



Shining Light On A World Of Possibilities

Science

What is the intent?

Our science curriculum aims to prepare children for the wider world. We strive to ensure that the lessons we deliver achieve the three aims of the science National Curriculum so that pupils understand the science and have the skills to engage with the knowledge and recognise where it fits in the wider world. We believe in the curious child and encourage our children to ponder, ask questions and find out answers to big questions for themselves, reflecting on that which they have discovered. The knowledge they acquire is deepened through the use of essential scientific enquiry skills. We believe that through working scientifically our children will have a greater depth of understanding of the knowledge and will be the scientifically literate adults of the future.

It is our aim that children will:

- 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
- be equipped with the scientific skills required to understand the uses and implications of science, today and for the future.
- experience **first- hand opportunities** such as visits to science fairs, places of scientific interest, science departments within the Trust and visitors

Implementation

Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group. The key knowledge identified by each year group is informed by the national curriculum and builds towards identified phase 'end points' in accordance with NC expectations. Key skills are also mapped for each year group and are progressive throughout the school. These too ensure systematic progression to identified skills end points which are in accordance with the Working Scientifically skills expectations of the national curriculum.



Science Learning Pathway



Key stage 2

In KS2 children will develop a deeper understanding of a range of scientific concepts. This will take place through exploring, testing and developing ideas as well as analysing relationships, observing changes and noticing patterns. Children will be encouraged to select appropriate ways to answer questions and will carry out fair tests, drawing conclusions from their findings.

Year 3

Year 4

Year 5

Year 6

Autumn

How has electricity impacted our lives?

Electricity and Light
Forces and Magnets

How did the Roman invasion change life in Britain?

Sound

Why do people invade and settle?

Properties and Change of Materials

Why must we remember?

Animals including humans

Inspirational Scientists

Nikola Tesla

Alexander Graham Bell

Ahmed Zewail

Leonardo Da Vinci

Spring

How did people start to settle?

Animals including humans

How is the natural world unpredictable?

Rocks and States of Matter

Why do we need to know our place in space?

Earth and Space

Forces

Why is power important?

Electricity and Light

Inspirational Scientist

Elsie Widdowson

Mary Anning

Isaac Newton

James Clerk Maxwell

Summer

How did the Nile help Egyptians survive and thrive?

Plants

How do animals survive?

Animals including Humans

Living things and their habitats

Why is it important to look after our world?

Animals including Humans

Living things and their habitats

Why do we need to adapt and change?

Evolution and inheritance

Living things and their habitats

Inspirational Scientist

Joseph Dalton Hooker

Carl Linnaeus

Charles Elton

Charles Darwin

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The impact of excellent teaching will mean as a scientist leaving St Andrew's, every child will:

- Have a sense of awe, wonder and curiosity in the science in the world around them and have the skills to investigate, experiment and discover for themselves
- Be confident to ask their own questions and use their scientific skills to try to discover the answers
- Understand, and be inspired by the fact, that science is ever-changing and science changes our lives
- Have experienced a wide range of inspiring engagement and enrichment activities including educational visits and expert visitors
- Have a firm grounding in the disciplines of biology, chemistry and physics and a secure bank of knowledge and scientific skills which they can build on in the next stage of their science education.