Believing and Achieving Together

Signed:
Date:
Review Date:

Science Policy

Introduction
This document is a statement of aims, principles and strategies for teaching science at Seaton Delaval First School. This policy is review annually.

Aims and objectives
Our aims in science are that children will:

- retain and develop their natural sense of curiosity about the world around them by asking and answering questions
- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop a set of attitudes which promote scientific ways of thinking, including objectivity, perseverance and the importance of teamwork
- become effective communicators of scientific ideas using scientific vocabulary, facts and data
- come to understand the idea of 'scientific method' involving observation, the making and the testing of hypotheses, the design of a fair and controlled experiment, the drawing of meaningful conclusions and the evaluation of evidence
- continue to build a body of scientific knowledge and understanding which will serve as a foundation for future enquiry
- develop understanding of the nature, processes and methods of science through different types of science enquires that help them to answer scientific questions about the world around them

- use a range of media including ICT to extract scientific information

- develop a respect for the environment and living things

- develop responsibility for their own health and safety and that of others when undertaking scientific activities

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

Equal opportunity
We are committed to providing a teaching environment conductive to learning. Each child is valued, respected and educationally challenged regardless of ability, race, gender, religion, social background, culture or disability.

PSHE and citizenship
Science contributes to the teaching of PHSE and citizenship. Through the teaching of science, children have the opportunity to discuss and learn about the importance of healthy eating, exercise and lifestyles. Children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. Children also learn about recycling materials, care for our environment and respect for other people. Through the teaching of science, children learn about the principles of energy efficiency, water conservation, waste reduction, litter control and the careful use of the environment.

ICT
ICT enhances the teaching of science in our school significantly. We use software to animate and model scientific concepts. This is helpful when we investigate processes which are impractical to do directly in the classroom. Children use ICT to collect data, produce tables, graphs and evaluate their work. Children use e-mail to communicate scientific findings and use the internet to pose and respond to questions. Children and staff also use the 'interactive whiteboard' to support and enhance the learning of scientific concepts.

Teaching science
Science is taught using the National Curriculum. Teachers plan and assess their work through their own topic/IPC (International Primary Curriculum). There are cross curricular links to other subjects such as maths, English and design and technology, where children can apply their scientific skills. Staff teach this subject through 'Clive Davis' which is available within the staff folder. We try and make science as practical, interesting and hands-on where ever possible. Differentiation reflects the ways in which children are enabled to learn the taught concepts and methods and in which 'rapid graspers' are challenged and learning deepened, for example, teachers

questioning. We plan science to suit the needs of the children. At Foundation Level, science is an integral part of topic work and is taught using 'Early Learning Goals'. Teaching and learning is reflected in our weekly, medium and long term planning. Approximately 1 ½ hours are taught in KS1 and 2 hours are taught in KS2. There are 5 topics to cover over the year. Teachers are to assess and determine which subject needs more depth in the last half term. In order to enhance learning forward the children will experience at least two science trips whilst at this school.

Mastery

The children are able to use the scientific vocabulary across the curriculum and retain vocabulary learned throughout the year making comparisons with other science topics studied that year or in previous years. They use skills and relational understanding to enable deep understanding, linking concepts and ability to new learning. They ask intriguing questions and can research the answers independently. Formative assessment strategies would distinguish those learners who had successfully mastered the new learning, and could clearly demonstrate. The teacher will provide opportunities to deepen and enrich their understanding recording evidence to reflect this.

Assessment and reporting

A system of pre-testing at the start of each topic takes place. Children are asked about their understanding and knowledge of the unit to be taught. This can be used as a level as to where the children are, before the topic is taught. Teaching and planning can be adapted wherever, with this in mind. Teachers and staff also assess the children using the 'Rising Stars' assessments for that Year adapting to suit the needs of that year. Teachers assess what level the children achieve at the end of each half-term and this is recorded. Outcomes are recorded and passed onto the next teacher and the science coordinator. At then end of the academic year, teachers draw upon their assessments and supplementary notes made from the children's work to produce part of an end of year report. This is passed onto parents/carers and the child's next teacher. Children are also given a 'teacher assessment level' based on all the work carried out that year.

Health and safety

When working with tools, equipment and materials in practical activities, children are taught about the hazards and risk control. Children are taught to recognise hazards and take steps to control the risks to themselves and others. Children are also asked to explain the steps they take to control hazards.

Resources

Resources are stored centrally in a cupboard on the main school corridor. Some resources directly linked to topic units are stored in teachers classrooms. The library also contains science and science related books.

Science catalogues and requisition sheets are available for teachers to order resources via the science coordinator and head teacher.

Coordinators role

The science coordinator at SDFS is responsible for:

- reviewing medium and long term planning
- maintaining, ordering and organising Science resources
- providing guidance and support for colleagues
- monitoring the quality of teaching and learning
- leading the development of whole school initiatives across the school