



Science

Introduction

This policy outlines the teaching, organisation and management of science taught at Hawthorns Special School. The school's policy for science is based on the 2014 new primary curriculum and the scheme of work provided by the Astra Zeneca Science Teaching Trust.

The implementation of this policy is the responsibility of all teaching staff. At Hawthorns we believe that the best science teaching, fosters and develops pupils' curiosity in the subject whilst also helping them to fulfil their potential. For our pupils to achieve well in science, they need to acquire the necessary scientific knowledge and also be able to enjoy the experience of engaging in purposeful scientific enquiry in order to help them to answer scientific questions about the world around them.

The new National Curriculum 2014 states why we teach science in schools: ***'A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics...Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena.'***

Aims

Through high-quality science teaching, we aim to help our pupils learn about the world around them and understand the role of science in our everyday lives. Moreover, we aim to prepare our pupils for life in an increasingly scientific and technological world. We aim to do this by:

- Delivering high quality, interesting and engaging science lessons;
- Using scientific contexts to develop and consolidate cross curricular skills in literacy, Maths and ICT
- Teaching science in a global and historical context; including the contributions of significant scientists from a range of cultures
- Developing and extending pupils' scientific knowledge and understanding
- Developing pupils' ability to work scientifically and involve pupils in planning, carrying out and evaluating investigations
- Developing pupils' scientific vocabulary and ability to articulate scientific concepts clearly and precisely
- Ensuring that all pupils are appropriately challenged to make good progress in science.

Teaching and Learning at Hawthorns

- Teachers plan and deliver high-quality and engaging science lessons incorporating a range of teaching and learning styles.
At Hawthorns, teachers will provide opportunities for pupils to:
- Learn about science, where possible, through first hand practical experiences
- Develop their research skills through the appropriate use of secondary sources
- Work collaboratively in pairs, groups and/or individually
- Plan and carry out investigations with an increasing systematic approach as they progress through the school
- Develop their questioning, predicting, observing, measuring and interpreting skills

- Record their work in a variety of ways e.g. writing, diagrams, graphs, tables
- Be motivated and inspired by engaging and interactive science displays, which include key vocabulary and relevant questions
- Learn about science using the outdoor learning environment including Forest Schools

Planning

- Science in the Early Years Foundation Stage is planned using the Early Years Curriculum 'Understanding of the World'
- Teachers plan science lessons using the new National Curriculum (2014) for guidance and the Astra Zeneca scheme of work. These STRATA (Science To Raise And Track Achievement) materials are created specifically for SEN pupils.
- Suggested activities are included to address the issue of age appropriateness and the fact that pupils may revisit the topic many times.
- Science units are taught discretely or linked to class topics where possible
- All science lessons have focused learning objectives for both subject knowledge and enquiry skills and clear differentiation and success criteria to ensure that pupils progress is assessed and measured.
- 'Working scientifically' is embedded throughout the areas of learning in all classes; this focuses on the key aspects of scientific enquiry which enable pupils to investigate and answer scientific questions
- ***Refer to the programme of study overview for details of the specific areas of learning covered in each class annually.***

Monitoring and Assessment

- Science is monitored by the Science coordinator as part of the whole school monitoring process
- Planning, book scrutinies and observations are also carried out regularly by the science subject leader and feedback is given to teachers at an appropriate time.
- Achievements are recorded using a wide variety of methods providing all children with an opportunity to demonstrate their knowledge and understanding.
- In EYFS all work is directly linked to the EYFS curriculum
- Progression in skills in the schemes of work, outline the development of enquiry skills, generic to all areas of Science.
- The Dashboard is a series of I Can statements and is used to assess, measure and track progress in the specific disciplines of biology, chemistry, physics and enquiry.
- Judgements in regards to pupil levels in Science are moderated as part of the in school moderation process

Health and safety

- Teachers must plan safe activities for science and complete a risk assessment if necessary
- Teachers and teaching assistants need to be aware of health and safety procedures when using equipment/food in science lessons.
- Pupils must be aware of the need for personal safety and the safety of others during science lessons.

Inclusion

At Hawthorns, teachers ensure that they adopt an inclusive approach to their science planning and teaching; ensuring that pupils of all abilities and backgrounds have an equal opportunity to make good progress and enjoy science.

Impact

Through the teaching of Science, children gain a knowledge and awareness of the world around them. By regularly timetabling Science each week the pupils' achievement can progress and be regularly monitored and assessed. Impact can be measured through end of topic assessments, scrutiny of learning, observations and the results of target setting. Science Week also helps to raise the subjects profile within the School.

Resources

The programme of study covers guidance in regards to the teaching of units in:

- Life Processes/Biology
- Materials/Chemistry
- Physical processes/Physics
- Enquiry skills progression
- Each unit details learning objectives/cross curricular links/key vocabulary/activities/a list of resources/possible investigations

The Science coordinator is available for support where needed.

Physical resources for each unit are stored in the Science cupboard or in classrooms