SIXPENNY HANDLEY FIRST SCHOOL

Science Policy

4th June 2018

Purpose of the Policy

The Science policy statement will outline the guiding principles by which Sixpenny Handley First School will implement the National Curriculum for Science and fulfil the requirements of Dorset Education Authority's guidelines for the teaching of Science. The policy also defines the teaching resources and methodology for achieving the above.

Our rationale for teaching science

Science is a body of knowledge concerning the world about us, built up through the experimental testing of ideas. It is also a methodology, a practical way of finding reliable answers to questions. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation as well as using and applying process skills.

The aims of the 2014 National Curriculum for science are to ensure all pupils:

- Develop **scientific knowledge and the conceptual understanding** through the specific disciplines of biology, chemistry and physics
- Develop understanding of the **nature, processes and methods of science** through practical activity
- Are equipped with the scientific knowledge required to understand its **uses and implications** today and for the future

Our aims in teaching science include the following.

- Preparing our children for life in an increasingly scientific and technological world.
- Fostering concern about, and active care for our environment.
- Helping our children acquire a growing understanding of scientific ideas.
- Helping develop and extend our children's scientific concept of their world.

Attitudes

- Encourage the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problem solving.
- Encourage open-mindedness, self-assessment, perseverance and responsibility.
- Building our children's self-confidence to enable them to work independently.
- Developing our children's social skills to work cooperatively with others.
- Providing 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

- Giving our children an understanding of scientific processes.
- Helping our children to acquire practical scientific skills.
- Developing the skills of investigation – including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating
- Developing the use of scientific language, recording and techniques.
- Developing the use of ICT in investigating and recording.

- Enabling our children to become effective communicators of scientific ideas, facts and data.

Our teaching aims

- Teaching science in ways that are imaginative, purposeful, well managed and enjoyable.
- Giving clear and accurate teacher explanations and offering skilful questioning.
- Making links between science and other subjects.

Our role is to teach scientific enquiry through the contexts of the three main content areas.

Life and living processes;
Materials and their properties;
Physical processes.

The breadth of study statement in the National Curriculum is concerned with issues such as the use of ICT, scientific language and health & safety.

Children in the foundation stage – the reception class – are taught the science elements of the foundation stage document through the Early Learning Curriculum: Knowledge and Understanding of the World.

How science is structured through the school

Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of National Curriculum for Science. Science teaching in the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our school.

KS1 and Foundation stage teachers should be teaching science for a minimum of one hour each week or the equivalent to across a theme.

KS2 teachers should be teaching science for a minimum of two hours per week or the equivalent to across a theme

In KS1/Foundation stage, a minimum of one third of lessons overall should include practical scientific enquiry.

In KS2, a minimum of 50% of lessons overall should include practical scientific enquiry.

Our approach to science

The essential elements describing how science is taught in our school are described below.

- Termly topics are chosen by teachers, using the children's questions, to include coverage of all areas. We encourage children to ask and answer their own questions as far as practicable. Topics are, as far as is possible, linked to the overall class theme.
- Children complete at least two full enquiries each term, taking increasing responsibility for their planning, carrying them out and recording/interpreting the results.

- ICT is widely used in science. Children are given the opportunity to practice science skills and enhance their presentation using carefully chosen software.
- We use ICT for enquiry work, including microscopes with digital cameras, video capture of images and activities and data logging.
- Other resources include selected video and wall chart resources.
- The school combines these secondary sources with first-hand scientific enquiries, building children's science skills.
- We use home learning to support school and class activities, when appropriate. This relates to the school's overall homework policy.
- Our creative curriculum approach enables cross-curricula links to science with, for example design and technology.

Equal opportunities in science

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability. Science is taught within the guidelines of the school's equal-opportunities policy.

- We ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class, physical or intellectual ability.
- Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.
- We aim to teach science in a broad global and historical context, using the widest possible perspective and including the contributions of people of many different backgrounds.
- We draw examples from other cultures, recognising that simple technology may be superior to complex solutions.
- We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.
- In our teaching, science is closely linked with literacy and mathematics.
- We recognise the particular importance of first-hand experience for motivating children with learning difficulties.
- We recognise that science may strongly engage our gifted and talented children, and we aim to challenge and extend them.
- We exploit science's special contribution to children's developing creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.

Health and Safety

The school subscribes to CLEAPPS (Consortium of Local Education Authorities for the Provision of Science Services) and all staff use the publications/website to inform any planning where Health and Safety advice is required. The subject leader regularly distributes newsletters and any relevant information.

Website: www.cleapss.org.uk
Username: nitrogen
Password: haber14

Assessment and recording in science

We use assessment to inform and develop our teaching.

- Topics commonly begin with an assessment of what children already know.
- We assess for learning (AFL). Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve; 3 stars for areas they are pleased with and a wish for a possible area of development. Activities during, and at the end of, each topic record achievement and celebrate success.
- We mark each piece of work positively, making it clear verbally, or on paper, where the work is good, and how it could be further improved through the use of 'growing greens'.
- Children who are not succeeding, and children who demonstrate high ability in science, are identified and supported.
- Equally important is the continuous assessment of children's work, much of which is informal. This assessment is used to inform teaching throughout the school.
- Reports to parents are made verbally each term, and written once a year, describing each child's attitude to science, his/her progress in scientific enquiry and understanding of the content of science.
- Progress in science is also recorded on School Pupil Tracker Online (SPTO), allowing us an overview of coverage and attainment across the school.

Review
This science policy will be reviewed by the science curriculum leader and the Senior Leadership Team.

Article 28: Children have the right to an education
Article 28: Education should develop each child's personality and talents to the full