St Michael's CE Aided Primary School

Science Policy

Rationale

Science is a body of knowledge built up through experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school provides opportunities for children to develop their knowledge and understanding of the world in which they live both through practical experience and from other sources of information.

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

Aims

- Prepare our children for life in an increasingly scientific and technological world.
- Foster concern about, and actively care for, our environment.
- Help develop and extend our children's scientific concept of their world.
- Develop our children's understanding of the international and collaborative nature of science.
- 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 scientific enquiries that help our children answer scientific questions about the world around them.
- Equip children with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Spoken language

- 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 should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Attitudes

- Encourage the development of positive attitudes to science.

- Build on our children's natural curiosity and help them to develop a scientific approach to problems.
- Encourage open-mindedness, self-assessment, perseverance and responsibility.
- Build our children's self-confidence to enable them to work independently.
- Develop our children's social skills to work collaboratively with others.
- Provide our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

- Give our children an understanding of scientific processes.
- Help our children to acquire practical scientific skills.
- Develop the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Develop the use of scientific language, recording and techniques.
- Develop the use of ICT in investigating and recording.
- Enable our children to become effective communicators of scientific ideas, facts and data.

Teaching and Learning

Science teaching in the school is about excellence and enjoyment. Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of National Curriculum Science and science in Reception. Each unit is developed and built on as the children progress through the school. We have adopted the Hamilton Trust Science units which are in line with the New Curriculum, and have adapted these to our circumstances, ensuring good coverage of each programme of study and progression within each. Scientific Knowledge, Conceptual understanding and Scientific Enquiry are incorporated within each unit of work. Children will develop their range of scientific vocabulary. Science will be taught to the whole class with opportunities to carry out investigative work in small groups.

Where appropriate, all teaching staff are encouraged to develop their knowledge and skills in the teaching of science and have the opportunity to do this though the school's links with local organisations e.g. Science Oxford and Brookes University.

Enrichment Activities

Wherever possible, the teaching and learning of science is enhanced by educational visits using the local area as a resource or visitors to the school. Science week helps to raise the profile of science in school and allows the children to experience a range of exciting

activities and mini projects. The school also currently runs a very popular science club as an extra-curricular activity.

Safety

It is important that children are taught the rule of safety in science from a young age so that it becomes integral to their experiments and investigations. Materials and equipment need to be treated with respect and care and we endeavour to make sure all children do this. When carrying out scientific activities, children should treat their classroom as though it is a fully equipped science laboratory. As a school we have adopted the ASE's safety guidance, Be Safe!

Equal Opportunities

Science is planned to meet the varied needs of all learners regardless of their gender, background, and culture, physical or cognitive development. Learning objectives are set to meet these needs in line with our Special Needs policy. Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias. We recognise that science may strongly engage our gifted and talented children, and we aim to challenge and extend them.

Use of ICT

We use ICT widely in science. Children are given the opportunity to practise science skills and enhance their presentation using carefully-chosen software, as well as the Internet. ICT equipment is used for enquiry work, including microscopes with digital cameras, video capture of images and activities, and data logging.

Links with other subjects

In our topic-based teaching approach, we use cross-curricular links to science wherever we can. Science relates especially well to curriculum subjects such as literacy, mathematics, ICT and design and technology.

Homework

We use homework to support school and class activities. This relates to the school's overall Homework policy.

Records and Assessment

- The school is using the Rising Stars (New Curriculum) and Statutory Assessment materials to track individual pupil progress in Science
- At the end of each topic area, class teachers will use these summative assessments to indicate whether a pupil is achieving 'Emerging', 'Expected', or 'Exceeding'

progress. These results are entered in the Oxfordshire Pupil Tracker/ Integris to monitor progress across year groups.

- Judgements about pupil performance are based on this assessment and can be supported by teachers' formative assessments where appropriate and a variety of AfL strategies where the Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve. Activities during, and at the end of, each topic record achievement and celebrate success.

- In addition, a portfolio of children's work is collected and moderated as a staff, which will model standards of work within each achievement band.

Monitoring of Science

- The monitoring of Science takes place as directed by the SDP

- Standards in Science across the school are monitored through lesson observation, work sampling and evaluation of planning

Monitoring and Review

This policy will be monitored and reviewed by the Governor's Curriculum Committee.

	Staff	Curriculum Committee	Governing Body
Policy Approved By	19.1.2015	22.01.2015	28.01.2015
Policy Reviewed By	08.01.2015		
Coordinator	Rachel Buchanan		