ST. NICHOLAS SCHOOL CHILD OKEFORD

A CHURCH OF ENGLAND VOLUNTARY AIDED PRIMARY SCHOOL

MISSION STATEMENT

'At St. Nicholas, we nurture everyone ***to be the best we can be***, in a caring and inclusive Christian environment.'

SCIENCE POLICY

POLICY SUMMARY

Teaching science allows children to experience and explore the world around them. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought and curiosity. Children learn to ask scientific questions and begin to appreciate the way in which science will affect the future on a personal, national, and global level.

DATE ADOPTED	REVISION NUMBER	LAST REVIEW	NEXT REVIEW
July 2014	2	June 2016	June 2018

1. **Aim**

Teaching science allows children to experience and explore the world around them. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought and curiosity. Children learn to ask scientific questions and begin to appreciate the way in which science will affect the future on a personal, national, and global level.

2. **Objectives**

The objectives of teaching science are to enable children to:

(i) ask and answer scientific questions;
(ii) plan and carry out scientific investigations, using equipment (including computers) correctly;
(iii) know and understand the life processes of living things;
(iv) know and understand the physical processes of materials, electricity, light, sound, and natural forces;
(v) know about the nature of the solar system, including the earth;
(vi) evaluate evidence, and present their conclusions clearly and accurately;
(vii) encourage and develop children's curiosity and fascination with the world; and
(viii) promote a positive attitude to the learning of science

3. **Teaching and learning style**

(1) We use a variety of teaching and learning styles in science lessons (see teaching and learning policy). Our principal aim is to develop children's knowledge, skills, and understanding. Sometimes we do this through whole-class teaching, while at other times we engage the children in an enquiry-based research activity. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They use ICT in science lessons because it enhances their learning. They take part in role-play and discussions, and they present reports to the rest of the class. They engage in a wide variety of problem-solving activities. Wherever possible, we involve the pupils in real scientific activities, for example, investigating a local environmental problem, or carrying out a practical experiment and analysing the results.

(2) We recognise that in all classes children have a wide range of scientific abilities, and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways:

(i) setting tasks which are open-ended and can have a variety of responses;
(ii) setting tasks of increasing difficulty (we do not expect all children to complete all tasks);
(iii) grouping children by ability in the room, and setting different tasks for each ability group;
(iv) providing resources of different complexity, matched to the ability of the child; and
(v) using classroom assistants to support the work of individual children or groups of children.

4. **Science curriculum planning**

The school incorporates science into the creative curriculum. Full Coverage of the New National curriculum topic areas, is provided within the Creative Curriculum topics. In addition there are regular opportunities built into it so that the children can develop their scientific enquiry and investigation skills.

(i) Our medium-term plans give details of each unit of work for each term. The science subject leader keeps and reviews these plans. In KS2 there are mixed age classes so there is a 2 year rolling programme.

(ii) In the short term plans the class teacher is responsible for writing the daily lesson plans for each lesson. These plans list the specific learning objectives and expected outcomes of each lesson. The class teacher keeps these individual plans, and he/ she and the science subject leader often discuss them on an informal basis.

(iii) We have planned the topics in science so that they build on prior learning. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit, and we also build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school.

5. **The Foundation Stage**

We teach science in reception classes as an integral part of the topic work covered during the year. As the Reception class is part of the Foundation Stage of the National Curriculum, we relate the scientific aspects of the children's work to the objectives set out in the Early Learning Goals (ELGs) which underpin the curriculum planning for children aged three to five. Science makes a significant contribution to developing a child's knowledge and understanding of the world, for example through investigating what floats and what sinks when placed in water.

6. **The contribution of science to teaching in other curriculum areas**

We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They use ICT in science lessons because it enhances their learning. They take part in role-play and discussions, and they present reports to the rest of the class. They engage in a wide variety of problem-solving activities. Wherever possible, we involve the pupils in real scientific activities, for example, investigating a local environmental problem, or carrying out a practical experiment and analysing the results.

7. **Science and inclusion**

(1) At our school we teach science to all children, whatever their ability and individual needs. Science forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our science teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details see individual whole-school policies: Special Educational Needs; Disability Non-Discrimination; Gifted and Talented; English as an Additional Language (EAL).

(2) When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs.

(3) Intervention through School Action and School Action Plus will lead to the creation of an Individual Education Plan (IEP) for children with special educational needs. The IEP may include, as appropriate, specific targets relating to science.

(4) We enable all pupils to have access to the full range of activities involved in learning science. Where children are to participate in activities outside the classroom (a trip to a science museum, for example) we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

8. **Assessment for learning**

(1) Teachers will assess children's work in science by making informal judgements during lessons. On completion of a piece of work, the teacher assesses it, and uses this assessment to plan for future learning. Written or verbal feedback is given to the child to help guide his/ her progress. Older children are encouraged to make judgements about how they can improve their own work.

(2) At the end of a unit of work he/ she makes a summary judgement about the work of each pupil in relation to the National Curriculum levels of attainment. The teacher records the attainment grades using School Pupil Tracker. We use these grades as the basis for assessing the progress of each child, and we pass this information on to the next teacher at the end of the year.

(3) Teachers make an assessment of the children's work in science at the end of Key Stage 1 and 2 and this is reported to parents at the academic year.

(4) The science subject leader keeps samples of children's work in a portfolio, and uses these to demonstrate the expected level of achievement in science for each age group in the school.

9. **Resources**

We have sufficient resources for all science teaching units in the school. We keep these in a central store, where there is a box of equipment for each unit of work. There is also a collection of science equipment which the children use to gather weather data. The library contains a good supply of science topic books and computer software to support children's individual research.

10. **Monitoring and review**

(1) It is the responsibility of the subject leader to monitor the standards of children's work and the quality of teaching in science. The subject leader is also responsible for supporting colleagues in their teaching, for being informed about current developments in the subject, and for providing a strategic lead and direction for science in the school. The subject leader gives the Headteacher an annual summary report in which he/ she evaluates strengths and weaknesses in science, and indicates areas for further improvement. The subject leader has specially-allocated time for fulfilling the vital task of reviewing samples of children's work, and visiting classes to observe science teaching.

(2) This policy will be reviewed at least every two years.