

Science

'The important thing is to never stop questioning' Albert Einstein

Intent *How does it link to our curriculum vision? What is the scope of learning? What do we intend children to learn?*

Science teaching at North Clifton Primary School aims to develop a sense of excitement and curiosity about natural phenomena and an understanding of how the scientific community contributes to our past, present and future. We want pupils to develop a complex knowledge of Biology, Chemistry and Physics, but also adopt a broad range of skills in working scientifically and beyond. It is our intention that through studying science, pupils become more expert as they progress through the curriculum, accumulating, connecting and making sense of the rich substantive and disciplinary knowledge. We have adopted the Kapow scheme of work which encourages:

- A strong focus on developing knowledge alongside scientific skills across Biology, Chemistry and Physics
- Curiosity and excitement about familiar and unknown observations
- Challenging misconceptions and demystifying truths
- Continuous progression by building on practical and investigative skills across all units
- Critical thinking, with the ability to ask perceptive questions and explain and analyse evidence
- Development of scientific literacy using wide-ranging, specialist vocabulary

Implementation *How is the teaching of Science organised?*

The National Curriculum for Science is taught to KS1 and KS2 and the focus of 'Understanding the World' at Foundation level to the EYFS.

We provide a broad and balanced Science curriculum that is progressive throughout the whole school, which enables children to build up their knowledge from Foundation to Year 6.

We also develop the pupils scientific knowledge and skills through additional enrichment activities, making use of our extensive school grounds, such as gardening, growing our own produce, making bird feeders or creating bug hotels.

Subject specific vocabulary is taught at the start of lessons and rehearsed throughout, building children's abilities to communicate their ideas and findings effectively.

The progression of knowledge and skills is carefully mapped out to ensure full curriculum coverage of the National Curriculum Science curriculum in our mixed age classes: In **EYFS**, a two-year planning cycle is implemented; **Key Stage 1**, a two-year planning cycle is implemented and in **Key Stage 2** separate lessons take place for Y3/4 and Y5/6 on a two-year planning cycle. Where appropriate, some units are taught in discreet year group sessions (e.g. Evolution and Inheritance to Y6).

In order to meet the aims of the National Curriculum for Science and in response to the Ofsted Research review into Science, we teach:

Scientific knowledge and understanding of:

- Biology- living organisms and vital processes
- Chemistry-matter and its properties
- Physics- how the world we live in 'works'

Working scientifically- the processes and methods of science to answer questions about the world around us;

Science in action- uses and implications of science in the past, present and for the future

Recall, Retrieve and Assessment

Lesson planning includes regular opportunities and a range of strategies to recall and retrieve information from the children's working and long-term memories.

Pupils are regularly given the opportunity for Self or Peer Assessment, which will then be used to inform planning, preparation, differentiation and address misconceptions within that lesson, or for future lessons.

Summative assessments take place at the end of units of work and are used to inform future teaching and learning.

Impact *How do we know how well the children are doing?*

As a result of high-quality science provision, our children make good progress from their starting points. Pupils demonstrate a natural curiosity about the world they live in. They enjoy and are enthusiastic about Science. Our children acquire both the appropriate age-related knowledge linked to the Science curriculum, as well as a wider set of skills linked to enquiry and investigation. Through our Science curriculum, the children will develop a rich scientific vocabulary enabling them to talk about their learning with confidence, as well as higher aspirations for their further studies and for life in the future, including STEM careers. Children know more, remember more and can do more as a result of a balanced Science curriculum.