



Federation of Bedenham and Holbrook Primary Schools



Science Policy **May 2018**

Introduction

This document is a statement of the aims, principles and strategies for the teaching and learning of science at Bedenham and Holbrook Primary Schools. It should be read in conjunction with the learning and teaching policy, the marking policy, the equalities policy and the health and safety policy.

Aims

Our aims in teaching science are that all children will:

- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- Develop understanding of the nature, processes and methods in science through different types of science enquiries which help to encourage and develop curiosity
- Be well equipped with the scientific knowledge required to understand the uses and implications of science, now and in the future

Principles of Teaching and Learning of Science

Science is important because

- Children can develop the crucial knowledge, skills and understanding that help them to make sense of the world
- First hand experiences encourage exploration, observation, problem solving, critical thinking, prediction, decision making and discussion.

Science is a core subject at Bedenham and Holbrook Primary Schools. The fundamental skills, knowledge and concepts of the subject are set out in 'Science in the National Curriculum' where they are categorised into four areas:

- Working scientifically
- Biology
- Chemistry
- Physics

(See Appendix for full breakdown of the topics studied within the strands)

Strategies for the teaching of science

We use a variety of teaching and learning styles in science lessons. Our principal aim is to develop children's knowledge, curiosity, 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. The children often have the opportunity to work with their talk partners to develop understanding. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as graphs, pictures, and photographs. They use ICT in science lessons where it enhances their learning.

We aim for lessons to be fun, investigative, hands-on and engaging as well as challenging thinking so that what the children learn in science 'sticks'.

Children take part in 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, researching a local environmental problem or carrying out a practical experiment and analysing the results.

The emphasis in our teaching of science is on first hand experience and we encourage children increasingly to take control of their own learning. Children learn actively to:

- Operate as scientists
- Build necessary skills, knowledge and understanding to help them answer and ask questions
- Relate scientific development to the real world
- Develop information handling skills and confidently use a wide range of resources and materials
- To communicate their findings to others using a variety of methods.

Excellence in science is celebrated in display and by sharing work within the class and in celebration assemblies and STEM weeks.

Vulnerable pupils are considered when planning units and their needs will be catered for. This may include differentiated tasks, scaffolding to complete tasks or, when appropriate, they will receive support from the class teacher or teaching assistant.

Pupils who are particularly able in science, who work more quickly through the stages of the national curriculum, are given opportunities to extend their thinking through appropriate questions and more challenging contexts. These children will be identified in progress meetings.

Planning in science

We carry out our curriculum planning in science in three phases (long-term, medium-term and short-term).

The long-term plan maps the scientific topics using the **Key Ideas** document from Hampshire CC, studied in each term during the key stage. The science subject leader works this out in conjunction with teaching colleagues in each year group. Wherever possible, we link the scientific study with work in other subject areas.

Our medium-term plans, which we have based on the **Key Ideas** in science, give details of each unit of work for each term. The science subject leader keeps and reviews these plans.

The class teacher is responsible for writing the lesson plans for each lesson (short-term plans). These plans list the specific learning intentions of each lesson.

The role of the science leader

The role of the science leader is to lead, manage and co-ordinate science in the school as agreed. See appendix for job description of science leader. They are able to work across the Federation to model, support and lead in the teaching and delivery as well as the resourcing of science lessons.

Assessment in science

Feedback to pupils about their own progress in science is achieved through discussion during practical work and the effective marking of work as outlined in the marking policy.

Formative assessment is used to guide the progress of individual pupils in science. It involves identifying each child's progress against key ideas and scientific investigation skills, determining what each child has learned and therefore what should be the next stage in his/her learning. Formative assessment is mostly carried out informally by teachers in the course of their teaching. Children are also encouraged to use self and peer assessment.

Strategies for recording and reporting

Records of progress in science kept for each child using a **Key Ideas** assessment grid.

Reporting to parents is done on a termly basis through parent teacher consultations and annually in a written report. The half termly newsletters also report on the science covered last term and the science to be covered in the next term. At Holbrook this is reported via their school Blog.

Strategies for the Use of Resources

Central resources for science are the responsibility of the science leader who has a small budget available. Topic boxes are organised into units of work. There are also trays containing basic science equipment. See appendix for a list of resources.

Information technology is a major resource which is used in science for

- Enhancing experiences
- Recording work
- Research – using the internet and books

Health and safety issues in science include

- Relevant health and safety leaflets in the planning folders
- Use of materials, tools and techniques in accordance with health and safety requirements
- Appropriate storage of tools and materials
- Teaching pupils to recognise hazards in a range of products, activities and environments and take action to control the risk to themselves and others
- Risk Assessments are carried out when necessary; when the normal science lesson becomes more of a risk, such as heating and cooling and when science visitors are involved.

Appendices include

Science in the National Curriculum – areas of study

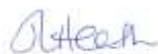
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Reviewed 30th April 2018

Chair of Governors:



Heads of School

