document for staff to follow to best embed and cover every element of the science curriculum. The knowledge/skills statements build year on year to deepen and challenge our learners. The table below details how we have grouped the different elements of the science curriculum. Our progression document details how skills are developed throughout the primary phase.

Scientific Knowledge and Conceptual Understanding	Nature, Processes and Methods of Science	Uses and Implications of Science

Through a programme of study covering a sequence of knowledge and concepts, children will develop their secure understanding of each key block of knowledge and concepts, preparing them for future study.
Teachers will address superficial understanding, identifying and addressing misconceptions to avoid difficulties in understanding higher-order content.
Children will acquire and develop the use of technical and scientific language in order to precisely describe observations, scientific processes, methods and their conclusions.
Children will learn substantive concepts that will link with previous learning and be deepened with knowledge and content, embedding scientific knowledge and skills as they progress through the curriculum and year groups.
Children will also apply mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.

Working scientifically specifies the understanding of the nature, process and methods of science for each year group.
Working scientifically becomes embedded in the teaching of science within the content of biology, chemistry and physics.
Working scientifically focuses on the key features of scientific enquiry, so that children are familiar and learn to use a variety of approaches to answer relevant scientific questions.
Children will learn that working scientifically involves different types of scientific enquiry which should include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources.
Children will understand that working scientifically is the way to seek answers to scientific enquiry by collecting, analysing and presenting data.

Children's curiosity about the world and the way that it works will be observed, investigated and questioned.
Children will encounter and develop a rich scientific vocabulary (KS appropriate) that will enable them to communicate their observations and articulate scientific thought and ideas to precisely explain the world around them.
Children will develop the skills of observation and gathering data that can be used to support explanations about the world.
Children will develop their understanding that a scientific approach enables them to answer questions about the world.

IMPACT	
	• **Children will be excited by scientific enquiry and be eager to further develop their knowledge and understanding. KS appropriate.** • **Children will appreciate and value the scientific approach and understanding as directly relevant to their lives and the importance of science in the world.** • **Children will be immersed in a consistent scientific environment across the school with scientific vocabulary displayed, used and spoken by all teachers and children. KS appropriate.** • **Children will encounter a breadth of scientific encounters that will take them beyond their lived experience.** • **Children will learn substantive concepts across the school to prepare them for future learning.** • **Children will be able to know more, remember more and so be able to explain more.**