Science Policy 2024

Version Number	V001
Policy Writer	Emily Parkhill
Document Owner	Sarah Dixon, Headteacher
Issue Date	22nd October 2024
Date for Review	Autumn 2026

Details	
Name	Barwic Parade Community Primary School
Type of school	Mainstream Primary School, including Breakfast Club, Governor Led Nursery and After School Club
Address (including What3Words location)	Petre Avenue Selby YO8 8DJ ///void.zones.engineers
Operating hours	7.45am to 5.30pm
Office telephone number	01757 705591
Office email address	admin@barwicparade.co.uk
Approximate number of staff	32
Approximate number of pupils & age range	235 2yrs to 11yrs

Version Control			
Version	**Date**	**Amended by**	**Summary of key changes**
V001	October 2024	Emily Parkhill	Created

Science Policy

Intent

At Barwic Parade, we understand and recognise the importance of science in all aspects of daily life. We aim to encourage all children to develop a curiosity for the world around them, asking their own questions and seeking their own answers. The influence of science is far-reaching, and we aim to prepare our children for this by opening their minds to all areas that can be explored. We believe that learning about different scientific knowledge, processes and uses will provide a strong foundation for understanding the changing world we live in.

Throughout their time at Barwic Parade, we want children to deepen their learning, maximising all opportunities for discussion, discovery and investigation about different topics. We want to promote collaboration, working scientifically and, ultimately, develop the problem-solvers of the future. Because we understand the importance of science and its status as a core subject, our curriculum gives it the prominence it deserves. Weekly science lessons provide children with opportunities to develop their knowledge and practical skills on different topics organised under the following headings: biology, chemistry and physics.

Equal Opportunities and Special Educational Needs

We are committed to ensuring that every individual within the school has the opportunity to achieve their full potential and has the same chance and equal access to all areas of the curriculum. Teachers ensure that the delivery of the science curriculum meets the needs of all learners in their class, regardless of ability, gender, ethnicity, social, cultural, or religious background. Children with SEND will be scaffolded and supported as needed to ensure that they too are able to access all learning taking place. Bilingual support is sought where possible to help support children identified as MEA.

Implementation

Teaching and learning

Science is taught twice a week across the school in hour-long sessions and is done as part of our mixed-age curriculum. Our curriculum is based upon our reflections of the *National Curriculum* content and the concepts put forth in *Chris Quigley's Essential Curriculum.* Under the key headings of biology, chemistry and physics, our learning can be broken down further into the following topics:

Biology:

- Understand plants.
- Understand animals and humans.
- Investigate living things.
- Understand evolution and inheritance.

Chemistry:

- Investigate materials.

Physics:

- Understand movement, forces and magnets.
- Understand the Earth's movement in space.
- Investigate light and seeing.
- Investigate sound and hearing.
- Understand electrical circuits.

Our curriculum is structured in such a way that, each week, children across the school learn about a new topic. They then revisit these topics throughout the year at calculated intervals to refresh their knowledge and deepen their understanding. This is done in response to up to date, relevant

research on how children learn and, mostly importantly, how children can best retain the information they process. Through this approach, children are able to make links between different aspects of science and build schema on a continuous basis which then transfers their skills from week to week. Progression is mapped throughout the school from reception to year 6, including the progression of knowledge, of skills taught and of scientific vocabulary. Each year, children have access to the above topics and continue to build upon and deepen their understanding and experiences of each one.

Working scientifically is also covered within the curriculum and is an ongoing area of learning. It is incorporated into the different topic areas of science as well as STEM activities or themed days/ weeks. Children are taught the different enquiry types through scientific characters found in every classroom. In addition, we annually celebrate World Space Week and British Science Week, promoting an enthusiasm for science and a desire to learn, explore and problem-solve. We are also proud to be a partnership school with Drax Power Station and work closely with engineers from Drax to enrich our curriculum.

EYFS

Early Years Foundation stage will be introduced to science following the expectations outlined within 'Understanding the World', more specifically through the Early Learning Goal (ELG) 'The Natural World'. Wherever possible the children are provided with activities based on first-hand experience that encourage exploration, observation, problem solving, prediction, critical thinking, decision making and discussion. We provide an environment with a wide range of indoor and outdoor experiences that stimulate their interest and curiosity. Children develop their understanding of the world around them daily, using their senses to explore and learn about objects and materials. They are given holistic learning experiences, incorporating elements of science in their everyday activities.

Health and safety/ resources

At Barwic Parade, all children will be taught to use scientific equipment safely and will be made explicitly aware of any health and safety risks, particularly during practical activities and investigations. Additional adults will be used effectively to assist with the safe running of science lessons as required. Pieces of specialist scientific equipment and those posing a potential safety risk will be stored in the central science cupboard. This cupboard is locked and only adults can collect and oversee the use of this equipment. Equipment is regularly checked by the science leader as well as by class teachers and teaching assistants. Any damaged or unsafe equipment is immediately removed from use.

Roles and responsibilities

Teachers are responsible for planning and delivering science lessons twice a week, ensuring that these lessons are engaging, relevant, progressive and have a suitable level of challenge. The science subject leader is responsible for the following:

- Ensuring the development of a scheme of work and progression of skills for the science curriculum.
- Promoting the integration of science within appropriate teaching and learning activities.
- Managing the provision and deployment of resources and giving guidance on classroom organisation.
- Inspiring colleagues to deliver high quality teaching and learning opportunities.
- Leading science inset within the school, investigating suitable courses elsewhere and working to develop CPD amongst staff.
- Writing, monitoring, and evaluating an action plan for science across the school.
- Planning and managing the budget for science.
- Monitoring the learning taking place across school through learning walks, book sampling and pupil voice in line with the school's assessment calendar.

- Analysing outcome data to identify strengths and areas for development, planning for improvement accordingly.

Impact

Our successful approach to the teaching and learning of science results in students having the following characteristics at Barwic Parade:

- To independently think of and answer questions involving scientific knowledge or their skills at working scientifically.
- To display excellent scientific knowledge and understanding, demonstrated through verbal and written explanations, practical work and reporting of findings.
- Having the confidence to work scientifically using different equipment, planning and carrying out scientific investigations.
- To speak clearly and informatively about science topics, using the appropriate vocabulary.
- Having the ability to collaborate with others to solve problems and work on STEM challenges, showing innovation and imagination.
- To be passionate about science, showing curiosity and enthusiasm for learning.

Assessment

Assessment and reflections are something which are planned into our curriculum in order to inform teaching and support pupils. Metacognition skills are applied within science to allow children to reflect and evaluate. These reflections are useful for both the pupil and teacher and can be used to identify which strategies within the classroom have the greatest positive impact on pupils' learning. Formative and summative assessment strategies are to be used within classrooms, with summative data to be submitted half termly.

Any questions or concerns regarding this policy should be made to the Head teacher.