Policy for Science

"We seek to develop he whole child within a Christian Ethos preparing them for a happy, healthy and fulfilled life ahead."

Reviewed: November 2014
Date for Next Review: November 2017

1. Introduction

- Science is one of the three core subjects in the National Curriculum (2014).
- This policy outlines the purpose, nature and management of the Science taught in our school.
- The school policy for Science reflects the consensus of opinion of all the staff. It has been drawn up as a result of staff discussion and has the full agreement of the Governing body.
- The implementation of this policy is the responsibility of the Head teacher and all the teaching staff.
- The Science Policy should be read in conjunction with the Equal opportunities policy, marking policy, assessment policy and teaching and learning policy.

2. National Curriculum (2014) Aims

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics

- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them

- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

3. The Importance of Science

We believe that Science stimulates and excites pupils' curiosity about phenomena and events in the world around them. It also satisfies the curiosity with knowledge. Because Science links direct practical experience with ideas, it can engage learners at many levels. Scientific method is about developing and evaluating explanations through experimental evidence and modeling. This is a spur to critical and creative thought.

Through Science pupils understand how major scientific ideas contribute to technological change- impacting on industry, business and medicine and improving quality of life.

Pupils recognize the cultural significance of Science and trace its worldwide development. They learn to question and discuss Science-based issues that may affect their own lives, the direction of society and the future of the world.

Throughout the school children will be developing the scientific skills of observing, predicting, hypothesising, recording and drawing conclusions. This will lead to children learning to work as scientists, planning and undertaking scientific investigations.

4. Entitlement

Early Years Foundation Stage, address science in the 'Knowledge and Understanding of the World', the children will develop crucial knowledge, skills and understanding that help them to make sense of the world. This forms the foundation for later work in Science.

At KS1 pupils observe, explore and ask questions about living things, materials and physical processes. They begin to work together to collect evidence to help them answer questions and to link this to simple scientific ideas. They use reference materials to find out more about scientific ideas. They share their ideas and communicate them using scientific language, drawings, charts and tables.

At KS2 pupils learn about a wider range of living things, materials and physical processes and phenomena. They begin to make links between ideas and explain things using simple models and theories. They apply their knowledge and understanding of scientific ideas to familiar phenomena, everyday things and their personal health. They begin to think about the positive and negative effects of scientific and technological developments on the environment and in other contexts. They carry out more systematic investigations, working on their own and with others. They use a range of reference sources in their work. They talk about their work and its significance, and communicate ideas using a wide range of scientific language, conventional diagrams, charts and graphs.

5. Teaching and Learning – Policy into Practice

- 'Working scientifically' in the National Curriculum specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand. These types of scientific enquiry should include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data.

- The national curriculum for science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively,

socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. They must be assisted in making their thinking clear, both to themselves and others, and teachers will that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

- The children will be taught that there are hazards in living things, materials and physical processes, and assess risks and take action to reduce risks to themselves and others. (Health and Safety)

- Whenever an investigation is taking place, children will be encouraged to develop the idea of Fair Testing.

- Science is taught as a separate subject, and may be covered in weekly lessons, or in topic blocks at the discretion of the teacher.

- The 2014 Curriculum is the basis for a two yearly rolling programme to cover the Science units. Where applicable, Science is also studied through cross-curricular topic work, English and Maths e.g. explanation and report writing in English, data handling in maths.

- Activities are planned in such a way as to encourage full and active participation by all children irrespective of ability and in accordance with our Equal Opportunities Policy.

- Health Education is integrated where appropriate.

- Specialized equipment is held in a central resource area. Everyday Science equipment is readily available and stored in each classroom and centrally.

6. Assessment

Assessments are made termly by teacher assessment, and are based on the evidence of more than one recorded activity, test, observations and product where appropriate.

Teachers will report assessments at the end of EYFS, Key Stage 1 and 2 as statutory and will make a written report on progress in Science to parents once per year.

7. Provision for children recognised as Gifted and Talented

Teaching and Learning for children with recognised Gifts and Talents is managed through extension within the class teaching and enrichment through the provision of additional learning opportunities of an appropriate level of challenge.

These may include:

- Accessing work using objectives from academic groups in advance of their age.

- Using established knowledge to develop their problem solving and knowledge application abilities
- Being challenged to complete specific tasks of a standard appropriate for their heightened level of ability.
- Taking part in enrichment activities outside the usual school timetable e.g. clubs and residentials.

8. Monitoring, Development and Review

School performance in Science can be monitored and reviewed by the following means:-

- monitoring of planning
- Classroom observation
- Scrutiny of children's work
- Work sampling and moderation
- Seeking the views and opinions of the teaching team
- Seeking the views and opinions of the children
- Seeking the views and opinions of the parent body
- Analysis of pupil attainment and achievement, both individually, as a cohort and as a class
- Governor visits

Opportunities for improvement in provision will be identified in the School Improvement and Development Plan.