Ecton Brook Primary School

Science Policy

2025

Next review: July 2027

Policy for Science

Rationale

At Ecton Brook Primary School, we aim for the children to develop an enthusiasm for and enjoyment of Science. We strive to develop their knowledge and understanding of important scientific ideas, processes and skills and encourage them to relate these to everyday experiences. We teach children different ways of thinking, how to find out things and how to communicate their ideas effectively. We strive to make the children confident learners and to explore values and ideas through Science. This rationale is reflected in the Narrative of the NPAT Science Curriculum.

Aims

· to develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life
· to build on pupils' curiosity and sense of awe of the natural world
· to use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science
· to build a broad and comprehensive knowledge of the NPAT science curriculum and to introduce pupils to the language and vocabulary of science
· to develop pupils' practical skills and their ability to make accurate and appropriate measurements
· to develop pupils' use of information and communication technology (ICT) in their science studies.

Learning Outcomes

The following learning outcomes are derived from the aims above and will form the basis of our decisions when planning a scheme of work.

To develop a knowledge and understanding of science and its processes
· to develop a knowledge and appreciation of the contribution made by famous scientists to our knowledge of the world including scientists from different cultures
· to encourage pupils to relate their scientific studies to applications and effects within the real world
· to develop a knowledge of the science contained within the programmes of study of the NPAT curriculum.

To build on pupils' curiosity and sense of awe of the natural world
· to develop in pupils a general sense of enquiry which encourages them to question and make suggestions
· to encourage pupils to predict the likely outcome of their investigations and practical activities.

To use a planned range of investigations and practical activities to give pupils a greater understanding of scientific facts and concepts
· to provide pupils with a range of specific investigations and practical work which gives them a worth-while experience to develop their understanding of science
· to develop progressively pupils' ability to plan, carry out and evaluate simple scientific investigations and to appreciate the meaning of a "fair test".

To develop the ability to record results in an appropriate manner including the use of diagrams, graphs, tables and charts
· to use scientific and mathematical language - including technical vocabulary and conventions - and draw diagrams and charts to communicate scientific ideas
· to give pupils regular opportunities to use the scientific terms necessary to communicate ideas about science
· to develop pupils' skills and their ability to make accurate and appropriate measurements
· within practical activities, give pupils opportunities to use a range of simple scientific measuring instruments (such as thermometers and forcemeters) and develop their skills to read them.

· To give pupils the opportunities to use ICT to record their work and store results.

Principles for Teaching, Learning and Inclusion

Science will be taught through the knowledge-led NPAT curriculum and will be based around the principles of cognitive science. To assist in this, pupils will receive copies of knowledge organisers for each unit of study that they encounter: these will detail the core knowledge we expect all pupils to learn and – as a copies will also be sent home – will give pupils opportunities to thoroughly revise work from class which will then be regularly revisited in lessons.

Differentiation
The study of science will be planned to give all pupils a suitable range of activities at various levels of challenge appropriate to their age and abilities.

Equal Opportunities
Curriculum planning will ensure that all pupils have an equal opportunity to take part in the full scheme of work and its associated practical activities regardless of gender, cultural background or any additional learning or physical need.
Gender stereotypes are challenged when they arise and the context in which science is taught is monitored to ensure the interests of boys and girls are maintained.
Contexts used in teaching will also be sensitive to different ethnic and religious backgrounds and both gender and cultural differences will be reflected positively in the teaching materials used.

Special Education Needs
For pupils with SEN, the task will be adjusted or pupils may be given extra support. The grouping of pupils for practical activities will take account of their strengths and weaknesses and ensure that all take an active part in the task and gain in confidence. Where appropriate, Teaching Assistants will be used to support individual needs.

Breadth and balance.
Pupils will be involved in a variety of structured activities which will include:
· activities to develop good observational skills
· practical activities using measuring instruments which develop pupils' ability to read scales accurately
· structured activities to develop understanding of a scientific concept
· open ended investigations
Wherever possible, science will be related to the real world using everyday examples.

Continuity and Progression
By careful planning, pupils' scientific skills and knowledge gained at Key stage 1 will be consolidated and developed throughout Key Stage 2. Pupils in Key Stage 1 will be introduced to science through focused observations and explorations of the world around them. These will be further developed through supportive investigations into more independent work at Key Stage 2. The knowledge and content prescribed by the NPAT curriculum will be introduced throughout both key stages in a progressive and coherent way and will be strengthened by establishing and promoting cohesive curricular links both within and between years of study and across subject areas.

Assessment, recording and reporting Assessment of learning
Assessment opportunities will be identified within units of work and, through cognitive science-based programmes, a formal written piece of work at the end of each unit will assess understanding of the knowledge covered. At both KS1 and KS2, pupil progress will be recorded appropriately and some examples of work held in a portfolio by the science subject leader.

Subject Leadership

Planning and developing the subject
The subject leader will provide professional leadership and management for science and will ensure that it is managed and organised so it meets the aims and objectives of the school.
When appropriate, staff meetings will be held to review the needs of science. Development of staff and training needs will be discussed and the subject lead will arrange and/or deliver appropriate CPD training as required.

Resources
The subject leader will manage the resources for science and will maintain the stock to meet the needs of the curriculum. In order to encourage an investigative approach, the school has a store of equipment to allow simple investigations, observations and measurements to be carried out in small groups. The science subject leader will ensure that this level of resourcing is maintained.

Monitoring and Evaluation
The effectiveness of the science curriculum will be evaluated by trawls of pupil books, lesson observations and learning walks and also in discussions with the Head Teacher, Senior Leadership Team, Team Leaders and the Science Subject Leader. Surveys involving both pupil and staff voice will help to inform effectiveness of curriculum delivery. Priorities for in-service training will be established.

This evaluation will form the basis of the action plan which will then inform the School Improvement Plan.

Contributions to Spiritual, Moral, Social and Cultural development

Pupils learn about themselves and the variation amongst individuals. They learn about health and hygiene and begin to learn about life cycles.

Science provides opportunities to develop informed attitudes to many topical issues. By doing so, children can begin to develop mature, responsible opinions and values. In science, opportunities should be taken to discuss aspects of environmental awareness with the aim of developing responsible attitudes to waste disposal, resource depletion, wildlife conservation etc. Pupils also have the opportunity to investigate living things and a respect for all organisms should be taught.

Review date: July 2027