



Downlands Community School

Science policy

This policy document was adopted by the staff of Downlands School on 2/1/22. and was endorsed by the school governors at meeting on 14/12/21 . This policy outlines the guiding principles by which this school will implement science learning in the context of the Local Authority's curriculum policy statement and its staffing, health & safety and equal-opportunities policies. It is reviewed periodically.

1. Our rationale for teaching science

Science is a body of knowledge built up through the 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. Science is also a collaborative activity where ideas and suggestions are shared and investigated together. Through practical activities and team work, children experience and learn how to work together have mutual respect for one another and value social cohesion.

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:

- 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, 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.

2. Our teaching aims

- Teach science in ways that are imaginative, purposeful, well managed and enjoyable.
- Encourage and support children to ask questions about the world and use scientific processes to try and answer them.
- Support children to make links between science and other subjects.

Science is a core subject in the National Curriculum.

3. How science is structured through the school

Planning for science is a process in which all teaching staff are involved. Delivering a broad and balanced science education to our children is a core principle of our school. 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 teach science for a minimum of one hour each week.

KS2 teachers teach science for a minimum of one and a half hours per week.

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

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

The school ensures that a broad and balanced science curriculum is followed in which enquiry is at the heart of our children's scientific learning.

Our science long- and medium-term plans were agreed after whole-staff discussion. They ensure progression between phase groups and guarantee topics are revisited. Teachers 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. As a maintained school we ensure that any modification does not omit any of the NC.

To better suit the needs of individual classes or mixed-age groups, units may have been moved between years or amalgamated, where appropriate. However science is taught every half term throughout the school year. Some units may be taught in collaboration with outside agencies, including neighbouring secondary schools.

4. Our approach to science

- Our medium- and long-term plans and pupil task sheets are available electronically.
- The medium term plans, teachers short-term planning and pupil task sheets have been adapted to the needs of our children.
- We use ICT in science and children are given the opportunity to practice science skills and enhance presentations using carefully-chosen software, most often iPad based.
- We use ICT for enquiry work, including microscopes with digital cameras, video capture, activities, and data logging.
- We use the school's e-learning platform (Seesaw) to share science resources e.g. videos and software.
- 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 only when a hands-on practical activity cannot be done.
- We encourage children to ask and answer their own questions as far as practicable.
- Children practise scientific enquiry skills each year, taking increasing responsibility for their planning, carrying them out and recording/interpreting the results.
- We sometimes use cross-curricula links to teach science with, for example, technology units.

5. Equal opportunities in science

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 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 often begin with an informal, 'low stakes' assessment of what children already know (K/W/L grids)
- 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.
- We mark 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 compared with age appropriate exemplification. We moderate children's work termly to ensure consistency. Assessment records are reviewed regularly.
- Reports to parents are made verbally twice a year 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.

Review

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

Date for next review of this document is December 2023.