

Downs Way School Science Policy

1. *Our rationale for teaching science*

- 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 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.
- We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.
- *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.
- Developing our children's understanding of the international and collaborative nature of science.

Attitudes

- Encouraging the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging 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, hypothesizing, 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.

2. Our teaching aims

- Teaching science (National Curriculum Science Orders or equivalent) in ways that are imaginative, purposeful, well managed and enjoyable.
- Giving clear and accurate teacher explanations and offering skillful questioning.
- Making links between science and other subjects.

Science is a core subject in the National Curriculum.

In England, it has four attainment targets and a statement of breadth of study.

These are:

- Sc1 Scientific enquiry;
- Sc2 Life and living processes;
- Sc3 Materials and their properties;
- Sc4 Physical processes.
- Our role is to teach scientific enquiry through the contexts of the three main content areas. 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 classes- are taught the science elements of the Early Years Foundation Stage Curriculum: Knowledge and Understanding of the World.

3. 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 Science at KS1 and science in the Foundation stage. Science teaching in the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our children.
- KS1 teachers should be teaching science for a minimum of one hour each week. Foundation stage teachers will teach science discretely through topics.
- In KS1/Foundation stage, a minimum of one third of lessons overall should include practical scientific enquiry.

- Teachers are expected to adapt and modify the model plans to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available.

4. Our approach to science

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

- To ensure all KS1 classes cover the National Curriculum Science skills, we have adopted parts of a commercial primary science scheme, to suit our circumstances. Pupil tasks are adapted to the needs of our children by the class teachers. We use, BBC Active Find out about Science software and teacher's notes. The coordinator has constructed a 2 year rolling plan of the topics/units, to be studied in the mixed age KS1 classes, with a new topic/unit each half term and assessment at the end of each unit. This ensures progression and coverage through the Key Stage.
- We use ICT for enquiry work, including class room computers with access to the internet, digital microscopes, digital cameras, Digi Blue cameras and Easi Speech microphones. Other resources include a comprehensive selection of resources to support the topics, short video sequences and other teaching ideas from the BBC software for interactive-whiteboard use.
- The school combines these secondary sources with first-hand scientific enquiries, building children's science skills.
- We actively teach science skills, and reinforce learning with selected enquiry simulations.
- We encourage children to ask and answer their own questions as far as practicable.
- Children complete at least two full enquiries each term, taking increasing responsibility for their planning, carrying them out and recording/interpreting the results.
- We use cross-curricular links to science with, for example, history, design and technology units.
- We develop science informally through, school visits and association memberships with outside agencies and new initiatives.

5. Equality in science

Science is taught within the guidelines of the school's equality 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.

6. *Assessment and recording in science*

- *We use assessment to inform and develop our teaching.*
- Topics 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. Activities during, and at the end of, each topic record achievement and celebrate success. These assessments may be by teacher observation rather than a written activity
- 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.
- Children's work is assessed against APP grids to determine their level at the end of each topic/unit.
- We aim to regularly moderate work together to ensure that our leveling is consistent.
- Assessment tracking records are reviewed and discussed termly.
- The school science coordinator monitors progress through the school by sampling children's work at regular intervals.
- Children who are not succeeding, and children who demonstrate high ability in science, are identified and supported.
- The school uses commercial end-of-unit tests to assess learning and point out areas where remedial work is needed. 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 written once a year, describing each child's attitude and progress in science.

This policy document was adopted by the staff and presented to the Governors of Downs Way School at a meeting in the Summer Term 2012.

Review

This science policy will be reviewed by the science curriculum leader and the senior management team.

Next review Summer Term 2015