

SUNNYMEDE JUNIOR SCHOOL

Science Policy



Date: January 2015

Adopted by Governing Body: January 2015

Review: Every Three Years

Next Review Date: January 2018

Record of Policy Review

Science Policy

Review date	Headteacher's signature	Chair of Governor's signature
January 2015		

Governors and staff were consulted when writing this policy.

Aims

- To develop pupils' enjoyment and interest in science.
- To develop pupils' understanding of key scientific knowledge and conceptual understanding through biology, chemistry and physics.
- To develop pupils' understanding of the nature, processes and methods of science through investigation work.
- To enable pupils to effectively communicate ideas using scientific vocabulary.
- To develop pupils' awareness of how science influences and affects our everyday lives.

Attitudes:

- Encouraging the development of positive attitudes to science.
- Building on children's natural curiosity and development of 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.

How science is structured through the 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. Teachers should be teaching science for a minimum of two hours per week; sometimes this will be of a cross-curricular nature. The school broadly follows the Kent Primary Science Scheme of Work. Units from this scheme of work are covered across the school and are mapped out on the school's long term plan. These have been agreed after whole-staff discussion. In accordance with the guidance in the National Curriculum, this scheme clearly indicates a progression in the key scientific knowledge and concepts, from Year 3 to Year 6. This ensures progression between year groups and guarantees topics are revisited. 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. In doing so, we ensure that all aspects of the National Curriculum are addressed over time.

Our Approach to Science

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

- We have adopted parts of a commercial primary science scheme, which is adapted to our circumstances.
- Teachers' planning and resources are shared on the school's intranet.
- We use ICT widely in science. Children are given the opportunity to practise science skills and enhance their presentation using carefully chosen software.
- We use ICT for enquiry work, including data logging and using cameras to video and photograph activities.
- The school combines these secondary sources with first-hand scientific enquiries, building children's science enquiry 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 is practicable.
- Children complete at least one full investigation each half term, taking increasing responsibility for their planning, carrying them out and recording/interpreting the results.
- We use homework to support school and class activities. This relates to the school's overall homework policy.
- We use cross-curricular links in science with, for example, design and technology and mathematics.
- We develop science informally through science clubs, school visits and other out-of-school activities.
- We promote outdoor learning opportunities to enhance knowledge and understanding in science.

The nature, process and methods of science

Pupils are taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundation knowledge and concepts, pupils are encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They are encouraged to:

- Understand how science can be used to explain what is occurring
- Predict how things will behave
- Analyse causes.

'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group. Pupils will learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry should include:

- Observing over time
- Pattern seeking
- Identifying, classifying and grouping
- Comparative and fair testing (controlled investigations)
- Researching using secondary sources
- Pupils will seek answers to questions through collecting, analysing and presenting data.

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 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, mathematics and computing.
- 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 through differentiated work and links with Mayflower High School.
- We access 'Outreach' Science through Across the Key Stages Science challenge afternoon sessions at Mayflower High School.

Assessment and Recording in Science

- We use assessment to inform and develop our teaching, using a combination of Assessment for Learning (AfL) and testing.
- Units of work commonly begin with an assessment of what children already know and want to find out.
- We use Rising Stars end-of-unit tests to assess learning and identify areas for development. These are used to guide and support the teacher assessment of individual's attainment within his/her year group. Equally important is the continuous assessment of children's work, much of which is informal. This information is added to an assessment tool, Target Tracker, on a termly basis. 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.

- Following the Marking and Feedback Policy, we mark work positively, making it clear where work is good and how it could be improved with a next step.
- The school's science coordinator monitors progress through the school by sampling children's work at regular intervals.
- All children take the National Assessments (Science SATS) in science in Year 6.
- Reports to parents are made verbally, 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.

Monitoring and review

Policy Date: January 2015

Review Date: Every Three Years