



STREATHAM & CLAPHAM PREP SCHOOL

Science Policy

Person(s) responsible for this policy		Head of Science	
Last review by	S Maskell	Review date	January 2023
Date of next review		January 2024	

Introduction

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 provides opportunities for the girls to develop their knowledge and understanding of the world through practical experience as well as from other sources of information.

Aims

- To inspire in the girls a sense of wonder about the world around them.
- To prepare the girls for life in an increasingly scientific and technological world.
- To foster concern about, and active care for, the environment.
- To develop scientific knowledge and conceptual understanding through the disciplines of biology, chemistry and physics.
- To develop understanding of the processes and methods of science through different types of scientific enquiries.
- To develop practical skills for carrying out scientific investigations including mathematical and IT skills.
- To develop scientific vocabulary so that the girls are able to write and talk about scientific concepts clearly and precisely.
- To encourage the girls to have confidence in their ideas, aware that as much can be learnt from disproving ideas as proving them.
- To develop a set of attitudes which will promote scientific ways of thinking including open-mindedness, objectivity, perseverance and respect for evidence.
- To develop social skills so that the girls are able to work collaboratively with their peers.
- To provide the girls with an enjoyable experience of science so that they develop a deep and lasting interest and are motivated to study science further.

Teaching and Learning

Our science syllabus incorporates the Science National Curriculum in its entirety but has the flexibility to extend beyond it and frequently does so, especially in Year 6, either to challenge our girls or to reflect their particular interests. In discussion with staff, the head of science organises the curriculum into topics to allow the girls to build on their knowledge and understanding of biology, chemistry and physics progressively through the years. Opportunities for developing scientific skills are incorporated into each topic so that the girls become increasingly independent in terms of planning and carrying out investigations. We have high expectations of our girls. Our aim is that by the end of the Lower School they are able to:

- ask simple questions relevant to the topic
- observe closely, using simple equipment
- perform simple tests
- identify and classify
- use my observations and ideas to suggest answers to questions
- gather and record data to help answer questions

Our aim is that by the end of the Upper School the girls are able to:

- read, spell and pronounce scientific vocabulary correctly.
- plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- take measurements, using a range of scientific equipment, with increasing accuracy and precision and taking repeat readings when appropriate.
- record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- use test results to make predictions to set up further comparative and fair tests.
- report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
- identify scientific evidence that has been used to support or refute ideas or arguments.

Enrichment Activities

The teaching and learning of science is enhanced, wherever possible, by visits to London's museums or open spaces and by guest speakers. Science week is a highlight of the year and involves the girls in fun, 'hands-on' activities designed to stimulate their imagination and encourage them to think creatively to solve scientific problems. Our older girls have regular opportunities to visit the senior school for workshops and demonstrations that take them beyond the curriculum as well as preparing them for transfer into Upper Third. Outward bound residential trips for girls in Years 5 and 6 provide ideal opportunities for learning about science.

Equal Opportunities

Science lessons are differentiated to meet the needs of all our girls regardless of their background, culture, physical or cognitive development. Learning objectives are set to meet these needs in line with our Special Needs policy. Our expectations do not limit pupil achievement and assessment does not involve cultural, social or linguistic bias. We recognise that science should strongly

engage our gifted and talented children, and we provide extension work to encourage these girls towards a deeper and broader understanding of the subject.

Use of IT

We use IT widely in science. Teachers make full use of the internet to source video clips, animations, games and other material to add breadth and variety to their lessons and to bring the world, indeed the universe, into the classroom. With the introduction of I-Pads, we will be able to offer many more opportunities for interactive learning.

Links with other subjects

Science links naturally with maths, IT and design technology and links can also be made with history and English. Our cross-curricular approach and close collaboration amongst staff provides the girls with a broader context for their learning. A STEAM day is held once a year for students in Year 5.

Assessment and recording

Children are given clear targets so that they can assess their own progress in terms of knowledge, understanding and skills. Teachers assess every day by questioning or observing the girls in class or by marking written work. Feedback is constructive and encourages the girls to think critically about their achievements and next steps. A digital assessment is given at the end of each topic for Year 4 – 6 and the results of these assessments are recorded and tracked and used to indicate whether a child is performing below, at, above or well above expectations. This data is used to inform the child's annual report. There are two parents' evenings where progress can be discussed.

Monitoring

Monitoring of the standards of children's work and of the quality of teaching in Science is the responsibility of the Head of the Junior School and Subject Leader. The Science subject leader is also responsible for supporting colleagues in the teaching of science, keeping up to date with current developments in the subject, and providing a strategic lead and direction for the subject in the school. Lessons are observed by the subject leader and feedback is given to teachers on planning and delivery.

Training and development

All science teachers are encouraged to develop their knowledge and skills in the teaching of science, and the school and the GDST provide many opportunities for training.

Health and Safety

Our girls are taught how to stay safe in the science lab from a young age so that they develop a responsible attitude to practical work. They are expected to treat materials and equipment with respect and care. Health and Safety notices are displayed in the Science Lab. A risk assessment

has been carried out for normal activities in the science lab. However, teachers should be alert to any special circumstances that may need further modification to the risk assessment.

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