Science Policy

New End Primary School

Date Amended: Spring Term 2022

Review Date: Spring Term 2024

Rationale

Science allows us to explore, explain and understand the world around us. It develops investigative and creative skills in a practical context that help humankind to further its development. New End Primary School acknowledges the distinctive nature of science, especially the development and exploration of hypotheses. Emphasis is placed upon investigative work because it is recognised that this forms a vital aspect of developing a curious and scientific mind with appropriate skills for further development. Investigative work guarantees an opportunity for individual and co-operative learning, as well as the opportunity to gain knowledge and understanding through first-hand experience.

The new curriculum aims to develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. It wants children to understand the nature of processes and methods of science through different types of science enquiries that will help them to answer scientific questions about the world around them through rational explanations.

Aims

Throughout the teaching of science, we intend to:

- Develop children's natural curiosity of the world around them;
- Promote qualities that develop good scientific attitudes, such as open-mindedness, objectivity and perseverance;
- Develop a recognition of the importance of teamwork and discussion;
- Encourage awareness, care and sensitivity to the living environment;
- Develop an understanding and use of good scientific methods of investigating and experimenting, including prediction, hypothesis and careful observation and measurement;
- Develop the children's skills in designing and carrying out fair and controlled experiments from their own ideas and hypotheses;
- Develop their ability to be effective at communicating and interpreting scientific fact, data and their own conclusions;
- Develop scientific enquiry skills through all five types of scientific investigation: fair testing, identifying and classifying, pattern seeking, observing over time and research.

- Encourage the children to obtain a sound foundation of scientific knowledge and understanding as a basis of further study.

Governor and Staff Responsibility

Role of the Governing Body:

- ensure that there is a link governor responsible for science, who will meet regularly with the science subject leader;
- ensure that arrangements for the teaching of science throughout the school are regularly reviewed and agreed.

Role of the Headteacher

- Ensuring INSET, when appropriate;
- Providing a budget for sufficient resources;
- Enabling the Science Leader of Teaching and Learning to work alongside other staff, where appropriate;
- Liaising with staff about record keeping and assessment;
- Ensure the monitoring of teaching and learning through lesson observations and intake of science outcomes across the school;
- Reporting to Governors, where appropriate, about the development of Science and progress made.

Role of the Science Leader of Teaching and Learning:

- support colleagues and help develop expertise and confidence in the teaching of science throughout the school;
- keep up to date with developments in science teaching;
- encourage use of ICT as appropriate in teaching/motivating pupils;
- monitor the quality of teaching of science at all key stages;
- use the science budget to buy appropriate resources and equipment;
- collect and maintain resources and ensure accessibility;
- contribute to in-service training of staff.

Role of the Class Teacher:

- ensure science is taught in line with the National Curriculum;
- record and assesses the children's outcomes in line with agreed science procedures;
- report on children's progress in science in annual reports;
- attend INSET, when necessary;
- liaise with and work alongside the Science Leader of Teaching and Learning, when appropriate;
- Provide evidence of Science being taught each lesson, either in their Science books or the large floor books.

Organisation

The emphasis in science teaching should be on practical work. Experimental and investigative work should form the basis of much of the science work undertaken. Where possible cross curricular links are encouraged and integrated with other topic work.

Children generally work in mixed ability groupings. Individual work and whole class teaching are carried out where appropriate. A plenary should follow on from all practical lessons, to ensure accurate understanding.

Learning outcomes for each unit are available for use by teachers and are stored in the "shared area". These show how children can demonstrate what they have learnt and can serve as a record for classes working on each unit as well as informing teacher assessment and evaluation.

For each Science topic there should be a trip or workshop in school. This could include an expert coming into have a discussion.

Advice can be sought from the Science Co-ordinator.

Teachers should be aware of **Health and Safety Regulations** at all times when planning practical science lessons and when children are in contact with potentially harmful materials. All practical work needs to have clearly defined objectives and teachers should consider what needs recording for practical sessions.

Resources

All science resources are stored in the stock area located adjacent to the music room. Teachers may borrow resources as needed, but are requested to return them promptly when no longer in use. If a resource is damaged, in short supply or non-existent, the subject co-ordinator should be informed so that the matter can be attended to.

ICT and Science

Pupils should be provided with opportunities to access science resources and virtual experiments using the laptops. PurpleMash and Espresso amongst others provide a diverse range of opportunities for science through ICT.

Assessment in Science

Children should have all of the yearly objectives stuck at the front of their books. At the end of a topic, teachers should note those who have not met the learning objectives for that topic and plan to review the objectives those children are yet to meet.

Equal Opportunities and Racial Equality

The needs of most children in science lessons can be met through appropriate differentiation. Teachers should aim to ensure all make progress and gain positively from lessons. EAL students should receive appropriate support as well as those who may have experienced an interrupted education. Flexible groupings will take account of pupils' diverse cultural backgrounds. Cultural mixing and development of cultural identities aims to promote racial equality and provide greater access to the curriculum.

Pupils with Special Educational Needs and Disabilities

All teachers will have in their class some children whose progress warrants special consideration. Their difficulties may have physical, sensory, behavioural, emotional or neurological causes, or may stem from a legacy of poor learning that inhibits their current learning.

Teachers should aim to include all these pupils fully in science lessons.

Gifted and Talented

Children demonstrating a particular ability in science should continue to be supported in achieving higher standards through extension activities provided in lessons and extra-curricular activities. The school should also ensure that where offered, children with particular aptitudes should have access to outside opportunities. Year 5 and 6 children have an opportunity to visit a secondary school (UCS) to further stimulate them in Science.

Pupils with English as an Additional Language

At New End we have a large number of children who have English as an Additional Language. These children must all be encouraged and assisted to reach their potential in science. These children can be given a copy of the topic vocabulary to keep at home.

Monitoring and Evaluating Policy and Practice

This policy will be reviewed annually by the Science Leader of Teaching and Learning and discussed with staff, parents, governors and children to consult on future developments as widely as possible. The most recent review of the policy was in September 2015. The next review will take place in Autumn Term 2017.

Assessments of children's progress in science are carried out on a continuous basis to inform the teacher and the child about their progress. These are completed through teacher assessments and children's evaluations.

Throughout the year the Science Leader of Teaching and Learning will have the opportunity to look at samples of work across the school. Feedback will be made to staff. A limited number of lessons will also be observed by the Science Leader of Teaching and

Learning across the key stages so that they have an understanding of the quality of teaching and learning in science in the school.