Science Policy

This policy should be read in conjunction with the *Teaching and Learning Policy*, any related subject policies and the following:

Assessment Policy
Behaviour Policy
Equality and Community Cohesion Policy
Gifted and Talented Pupils Policy
Health and Safety Policy
Safeguarding Policy
Special Educational Needs and Disability Policy
E-Safety Policy
Marking guidelines

Other documents that support the teaching and learning of Science:

Science Resource Books
Hamilton Trust topic plans
Internet Resources
National Curriculum

Throughout this policy 'parents' denotes those with parental responsibility.

Mission Statement

We believe that 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. Scientific experimentation provides pupils with the opportunity to methodically investigate and test their ideas, to critically analyse their results and to effectively communicate the knowledge they have gained.

Aims and Objectives

We aim to provide pupils with the opportunity to:

- develop their sense of curiosity which will encourage a positive attitude of enquiry about familiar and unfamiliar aspects of their world;

- develop a set of positive attitudes which promote a scientific way of thinking which includes open-mindedness, perseverance, creativity, objectivity, and a recognition of the importance of teamwork;

- develop their understanding of the nature of working scientifically which involves clear planning, detailed observation, the development and testing of hypothesis, prediction, the design of fair and controlled testing, the reliability of results, peer review and the drawing of meaningful conclusions through critical reasoning and the evaluation of evidence;

- become effective communicators of their scientific ideas and to question, in the appropriate manner, the scientific planning/investigation outcomes of themselves and their peers;

- develop knowledge and understanding of important scientific ideas, processes and skills and relate these to everyday experiences.

Teaching and Learning

Teaching and learning styles

In addition to approaches referred to in the Teaching and Learning Policy, science teaching also includes opportunities for children to:

- critically examine the relevance of their and other pupils' investigations;
- investigate, observe, record and make meaningful conclusions from their scientific investigations.

Resources

Pupils use of a variety of scientific materials and equipment when available, under full supervision.

Learning Environment

Please refer to the Teaching and Learning Policy.

Planning

Within both Primary and Secondary phases, science is taught each week as a discrete subject, with additional cross-curricular opportunities through class topics.

Where possible, science is linked to class topics, allowing children to contextualise their learning. Teachers adapt and modify their planning to suit their children's interests within the unit and level of understanding.

Assessment

Informal assessment takes place throughout sessions, allowing teachers to ensure approaches and content are appropriate for the age and learning stage of the student. Formal assessment of science occurs at the end of each topic to establish if individual children are exceeding, meeting or developing the age-related expectations for scientific knowledge and the skills of working scientifically. Please refer to the Assessment and Teaching and Learning Policies for further details.

Cross Curricular Links

Reading, writing, communication, maths and Computing

Science provides meaningful contexts for many forms of non-fiction writing and children are expected to apply their English skills and knowledge of these genres to their writing as well as their scientific knowledge and understanding.

Science also provides many practical opportunities for children to apply mathematical skills particularly in the areas of measurement and data handling.

Children are also given opportunities to apply and develop their computing capability through the use of computing tools to support their learning in science. Opportunities include:

- developing understanding of science topics using video and educational websites;
- virtual experimental work using interactive programs;
- communicating information using word processing and drawing packages;
- handling information using databases and spreadsheets;
- monitoring information using data logging equipment;
- investigating ideas and carrying out research using Espresso and the Internet;
- recording using digital cameras and microscopes.

Spiritual, Moral, Social and Cultural development (SMSC)

We recognise the close links between science and environmental education. We provide the opportunity for pupils to:

- use first hand resources, such as the school's outside areas, and real life experiences as a basis for learning;
- carry out scientific investigations outside the classroom as a natural extension of the working environment;
- develop a sense of responsibility when studying science and the environment;
- link aspects of science to PSHE work

Enhancing the Curriculum

Some children may participate in educational workshops on or off-site to support topics.

Inclusion

Special Educational Needs and Disability (SEND)

Staff can improve access for children with SEND by:

- using materials and resources that pupils can experience and understand through sight, sound, taste or smell;
- giving pupils first-hand and direct scientific experiences through investigations, experiments, and play;
- using computing, visual and other materials to increase pupils' knowledge of their personal surroundings and the wider world;
- using scientific contexts (domestic and environmental) that are of interest, and are relevant and meaningful, to pupils;
- using specialist aids and equipment, where required.

Gifted and Talented

Science can strongly engage many gifted and talented children. When planning activities teachers aim to challenge and extend more able children, giving them opportunities to work at a higher level with greater independence where appropriate.

Health and Safety and Safeguarding

Class teachers are aware of the need to follow the Health and Safety Code of Practice issued by the Local Authority. See Health and Safety Policy for further details. Particular care is taken when using chemicals, candles, hot liquids etc. and when plants and animals or decaying material are studied.

Children are always taught how to use scientific equipment safely and confidently and science equipment is kept in good condition. Broken or unsafe equipment is reported to the Executive Headteacher.

Roles and Responsibilities

Roles and responsibilities under this policy are as outlined in the Teaching and Learning Policy

Agreed and signed: Jonelle Hughes

Policy:
Jennifer Wood, Centre Director
August 2018
Reviewed: August 2019 (Total Tuition)
Reviewed: April 2021 (Rosewood Independent School)
Reviewed: 31st August 2022, Jennifer Abraham
Reviewed: 29/8/23, Jennifer Abraham
Reviewed: Larissa Johnson and Jonelle Hughes 07/11/24