



**Mission statement: Valuing Potential; Creating Opportunities**  
**SCIENCE POLICY**

This policy to be read in conjunction with Assessment and Marking Policies, Equal Opportunities Policy, Health & Safety Policy, Literacy and maths Policies, Teaching and Learning Policy, Racial Equality Policy, SEND and Inclusion Policy

REVIEWED BY	DATE OF POLICY	DATE OF REVIEW
Subject Leader	April 2018	April 2020
SLT		TEACHING & LEARNING COMMITTEE

**VISION**

Hartsbourne Primary School is an inclusive learning community where we are:

Building a strong school **community**; inspiring pupils to gain the **confidence**, resilience and independence to become **life-long learners**, making the best **progress** possible and creating happy memories.

**RATIONALE**

***The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them.*** -William Lawrence Bragg

Science is a systematic investigation of the physical, chemical and biological aspects of the world which relies on first-hand experiences and on other sources of information. The scientific process and pupils' problem-solving activities will be used to deepen their understanding of the concepts involved.

Through science, pupils at Hartsbourne Primary School will continue to deepen their respect, care and appreciation for the natural world and all its phenomena.

**AIMS AND OBJECTIVES**

**We will aim to:**

- Develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life.
- Build on pupils' curiosity and sense of awe of the natural world.
- Use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science.
- Introduce pupils to the (age appropriate) language and vocabulary of science and be able to spell technical words correctly.
- Develop pupils' basic practical skills and their ability to make accurate and appropriate measurements.
- Develop use and understanding of computing and maths in their science studies.
- Extend the learning environment via our environmental areas and the locality.
- Develop a knowledge and appreciation of the contribution made by famous scientists (men and women) to our knowledge of the world including from different cultures.
- Encourage pupils to relate their scientific studies to applications and effects within the real world.
- Progressively develop pupils' ability to plan, carry out and evaluate simple scientific investigations and to appreciate the meaning of a 'fair test'.



- Give opportunities to record results in an appropriate manner including the use of photographs, print-outs, diagrams, graphs, tables, charts and written work.

**To achieve our aims and objectives, we will:**

- Provide a safe, stimulating environment to promote effective learning.
- Ensure continuity and progression through the subject.
- Give all pupils opportunities to apply investigative skills.
- Provide appropriate resources for children to be taught effectively.
- Relate lessons to the 'real world' and use everyday examples as appropriate.

**TEACHING AND LEARNING (See Appendix 1)**

The main aspects of science to be studied will be determined by the National Curriculum 2014 and the programme of studies from Herts for Learning Ltd. The national curriculum for science aims to ensure that all pupils develop scientific knowledge (procedural understanding) and conceptual understanding through the specific disciplines of biology, chemistry and physics.

**Procedural Understanding**

Scientific skills and concepts are combined to form an overall learning strategy. Children learn to carry out investigations in order to find answers to questions and 'problems' set in the context of everyday life and the link with our knowledge of science.

**Conceptual Understanding**

Scientific knowledge is developed through a series of ideas and concepts (eg animals and humans, everyday materials, seasonal changes).

**Differentiation and Additional Educational Needs**

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.

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. Pupils will be involved in a variety of structured activities and in more open-ended investigative work, including:

- 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.

**Continuity and Progression**

Foundation Stage pupils investigate science as part of Understanding of the World. Children are encouraged to investigate through practical experience; teachers guide the children and plan opportunities that allow the children to experience and learn whilst experimenting for themselves.

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.

**Cross-curricular skills and links**



Science pervades every aspect of our lives and we will relate it to other areas of the curriculum, when appropriate to do so, we will not only emphasise the positive effects of science on the world but also include the barriers and problems, which some human activities can produce.

## **EQUAL OPPORTUNITIES**

All staff at Hartsbourne Primary School are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress.

Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably challenging activities. Gender and cultural differences will be reflected positively in the teaching materials used.

All children have equal access to the Science Curriculum, its teaching and learning, throughout any one year. This is being monitored by analyzing pupil performance throughout the school to ensure that there is no disparity between groups.

## **ASSESSMENT FOR LEARNING AND RECORD KEEPING**

Teachers will assess whether children are working at/above or below the expected level for their age based on their understanding and application of the content of the National Curriculum 2014. Progress and attainment is reported to parents through parents' evenings and end of year reports.

### **Marking and Feedback (see our Marking Policy)**

Much of the work done in science lessons is of a practical or oral nature and, as such, recording will take many varied forms thus making marking different. It is, however, important that written work is marked regularly and clearly, as an aid to progression and to celebrate achievement. When appropriate, pupils may be asked to self-assess or peer assess their own or other's work. In-depth (next steps) marking in a child's book will be relevant to the learning objective and help children to better focus on future targets.

## **HEALTH AND SAFETY**

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers and Teaching Assistants will check equipment regularly and report any damage, taking defective equipment out of action. A simple risk assessment will be carried out for all practical activities any perceived hazards will be reported to the Head who will determine the appropriateness of said activity.

## **MONITORING**

Monitoring of science will be undertaken by the Subject Leader. The Head, SLT and Governors will also monitor, as with other subjects and in accordance with the School Improvement Plan. Monitoring can take the form of lesson observations, learning walks, sampling and moderation of work, data analysis and reviewing teachers' planning.



## APPENDIX 1

### TOPIC PLANNING

<b>YEAR 1</b>	Plants Animals including Humans Everyday Materials Seasonal Changes	Wild and garden plants. Common animals, body parts and diets Objects and materials Weather and seasons
<b>YEAR 2</b>	Living things and their habitats Plants Animals including humans Uses of everyday materials	Living, dead, never alive and habitats Seeds and bulbs Growth, survival and health Materials for different uses
<b>YEAR 3</b>	Plants Animals including humans Rocks Light Forces and magnets	Parts of plants and their growth Food, diet, skeletons and muscles Rock types, fossils and soil Shadows and reflections Movement and magnets
<b>YEAR 4</b>	Living things and their habitats Animals including humans States of matter Sound Electricity	Classification and human effects on environment Digestion, teeth and food chains Solids, liquids, gases Vibration and features Circuits and components
<b>YEAR 5</b>	Living things and their habitats Animals including humans Properties and changes of materials Earth and space Forces	Life cycles and reproduction of plants and animals Growth, development and puberty Dissolving, reactions and separation Solar system and movement Gravity, friction and machines
<b>YEAR 6</b>	Living things and their habitats Animals including humans Evolution and inheritance Light Electricity	Classification: plants, animals and microbes Circulation and health Evolution, adaption and inheritance How light travels Changing circuits and symbols