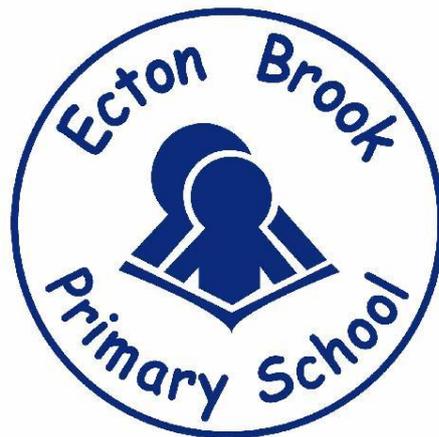


# **Ecton Brook Primary School**

## **Science Policy**

**2017**



# 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 their 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, to explore values and ideas through Science

## 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 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 National 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 pupil's 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

## Differentiation

The study of science will be planned to give pupils a suitable range of differentiated activities appropriate to their age and abilities. Tasks will be set which challenge all pupils, including the more able and Gifted and Talented pupils. APP grids and progressive success criteria for science will be used as a framework for planning differentiated activities within each unit of work.

## 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 work will be taught alongside other subjects in a cross-curricular structure and 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 in the National Curriculum will be introduced throughout both key stages in a progressive and coherent way.

## Assessment, recording and reporting Assessment of learning

Assessment opportunities will be identified within schemes of work. At both KS1 and KS2, Assessments will be recorded appropriately and some examples of work held in a portfolio by the science subject leader. The assessment of AT1 scientific investigation will rely on a mixture of evidence from pupils everyday practical work throughout the Key Stage and other more independent investigations carried out by the pupils.

## Assessment for learning

We aim to ensure that pupils understand what is required of them and what they need to do to improve. WALTs (We Are Learning To) are shared at the beginning of the lesson and reviewed at appropriate intervals. Clear guidelines are given on what is expected for each piece of work. Work is marked to the WALT and in such a way that pupils are informed of what they need to do to improve.

# 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.

## 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 in discussions with the Head Teacher, Senior Leadership Team, Team Leaders and the Science Subject Leader. 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.

**Reviewed: February 2017**

**To be reviewed: February 2020**