



SCIENCE POLICY

Reviewed: Summer 2021

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DEFINITIONS

The following terms shall have the following meanings for the purposes of this document:

the School	means Clifton All Saints Academy
SEND	means Special Educational Needs and Disabilities
KPIs	means Key Performance Indicators

CURRICULUM INTENT

The School aims to provide a high quality Science curriculum that evokes curiosity and nurtures enquiring minds. Teaching the specific disciplines of biology, chemistry and physics, alongside the key skills of working scientifically, children will become creative thinkers, questioning the ways in which Science influences everyday life. The School will provide children with opportunities to understand how Science can be used to explain what is occurring, predict how things will behave, and analyse causes.

“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* 2014

AIMS

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.

CURRICULUM IMPLEMENTATION

The teaching and implementation of the Science Curriculum at the School is based on the National Curriculum and is taught as an independent subject. Planning for Science is based on the National Curriculum 2014, with the working scientifically skills following a progressive approach. The teachers plan lessons using a progression of skills document and the Hamilton Trust Science scheme to support

their teaching and planning. The Hamilton Trust scheme of work, guides the teachers in delivering a progressive curriculum that builds up key knowledge and skills as they move through the primary curriculum.

Children are encouraged to be curious and challenge ideas. All children are enabled to succeed and make progress, including those children with SEND. They are supported and the curriculum differentiated to support this approach. Links are often made with other areas of the curriculum such as History, Geography and Maths.

Whole school Science days or weeks are planned into the year to enhance the children's learning, through collaboration and enquiry in mixed aged groups. Higher achieving pupils are given the opportunity to extend and develop their skills and knowledge through additional sessions.

Early Years Foundation Stage

Pupils will be guided to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment.

They will have the opportunity to learn to:

- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Key Stage 1

The principal focus of Science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- Ask simple questions and recognise that they can be answered in different ways.
- Observe closely, using simple equipment
- Perform simple tests
- Identify and classify
- Use their observations and ideas to suggest answers to questions.
- Gather and record data to help in answering questions.

Lower Key Stage 2

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- Asking relevant questions and using different types of scientific enquiries to answer them.
- Setting up simple practical enquiries, comparative and fair tests
- Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
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- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.

- Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
- Identifying differences, similarities or changes related to simple scientific ideas and processes.
- Using straightforward scientific evidence to answer questions or to support their findings.

Upper Key Stage 2

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Using test results to make predictions to set up further comparative and fair tests.
- Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.
- Identifying scientific evidence that has been used to support or refute ideas or arguments.

CURRICULUM IMPACT

Children at the School are enthusiastic about Science and enjoy finding out how things work, why things happen and how Science has shaped the world in which we live. Through Science they build on their skills and knowledge about the world around them. Most children achieve age-related expectations. Science activities are used to provide exhibitions in school for children to demonstrate their skills and knowledge to their peers and other classes. They use the skills and knowledge gained in their Science lessons to support their learning in other areas of the curriculum.

ASSESSMENT

Ongoing assessments take place throughout the year. Teachers use this information to inform future lessons; ensuring children are supported and challenged appropriately. Attainment and progress towards the KPIs is recorded using Balance software. Teachers update this each term. This data is analysed to inform and address any trends or gaps in attainment. Attainment and attitude to learning in Science is reported to Parents annually in school reports.

The curriculum overview can be found [here](#).