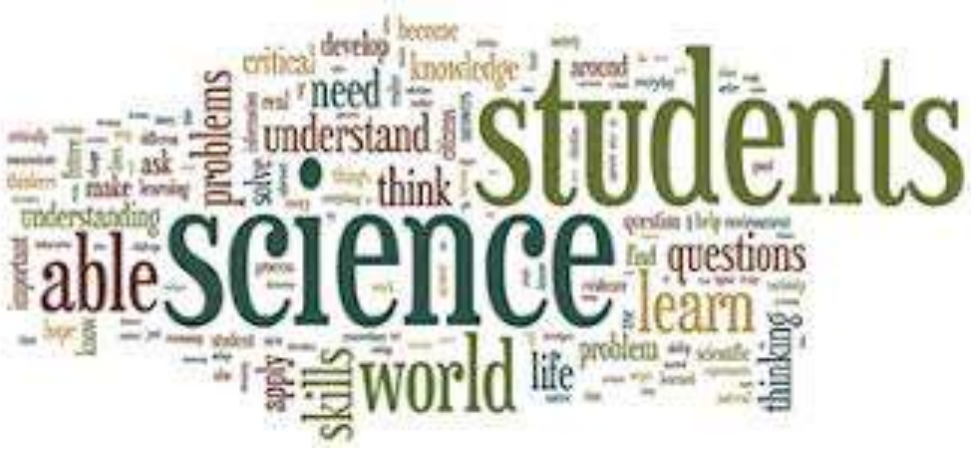
FOREFIELD COMMUNITY INFANT AND NURSERY SCHOOL



Science Curriculum Policy

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1. Introduction

Science is the attempt to make sense of the world around us and at Forefield Community Infant & Nursery School we believe children need to be provided with opportunities through which they can take part in objective investigations from either their own experience or their active exploration of the environment in which they live. We aim to develop in the individual child an enquiring mind and a scientific approach to problems, ensuring the development of scientific skills, concepts, knowledge and understanding.

2. Intent

Science is key in early childhood development helping to grow children's knowledge and understanding of the world and facilitate their natural curiosity to enquire and investigate phenomena. The Wellcome Trust state that Science at primary school should nurture this curiosity and allow children to ask questions and develop the skills they need to answer those questions.

At Forefield Community Infant and Nursery School we aim to deliver a broad and rich Science curriculum, giving all children the opportunities to develop as scientists, exploring the world in which they live. All children will have the opportunity through both our curriculum and extra-curricular activities, to participate in a variety of scientific experiences, exploring the value and importance of Science in our community and beyond.

Our ambitious Science curriculum enables our children to learn and grow as scientists, developing a range of core scientific skills and knowledge required to investigate problems, learn how Science works and discover why Science matters in the world. In EYFS children are exposed to many different exploration opportunities where they begin to develop their investigative skills, asking questions and working collaboratively. Through our Science scheme ‘Switched On Science’, children in Years One and Two will participate in lessons that offer exciting investigations ensuring full coverage of the National Curriculum for Science. Each of the six topics per year group has working scientifically at its heart, and provides experiment and STEAM (Science, Technology, Engineering, Art and Mathematics) content.

By nurturing and fostering scientific curiosity, we aim to give all children the opportunity to develop a passion and love of Science and grow as inquisitive individuals with a developing understanding of the world around them.

3. Implementation

At Forefield Community Infant & Nursery School we follow the EYFS and National Curriculum aims. We primarily use Switched On Science from Rising Stars as our school Science scheme to deliver those aims which is supplemented to ensure the needs of all of our children are met.

EYFS
Science is taught in EYFS through the Understanding the World area of learning. Scientific exploration, as an integral part of play based learning, offers our children opportunities to be inquisitive and develop their confidence to learn and independently explore the world around them.

Children will know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.

Key Stage One
Science in Key Stage One follows the National Curriculum aims and objectives. Children have weekly Science lessons delivered through the 'Switched On' scheme. Connections will be made linking science knowledge, skills and understanding to the wider curriculum when relevant. On occasions some topics will be 'blocked' with lessons taking place throughout one or two weeks.

- 'Switched On Science' scheme is used primarily to teach weekly science lessons in Key Stage One.
- All aspects of the National Curriculum for Year 1 and 2 is covered through the scheme, with additional activities planned and taught at the discretion of the class teachers and the needs of the cohort.
- Working scientifically is embedded into the scheme with opportunities throughout the year to complete investigations using the different enquiry types (observation over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing; research using secondary sources).
- We provide suitable learning opportunities for all children ensuring key knowledge, understanding and skills are developed through a range of strategies which may include adaptive teaching, additional support from peers or adults, and providing suitable resources. Consideration is also given to how greater depth will be taught, learnt and demonstrated within each lesson.

4. Impact

The impact of our high quality Science curriculum will be to develop children who:

- have an enquiring mind and can adopt a scientific approach to problems
- can see and appreciate the relevance of science in everyday life
- can talk about scientific topics taught using appropriate scientific vocabulary
- have a passion for Science
- demonstrate scientific skills, concepts, knowledge and understanding
- have positive attitudes to learning
- are able to carry out a range of scientific enquiries to answer questions
- can pose and answer their own science based questions

EYFS End Points

By the end of Reception children will know about similarities and differences in relation to places, objects, materials and living things. They will be able to talk about the features of their own immediate environment and how environments might vary from one another. They can make observations of animals and plants and explain why some things occur, and talk about changes.

Key Stage One End Points

By the end of Key Stage One children will have built on their prior knowledge. They will ask their own questions about what they notice, and use the different types of scientific enquiry to gather and record data to answer questions. The children will communicate their ideas and methods in a variety of ways including writing, diagrams, digital formats and verbally.
The children will be able to name and locate the main parts of the human body, and describe the importance of exercise, a balanced diet and hygiene for humans. They will describe the basic needs of animals for survival and the main changes of young animals, including humans, growing into adults. From first hand investigations the children will be able to state the basic needs of plants for survival and how changing these can impact on their growth. The children will be able to identify whether things are alive, dead, or have never lived. They will be able to group animals according to what they eat, and using their own criteria. They will describe how animals get their food from other animals and/or plants, and use simple food chains to illustrate these relationships. The children will recognise and describe seasonal changes throughout the year. They will be able to identify and name different plants and animals found in the local area and beyond, describing how they are suited to different habitats (including microhabitats explored within the school grounds). When investigating materials, the children will be able to describe their properties, identify and group a range of everyday materials, and compare their suitability for different purposes.

At Forefield Community Infant and Nursery School we work closely with Forefield Junior School to ensure progression and continuity in Science education is seamless as Year 2 children transition to their next phase of education.

5. Assessment

Teacher assessments are carried out as part of every classroom activity and is part of a continuous process in order to inform planning for future teaching and learning. Knowledge quizzes may form part of a teacher's assessment strategy in KS1 to assess children's retention of scientific learning over time.

In KS1 each topic is assessed against the relevant learning objectives from the National Curriculum, recorded on our bespoke Forefield Data System. This will allow for a clear understanding of each child's progress throughout the year. The completion and updating of individual records will be the responsibility of each class teacher.

In Foundation Stage, observations are used to assess the children's development towards the Early Learning Goal of 'The World'. We recognise that some children will exceed the expectations within the Early Learning Goal and will be working within the Year 1 curriculum milestones.

In Years One & Two, the children are assessed against the new National Curriculum Y1/2 end of year expectations. Children who have met all the expectations will be assessed as 'meeting **expected** age-related expectations. Some children may be working towards Y1/2 end of year age-related expectations and will assessed as 'emerging' and some children will be showing a deeper level of understanding, making links and applying their knowledge and skills and will be assessed as 'exceeding' Y1/2 end of year expectations. Assessments are formally reported in end of year reports.
Both year groups keep a file with a record of coverage, samples of work, knowledge quizzes and assessment/target setting records.

Evidence from Remote Learning e.g. completed worksheets, posters, videos, sent in by children/parents will be used by teachers to informally support judgements made towards outcomes. Assessments of end of key stage outcomes will be made when children return to the classroom during the direct teaching of Science lessons.

A Science data capture will occur three times per academic year to support subject monitoring and ensure all children are making progress towards the end points of their year group/phase.

6. Reasonable Adjustments

Within the Science curriculum, teachers will make reasonable adjustments for all children through adaptive teaching which can include: adult support, flexible groupings, alteration of equipment and level of challenge to meet the needs of all children in the class. Class teachers can seek advice from the Science Subject Leader and/or SENCO to ensure reasonable adjustments are made for all children to access learning opportunities in Science.

7. Extra Curricular Activities

At Forefield Community Infant & Nursery School we pride ourselves on providing extra-curricular opportunities for all children to participate in and develop further as talented scientists. Children attending Science clubs gain accreditation towards Children's University Graduation at the end of Year 2.

Children can access our lunchtime Science Club in both Years One and Two. They are also offered the opportunity to enrol in the 'Mad Science' clubs, which provide children with hands-on scientific experiences. These clubs have taken place for a number of years and always receive excellent feedback from children and parents alike.

8. S.M.S.C

Opportunities to promote children's spiritual, moral, social and cultural development is threaded throughout our Science curriculum. By its very nature, the scientific exploration of the natural and man-made world evokes moments of awe and wonder as children extend their experience, and develop their understanding, of the amazing world of which they are part. Opportunities for children to work collaboratively whilst investigating for example, supports children's on-going social development. Researching scientists from different backgrounds, cultures and periods encourages the children to begin to appreciate the diversity within the field of science.

<u>SMSC in Science lessons</u>
During Science lessons children will:

- have opportunities to be curious about the natural and man-made world in which they live
- Develop their sense of personal enjoyment of scientific investigation and understanding.
- Learn about the scientific world around them, past, present and future possibilities.
- Have opportunities to reflect on the influence of science - locally, nationally and globally, developing their understanding of how developments in scientific knowledge and understanding has shaped and impacted the world they live in today and may live in in the future.
- Work collaboratively to investigate and learn from the thoughts and ideas of others
- Develop understanding and show care and respect for the world in which they live.
- Researching a broad range of scientists from the past and present allows children to develop an understanding of the diversity of those who work within the field of science.

9. Role of Subject Leader

The role of the subject leader

- Ensure high quality Science lessons are taught across EYFS and Key Stage 1 through our agreed broad and rich Science curriculum.
- Provide subject specific guidance/CPD to colleagues.
- Monitor the Science curriculum delivered to children across the school highlighting strengths and areas for further development.
- Monitor the progress and attainment of children in school in Science.
- Quality assure extra-curricular activities and peripatetic lessons offered by external partners highlighting strengths and areas for further development.
- Manage resources, including their replenishment and maintenance, to support delivery of a high quality curriculum.
- Liaise and work with CAPITAL schools and other schools and providers in the wider community who provide Science support and provision to children/staff.
- Support staff and co-ordinate Science Days and assemblies for children to watch and participate in.
- Stay up to date with changes, new initiatives and research that would enhance and support the development of Science at Forefield Infant and Nursery School.
- Produce an Action Plan each year to highlight areas of Science to be focused on ensuring the continuing development of the subject at Forefield Infant and Nursery School.

10. Equality Statement

The Science curriculum adheres to our school Equality Policy. It is the responsibility of all staff to ensure that all children are treated equally, regardless of their background, gender, race or ability. We are an inclusive school and teach Science to all children respecting individual needs. The Science curriculum takes into account issues of difference including: gender, race and ethnicity.

Keith Robinson
Science Subject Lead
July 2023