

Policy & Procedure

Newcroft
Primary Academy



Science Policy 2016-2019

This policy is reviewed every three years and was agreed by the Governing Body of Newcroft Primary Academy in Autumn 2016 **and will be reviewed again in Autumn 2019**

Signed: _____ Chair of Teaching and Learning Date:

Non-Statutory Policy

Newcroft Primary Academy

Science Policy

Aims and Vision



Our aims in teaching science are that all children will:

- Develop knowledge and understanding of important scientific ideas, processes and skills and an appreciation of how these contribute to aspects of everyday life.
- Learn about ways of thinking and of finding out about and communicating ideas;
- Explore values and attitudes through science;
- Develop curiosity and enjoyment of the world around them.

These aims are expanded under the key areas listed below.

Content

Knowledge and Understanding

Children will be taught to:

- Relate their scientific studies to applications and effects within the real world
- Be curious about things they observe, and experience and explore the world about them with all their senses;
- Use this experience to develop their understanding of key scientific ideas and make links between different phenomena and experiences;
- Think about models to represent things they cannot directly experience;
- Make sense of phenomena, seeking explanations and thinking critically about claims and ideas.
- Develop a knowledge and appreciation of the contribution made by famous scientists to our understanding of the world

Processes and Skills

Children will be taught to:

- Acquire and refine the practical skills needed to investigate questions safely;
- Develop skills of predicting, asking questions, making inferences, concluding and evaluating based on evidence and understanding and use these skills in investigative work;
- Practise mathematical skills e.g. *counting, ordering numbers, measuring to an appropriate number of decimal places, drawing and interpreting graphs and bar charts* in real contexts to improve their ability to make accurate and appropriate measurements
- Learn why numerical and mathematical skills are useful and helpful to understanding.
- Use a range of simple scientific measuring instruments such as thermometers and forcemeters

Language and Communication

Children will be taught to:

- Develop a general sense of enquiry which encourages them to question and make suggestions
- Think creatively about science and enjoy trying to make sense of phenomena;
- Develop language skills through talking about their work and presenting their own ideas using sustained and systematic writing of different kinds;
- Use scientific and mathematical language, including technical vocabulary and conventions, and draw diagrams and charts to communicate scientific ideas;
- Extract information from sources such as reference books, the internet and CD-ROMs.

Values and Attitudes

Children will be taught to:

- Work with others, listening to their ideas and treating these with respect;
- Consider evidence and evaluate ideas which may or may not fit evidence;
- Develop a respect for the environment and living things;
- Find science enjoyable.

Strategies

Planning for Continuity and Progression

Long term planning reflects the needs of all children in relation to the National Curriculum. The long term plans shows how the teaching units are distributed across the years of both key stages in a sequence that promotes continuity and progression.

Medium term plans are written using the National Curriculum attainment targets. They identify learning objectives and outcomes for each unit, with suggested activities to enable these to be achieved.

Short term planning is the responsibility of individual teachers, who build on the medium term plans by taking account of the needs of the children in their class and identifying the way in which ideas might be taught to meet these needs.

Experimental and Investigative Science is integrated into each unit. In each year there are opportunities in the scheme for children to carry out the process of investigating a scientific idea.

Assessment

Teachers will assess pupils' understanding of each topic as work is being taught. Informal assessment occurs throughout every lesson through discussion and evaluation of the children's work and understanding. This enables teachers to check that children have grasped the main teaching focus of each lesson.

The long, medium and short term plans provide a record of what is being taught in each year group. Formative assessment occurs through discussion in the context of practical tasks and individual discussion, where children evaluate their work and identify areas for future learning.

Pupils' progress is formally assessed in end of topic assessments.

Cross-Curricular Links

Cross-curricular links are made in specific subject areas:

- **English** – opportunities to write for varied purposes, with the characteristics of different kinds of writing. For example, chronological reports, recounts, and note taking. Pupils are encouraged to use the correct scientific vocabulary
- **Mathematics** – developing skills in data handling, measurements and mathematical relationships
- **Art** – understanding of materials and their properties
- **Geography** – exploring physical processes
- **History** – researching Scientists and their discoveries
- **IT** – data handling, recording and research
- **PSHE** – health and safety education

- **SMSC** – opportunities to discuss social and moral questions and awe and wonder regarding the natural world.

In the Academy's Funding Agreement:

- **the Academy Trust must ensure that the curriculum includes English, mathematics and science**
- **The Academy Trust must not allow any view or theory to be taught as evidence-based if it is contrary to established scientific or historical evidence and explanations**
- **The Academy Trust must provide for the teaching of evolution as a comprehensive, coherent and extensively evidenced theory**

The Role of the Head of School

In consultation with the Science subject leader, the Head of School:

- Determines the ways Science should support, enrich and extend the curriculum;
- Decides the provision and allocation of resources;
- Decides ways in which developments can be assessed, and records maintained;
- Ensures that Science is used in a way to achieve the aims and objectives of the school;
- Ensures that there is a science policy and subject leader.

The Role of the Science subject leader

The Science subject leader will:

- Ensure the development of a scheme of work for the Science curriculum.
- Promote the integration of Science within appropriate teaching and learning activities;
- Manage the provision and deployment of resources and give guidance on classroom organisation support;
- inspire colleagues to deliver high quality teaching and learning opportunities;
- lead INSET within the school, and investigate suitable courses elsewhere;
- Act as a contact point between the school and support agencies, including the LA;
- analyse data to identify strengths and weaknesses in outcomes; planning for improvement accordingly.
- write, monitor and evaluate an action plan for Science for the School Improvement Plan
- Lead the evaluation and review of the school's Science policy.
- Bid for & manage the budget for this curriculum area;
- Monitor & review the Science provision within the school

Monitoring and Evaluation

The teaching of Science will be monitored through the School Development Plan by the Science subject leader in the first instance and then by the Senior Leadership Team and the Head of School. Progress is analysed and areas for development prioritised. Governors are kept informed via a subject report as scheduled in the Monitoring and Evaluation programme. The Link Governor assigned to Science will be kept abreast of developments, progress and changes within the subject.

Health & Safety

Health and safety issues in Science include: the teaching of appropriate procedures when handling equipment, carrying out safe experiments and planning out of school visits. The children are taught to be aware of their own and others' safety. They are expected to display appropriate behaviour at all times. They are taught to respect the environment and how to keep safe within it.

Equality Statement

At Newcroft Primary Academy, we actively seek to encourage equity and equality through our teaching. As such, we seek to advance the equality of opportunity between people who share any of the following characteristic:

- gender;
- ethnicity;
- disability;
- religion or belief;
- sexual orientation;
- gender reassignment;
- pregnancy or maternity.

The use of stereotypes under any of the above headings will always be challenged.

Inclusion

Our school is an inclusive school. We aim to make all pupils feel included in all our activities. We make all our teaching fully inclusive. We recognise the entitlement of all pupils to a balanced, broadly-based curriculum. We have systems in place for early identification of barriers to their learning and participation so that they can engage in school activities with all other pupils. We acknowledge the need for high expectations and suitable targets for all children.