



C of E Primary School

### **Science Policy** **February 2011**

Science stimulates and excites children's curiosity about phenomena and events in the world around them. It also satisfies this curiosity with knowledge. Through play and observation children are learning scientific concepts from a very early age and because of its practical nature science can engage learners at many levels. Children learn to question and discuss science-based issues that may affect their own lives and the direction of society and the future world.

#### **Aims**

In our approach to Science we aim to:

1. Give every opportunity to relate Science to everyday life and to consider the sensitivity needed when working with living things and the environment.
2. Encourage every child to investigate, question and discuss in order to acquire scientific knowledge, understanding and skills.
3. Encourage children to hypothesise and to find ways of testing their ideas to provide evidence to support their ideas.
4. Teach scientific vocabulary and to use a variety of ways to present the results of their investigations.
5. Promote key skills by offering a range of contexts for the development of:
  - Literacy – communicating facts, ideas and opinions
  - Mathematics – application of number through collecting, considering and analysing data.
  - IT – through using a wide range of ICT
6. Provide opportunities to learn about aspects of personal, social and health education (PHSE) and citizenship.
7. Ensure children recognise hazards and risks when working with living things and materials and agree safety rules.
8. Provide opportunities that engage the children in relevant, interactive first hand experiences.
9. Encourage children to work co-operatively and collaboratively, developing children's confidence communicating ideas.

## **Objectives**

We will fulfil these aims by:

1. Using the rich and stimulating environments that surround our schools to enable us to provide opportunities for learning about life processes and living things, through observation, questioning and wonder.
2. Providing a wide range of interactive, practical activities for individual and group work that encourage the children to explore and find out and develop their understanding of key scientific ideas and make links between different experiences.
3. Developing the children's investigative skills and understanding of Science through the use of questioning and giving them opportunity to express their findings and ideas to their peers and a wider audience.
4. Planning opportunities to develop skills predicting, asking questions, making inferences, drawing conclusions and making evaluations based on evidence and understanding.
5. Teaching scientific and mathematical language, including technical vocabulary and conventions, and drawing diagrams and charts to communicate scientific ideas.
6. Planning opportunities to extract information from sources such as reference books, ICT or CD-ROMs as well as through science visits and visitors to school.
7. Working collaboratively in pairs or groups, listening to and sharing ideas and treating these with respect.

## **Statutory Requirements**

### **Early Years Foundation Stage**

Children entering school will be expected by the end of their first year, to have made good progress towards (and where appropriate beyond) the early learning goals as outlined in the Early Years Foundation Stage Guidelines. Opportunities for developing scientific knowledge and skills will be given as set out under the area of learning called Knowledge and Understanding of the World. This area of the Foundation Stage prepares children for scientific learning in Key Stage 1 and is consistent with the National Curriculum.

### **National Curriculum**

At Key Stage 1 and 2 the programmes of study set out what the children should be taught and the corresponding attainment targets set out the expected standards for knowledge, skills and understanding that children are expected to have reached by the end of each key stage.

The knowledge, skills and understanding in each programme of study identify the four areas of science that children study.

- Sc 1 - Scientific enquiry
- Sc2 – Life processes and living things
- Sc3 – Materials and their properties
- Sc4 - Physical processes

Teaching should ensure that the programme of study for Scientific Enquiry (SC1) is taught through context taken from the other three programmes of study. Science is also supported through the use of ICT.

## **Organisation**

The Science scheme of work is developed through half termly learning themes at Key Stages 1 and 2 to ensure that the programmes of study are fully implemented into the curriculum and opportunity is given to reach the attainment targets.

Science is taught by year group in Key Stages 1 and 2.

## **Teaching and Learning Strategies**

As in other areas of the curriculum, Science is taught in accordance with our Teaching and Learning Policy. Each child is taught at his or her own level through a planned progression of learning activities to enable them to achieve their full potential.

Differentiation is met through task or outcome to ensure all children have access to the science curriculum.

## **Assessment**

At the Foundation Stage, assessment is through observation and is mainly formative. The Foundation Stage Guidelines offer examples of what children do to help identify when knowledge, skills, understanding and attitudes have been achieved by individuals or groups of children to inform planning for the next stage in the children's learning. Children's progress in Science will be reported to parents in the end of year school report under the heading of Knowledge and Understanding of the World.

The scheme of work for children in Years 1, 2 and 3 identifies opportunities for the assessment of their scientific knowledge, skills and understanding by following through investigations linked to each unit of work. Work is moderated by all staff during the year and levels agreed and standardised. Individual pupil progress is tracked using the school data tracking system. This highlights children who are on track, as well as those children exceeding or not meeting their predicted targets.

Teachers help children to develop skills and confidence in looking at their work and discussing it with others in order that they can identify success, strength and weaknesses and plan next steps in their learning.

Observations during practical work and discussions help us to make informed judgements about children's understanding in science.

In line with the National Curriculum, assessment at the end of Key Stage 1 is based on teacher's assessments of the children's progress in the four areas of study. SATs are completed at the end of KS2 in a sample of schools at this time. The results are recorded by County and are reported to parents during the Summer Term.

RAISEonline is used to monitor trends and make comparisons.

## **Equal Opportunities**

All children are valued for themselves and taught as equals regardless of race, gender, ability or disability. Through planning the science curriculum with differentiated tasks, either by task or outcome, all children have access to the curriculum including children with Special Educational Needs. (See also Inclusion Policy)

### **Health and Safety**

Health and safety is an integral part of teaching. As teachers and citizens in a dangerous world, we have a responsibility to encourage children to approach hazards in a safe way. There are few risks associated with Primary Science but children should be taught the importance of safety and the correct way of handling tools, materials and equipment. Existing advice about health and safety is stored in the Health and Safety file.

Children are not allowed to visit the pond area unless they are supervised by an adult.

### **Resources**

Science resources are easily accessible to all staff. The majority of equipment is stored centrally in topic or resource boxes.

Microscopes are kept in the classrooms.

Children have access to a range of science books in the library.

The outdoor school environment is used continually throughout the year by all year groups.

### **Monitoring and Evaluation**

Governors will work alongside the co-ordinator to ensure the policy is being followed to successfully deliver the planned outcomes.