



Streetsbrook Infant & Early Years Academy



Policy for Science

Streetsbrook Infant & Early Years Academy

'Learning for Life'

At Streetsbrook, we strive to provide an equal chance for all to become responsible and caring citizens who lead happy and fulfilled lives, and are equipped with the skills and abilities to shape the world they live in.

Our Values are:

- **Self-Belief**
- **Belonging**
- **Respect**

These are embedded into our Nurturing Principles



Contents

Intent 1

Implementation 1

Impact 4

Policy Review..... 5

INTENT

Subject Statement

At Streetsbrook, we believe that every child matters and every child matters equally. We aim for all our children, including those with SEND, to have fun, to develop positive relationships, achieve good outcomes and be prepared for their next steps in learning. We achieve this by ensuring our provision is well planned and delivered by highly skilled staff in partnership with parents and external professionals who are all committed to putting the children's needs at the heart of everything they do.

Our broad and balanced curriculum celebrates the diverse nature of our society and encourages adherence with the fundamental British values. We do not tolerate discrimination of any kind. Through quality first teaching practices we support, guide and inspire our children educationally and promote their spiritual, moral, social, cultural, mental and physical development.

Aims

Children have a natural curiosity about the world around them and by the time they start school they will have already started to explore, discover and investigate their environment. Through these experiences, they begin to further develop a knowledge and understanding of the world and the role science plays in our lives.

At Streetsbrook we aim for every child to think like, and aspire to be scientists. This is achieved through an exciting science curriculum, which is aligned with the National Curriculum. This includes developing an age-appropriate scientific knowledge and conceptual understanding through the different disciplines of biology, chemistry and physics. Children will develop their understanding of the nature, processes and methods of science through different types of enquiries to help them to find the answers to scientific questions about the world. In doing so, they should be equipped to understand the uses and implications of science, both for today and in the future.

Our curriculum leader for Science is Mrs Louise Harlow

Cultural Capital

At Streetsbrook, we aim to build children's cultural capital by providing them with rich, varied experiences that broaden their understanding of the world around them. Children are exposed to a range of scientific ideas, people and discoveries, both past and present, so that they can see the relevance of science in everyday life and in different cultures. Through practical investigations, visits, outdoor learning and encounters with scientific role models, children gain the knowledge, curiosity, and confidence to engage with scientific questions in the wider world.

Embedding Ambition

At Streetsbrook, we know the importance of scientific knowledge and understanding, and the doors this opens in the future. We believe that all children are scientists, regardless of their background, need and abilities. We monitor and evaluate our provision regularly and make sure all children are making sufficient progress, including those who need the most support. We make sure that all children have access to engaging lessons and a range of wider opportunities and fully involve families in supporting their children.

All lessons have a 'working scientifically' golden thread running through them, focusing on the children's questioning, observation and noticing skills, offering opportunities to record data in a variety of ways and supporting children in communicating their thoughts and ideas. During Science lessons, children develop their independent and collaborative working skills.

IMPLEMENTATION

Learning Environment and Resources

The staff at Streetsbrook provide safe, secure and stimulating environments that allow learning to flourish. We ensure we have access to high quality resources that fully support teaching and learning for all children. This includes a range of scientific resources for both taught lessons and continuous provision, as well as the provision of science related reading resources, which engage, inspire and promote equality, diversity and inclusion.

Curriculum

Our curriculum is based explicitly on the DfE's statutory Early Years Foundation Stage Framework and the National Curriculum for Science. Every Science lesson taught at Streetsbrook is underpinned by the children working scientifically and they are actively encouraged to use age-appropriate scientific vocabulary.

How is the curriculum taught?

'Science' is taught weekly in EYFS and KS1. Where possible, science learning is linked with year group topics. For example, a focus on Living Things and Habitats during the Year 2 Sensational Safari Topic. In addition, children at Streetsbrook are also able to access science related activities outside of explicitly taught lessons as part of our continuous learning provision.

EYFS

In EYFS our curriculum is built around the seven areas of learning and development outlined in the 'Early Years Foundation Stage Statutory Framework'.

1. Communication and language: listening, attention and understanding; and speaking
2. Personal, social and emotional development: self-regulation, managing self, and building relationships
3. Physical development: gross motor skills and fine motor skills
4. Literacy: comprehension, word reading, and writing
5. Mathematics: number and numerical patterns
6. Understanding the world: past and present; people, culture and communities; and the natural world
7. Expressive arts and design: creating with materials; and being imaginative and expressive

The Science curriculum begins in the Early Years Foundation Stage, where learning is largely delivered through the 'Understanding the World' area of learning, primarily within the strand called 'The Natural World'. It encourages curiosity, observation, and questioning about the environment, living things and physical processes. In line with the ethos of the EYFS framework, the activities and experiences children encounter within the EYFS are designed to enable children to establish links between and across different areas of learning.

The key aims are that they:

- will explore and investigate their natural surroundings, noticing patterns, similarities and differences
- talk about what they see, hear and feel in relation to the seasons, weather, materials and living things
- understand changes, such as growth, decay and the life cycles of some plants and animals
- recognise the impact of human activity on the environment and living things
- begin to understand basic scientific concepts, such as materials having different properties and that some things float, melt or change state

Key Stage 1

Science in Key Stage 1 encourages children to continue to develop their curiosity about the world around them. They will build upon their skills to observe, explore, and ask questions about living things, materials, and physical phenomena. The focus on practical experiences, developing scientific skills and vocabulary.

The key aims are that they should learn to:

- ask simple questions and recognise that they can be answered in different ways
- observe closely, using simple equipment
- perform simple tests
- identify and classify
- use observations and ideas to suggest answers to questions
- gather and record data to help answer questions

As a core subject, Science is taught weekly. Children will also encounter the opportunities to work scientifically across a range of curriculum areas, with very close links in PSHE, PE and Design & Technology lessons. All children in KS1 are taught Science in line with the requirements of the Science national curriculum.

The programmes of study in KS1 are as follows:

Year 1 Topics	Year 2 Topics
Plants - identify and name common wild and garden plants - describe basic structure of a variety of common flowering plants and trees	Plants - observe and describe how seeds and bulbs grow - understand what plants need to grow (water, light, temperature)
Animals, including humans - identify and name common animals (fish, amphibians, reptiles, birds, mammals) - recognise carnivores, herbivores and omnivores - describe and compare the structure of common animals - identify, name, draw and label basic parts of the human body and senses	Animals, including humans - notice that animals, including humans, have offspring that grow into adults - describe basic needs for survival - understand the importance of exercise, diet and hygiene
Everyday materials - distinguish between an object and the material it is made from - identify and name common materials (wood, plastic, glass, metal, water, rock) - describe their simple physical properties and compare uses	Use of everyday materials - identify and compare materials for particular uses - understand how shapes of materials can be changed by squashing, bending, twisting or stretching
Seasonal changes - observe changes across the four seasons - describe weather associated with seasons and day length	Living things and their habitats - explore the differences between living, dead and non-living things - identify habitats and how animals and plants depend on them - describe simple food chains

Vocabulary Development

A child's vocabulary knowledge can have a huge impact on their ability to work scientifically and discuss their findings. To support this, we have identified a progression of key vocabulary across each year group. Children are supported to embed their understanding of key vocabulary over time.

We aim to help children with this by:

- Clarifying and modelling new vocabulary
- Practising using the correct vocabulary orally and in context
- Creating displays of key words linked to specific topics and subjects
- The use of high quality resources to support learning

Planning

At Streetsbrook the EYFS framework and English national curriculum for Science underpin our Science curriculum and lesson planning. Supported by this documentation we have created a Curriculum Overview for each year group and a Curriculum Progression document, mapping the progression of essential scientific skills and knowledge taught at Streetsbrook. In line with this, staff plan for each Science session ensuring they identify clear learning expectations, are alert for scientific misconceptions, have strong links to prior learning and clear progression across learning strands and from year to year. Lesson planning includes opportunities to revisit and consolidate prior learning and provides a balance of practical experiences, discussion and recording, that considers the needs of all learners. All science lessons have a 'working scientifically' golden thread running through them. This could be by focusing on the children's questioning, observation and noticing skills, offering opportunities to record data in a variety of ways and supporting children in communicating their thoughts and ideas.

Parental Engagement

At Streetsbrook we believe working in partnership with parents is invaluable. We provide supporting resources for Science via our website and whole school science events, including annual participation in British Science Week to engage and inform our families. Where possible, parents with a science background/job are invited to visit school to share their knowledge and experience. Recent visits have included a Veterinary Surgeon, AI Scientist, Structural Engineer and Dentist.

Inclusion

We utilise the principles of Adaptive Teaching, as outlined in our Curriculum Policy, to ensure teaching and learning meets the needs of all children. Where required, children with SEND are supported to access the Science curriculum. In line with individual learning plans, interventions or additional teaching opportunities may be required to ensure they are able to access the curriculum in a way that is appropriate to them.

Staff are highly skilled in adapting the curriculum, the learning environment, their practice and the resources used in order to meet the needs of all children. Examples of inclusion strategies in science include, but are not limited to, time allowances, enlarging images and texts and grouping/pairings of children. Additional adults and support staff are deployed effectively and support the class teachers in ensuring children are able to make progress in each curriculum area. Pre-teaching of key vocabulary is used to support children with English as an additional language.

Health and Safety

Health and safety is maintained to a high standard at Streetsbrook to ensure children and staff are protected from harm whenever possible. This includes both their physical and mental health, ensuring we comply with the Health and Safety at Work Act 1974. As necessary, risk assessments will be conducted to ensure that all potential risks and harms have been identified and that staff understand how to respond should an unexpected risk occur.

All staff are responsible for ensuring that the necessary procedures to safely carry out science activities are implemented, including:

- Hygiene procedures such children not putting anything in or near their mouth during science
- Personal protection such as tying back hair, tucking in loose clothing, and removing jewellery
- Reducing workplace hazards such as having a clear work space for science activities
- We maintain a general membership subscription to CLEAPSS (Consortium of Local Education Authorities for the Provision of Science Services) Which allows us to access specialist health and safety advice that supports practical work in science, design technology, and art and design for schools.

Remote Learning

In the case of remote learning being necessary we will provide learning opportunities through a combination of live on line lessons and by facilitating access to lesson content and resources to support independent home learning.

IMPACT

Feedback, Marking and Assessment

Whenever possible staff provide children with 'live feedback' to allow for interaction and dialogue. Age appropriate written feedback is also provided in line with our Assessment and Marking policy. Assessment is used to monitor progress and to promptly identify any child in need of additional support.

Assessment for learning is used:

- to identify children in need of support

Summative assessment is used:

- to monitor attainment and progress
- to identify attainment gaps between different groups of children
- to identify where additional support for teachers may be required

Pupil Voice

The views of children on our science provision are gathered at least annually through small group discussion sessions involving the Subject Leader and KS1 representatives on our Curriculum Focus groups.

Governors

We work in partnership with Governors to ensure our curriculum is inclusive and accessible and fulfils the requirements of the EYFS statutory framework and the English national curriculum. Governors monitor statutory assessment arrangements and receive regular updates on progress and attainment in Science.

Monitoring and review

Our Science curriculum is monitored and reviewed regularly to ensure its on-going effectiveness. This is done in several ways including:

- Monitoring and moderation
- Learning walks
- Lesson observations
- Work scrutinies
- Attainment tracking and data analysis
- Displays scrutinies
- Pupil progress reviews
- Pupil voice
- Staff voice
- Through staff CPD opportunities
- Planning scrutinies
- Curriculum progression scrutinies

Policy Review

All members of staff are required to familiarise themselves with this policy as part of their induction programme. The Subject Leader will review this policy every three years and will make any changes necessary, in consultation with all stakeholders.

The next scheduled review date is Summer term 2028.



Louise Harlow
Subject Leader for Science