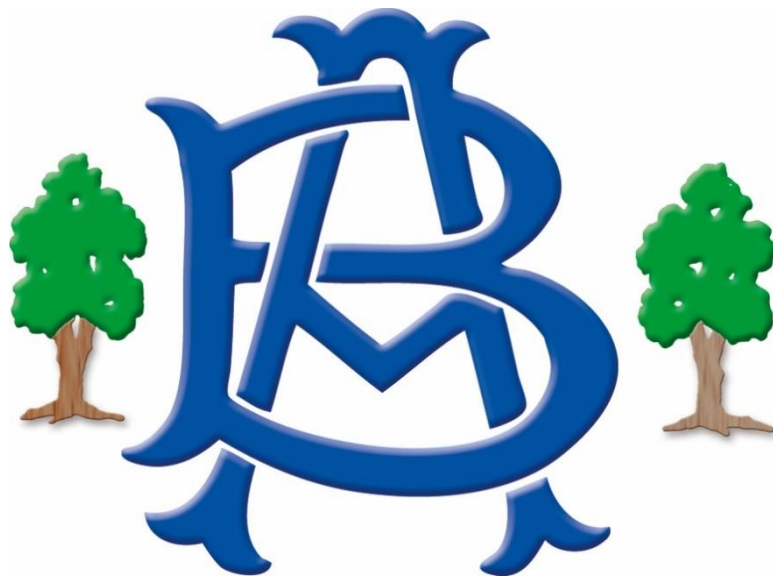


Booker Avenue Infant School



'Working together, learning together'

Science Policy

Ethos and Rationale

At Booker Avenue Infant School, we believe that our children should develop a love of learning and show care and respect for each other within the context of a happy, secure and challenging learning environment.

This policy reflects Booker Avenue Infant School's values and philosophy towards the teaching and learning of Science.

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science changes our lives and it is vital to the world's future prosperity. All learners should be taught essential aspects of the knowledge, methods and processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

(National Curriculum 2014)

Science plays a crucial role in our understanding of the world around us. Through the teaching of science children should be prepared for life, through experiences and exploration of the world in which they live. Children discover, explain and develop skills of enquiry through working scientifically.

Equality and Diversity

We have carefully considered and analysed the impact of this policy on equality and the possible implications for pupils with protected characteristics as part of our commitment to meet the Public Sector Equality Duty requirement to have due regard to the need to eliminate discrimination, advance equality of opportunity and foster good relations.

It is the responsibility of all staff to ensure that all children are treated equally, regardless of their background, gender, race or ability and have an equal entitlement to scientific activities and opportunities. We are an inclusive school and teach Science to all children respecting individual needs. Through teaching Science, we provide learning opportunities for all pupils. We strive to meet the needs of all pupils including those with Special Educational Needs Disabilities [SEND], More Able and Talented and those learning English as an Additional Language [EAL].

Learning to live and work together, and respect each other is encouraged throughout the school.

Meeting the Needs of All Learners

Throughout school there are children with extremes of skills and children who have had a wide variety of experiences before they come to school. Our school aims to provide the children with stimulating and challenging activities which cater for the wide range of abilities throughout our school:

- Differentiation- learning may be differentiated by outcome or by the amount and type of support they receive. This should always be planned in order that all children will experience success. Children may be participating in a common task, carefully chosen to be manageable for children with a variety of both SEND and those who are the more able and talented or be undertaking a common task, with a specific group of children being given guidance by the teacher whilst other groups work independently. Children with learning and/or physical difficulties will be enabled to take an active part in scientific learning and practical activities and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst the more able children will be extended through differentiated activities
- By being given enhancing and enriching activities, more able children will be able to deepen their knowledge and understanding appropriate to their needs
- Use of questioning throughout a lesson to assess and review learning in order to challenge and support to all learners. If necessary, lessons will be adapted to meet all learners' needs e.g., if an activity is too easy/difficult adapt it for specific children there and then
- Valuing children's own self and peer assessments in order to assist planning and future differentiation
- Judging learners' understanding with accuracy and using this to inform future learning opportunities and planning: through the use of success criteria, self and peer assessment, questioning, prior knowledge assessments as well as subject specific assessment procedures
- Identifying where a learner is, and provide necessary stimulus to ensure that learners recognise and accept the next stage of learning
- Having high expectations and using personal and social targets (linked to the Behaviour Policy) to motivate all learners to achieve to their full potential

Aims of Teaching Science

Through the teaching of science all learners should:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.
- be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

(National Curriculum 2014)

At Booker Avenue Infant School, we aim that all pupils:

- have the opportunity to achieve their full potential in their knowledge, skills and understanding, through their scientific experiences

- develop the ability to work independently and co-operatively in scientific activities, formulating and sharing ideas
- be curious about things they observe and experience, through sensory exploration of the world around them
- develop their understanding of key scientific ideas and make links between different phenomena
- develop the skills of predicting, asking questions, making inferences, concluding and evaluating, based on evidence
- grow in confidence in science so that they are able to express their ideas through using scientific language
- develop a respect for living things and the environment, and for their own health and safety

Our School Curriculum and Planning

The National Curriculum 2014 programmes of study for Key Stage 1 and the Early Years Foundation Stage (EYFS) Framework for Reception are taught through a variety of themed topics.

Children in the EYFS work towards achieving the Early Learning Goals in ‘Understanding the World’. Teachers plan specific topics using the Kapow Scheme of Work, which links directly to the school EYFS Curriculum map. Planning also builds upon and develops children’s own interests and curiosity about the world they live in.

Delivering the Curriculum

Children are taught Science following a bespoke literacy lead curriculum in EYFS and the Kapow Science scheme in KS1. These provide engaging, quality science experiments that harness curiosity and develop children’s scientific ability and personal development. The Early Years framework is an integral part of the scheme and the activities cover the prime areas and Early Learning Goals. Kapow Science in KS1 ensures that the science contexts are meaningful by setting content in a range of interesting contexts that are relevant to the pupils. It ensures that pupils relate the science they are learning to their own lives as well as working with contexts in the wider world.

Continuity and Progression

The teaching in Key Stage 1 builds upon the Early Learning Goals achieved at the end of the Foundation Stage. Our units of work for Year 1 and Year 2 follow the progressive sequence of key scientific teaching and learning that is outlined in the National Curriculum. Therefore, skills, knowledge and understanding are built upon, unit on unit, year on year. Investigative skills that develop children’s ability to work scientifically are fostered throughout all scientific learning. The Subject Leadership Team ensure that there is continuity and progression by maintaining a record of the science covered by the Kapow Science planning.

Key Skills

Language & Literacy:

Opportunities to develop secure cross curricular links between science and other areas of the curriculum are constantly taken advantage of, and navigated around our bespoke Literacy-led curriculum.

Language and literacy are a crucial part of our teaching and learning in science. It is used and developed in the following ways:

- spoken language: give learners opportunities to articulate scientific concepts, enable them to make their thinking clear to themselves and others, enable teachers to remedy misconceptions through discussion, enable learners to communicate their ideas to a range of audiences
- reading and writing: read information within secondary sources, label diagrams, write instructions, write descriptions, write evaluations, write explanations, read and spell scientific vocabulary consistent with their word-reading and spelling knowledge
- vocabulary development: develop use of accurate scientific vocabulary in reading, writing and spoken language

Numeracy and Mathematics:

Our learners apply numeracy and mathematics knowledge and skills in science, in the following ways:

- apply arithmetic fluently to problems
- understand and use measures
- estimate and sense check their work
- collect, present and analyse data

Problem Solving and Thinking Skills

Many aspects of science contribute to the development of thinking skills and opportunities will be given to develop the following different thinking skills:

- Information-processing skills: enables children to locate and collect relevant information to sort, classify, sequence and analyse relationships
- Reasoning skills: enables children to give reasons and opinions, to draw inferences and make deductions, to use precise language to explain what they think and to make a judgement informed by reasons and evidence
- Enquiry skills: enable children to ask relevant questions, to pose and define problems, to plan what to do and ways to research, to predict outcomes and to test conclusions and improve ideas
- Creative thinking skills: enable children to generate and extend ideas, to suggest hypotheses, to apply imagination and to look for alternative innovative outcomes
- Evaluation skills: enables children to evaluate information, to judge the value of what they read, hear and do and to have confidence in their judgements

Health and Safety

Activities are planned with regard to our Health and Safety policy. Risk assessments are carried out as appropriate.

When working with tools, equipment and materials in practical activities and in different environments, pupils should be taught:

- about hazards, risks and risk control
- to recognise hazards, assess consequent risks and take steps to control risks to themselves and others
- to use information to assess the immediate and cumulative risks
- to manage their environment to ensure the health and safety of themselves and others
- to explain the steps they take to control risks

Assessment, Recording and Reporting

Teacher assessments are carried out as part of every classroom activity and it is a continuous process, supported through the school's marking policy and assessment policy. These assessments inform planning and close gaps in learning.

Children are observed against Early Learning outcomes and records of learning are included in the children's Learning Profile. Foundation Stage tracking is carried out and entered into the school assessment tracker each term.

In Key Stage 1, teachers continuously assess pupils against statements (evidenced through observation and written learning).

Assessment is recorded each term via our Tapestry program.

Progress in Science is reported to parents at parents' evenings and in an end of year report.

Monitoring the Teaching of Science

The role of monitoring teaching and learning in science is managed by subject leadership team. The role includes:

- Purchasing and maintaining Science resources within the school
- Keeping abreast of new developments in science
- Attending courses/inset where relevant and disseminating information to staff
- Developing and updating the school policy for science
- Acting as a point of contact should advice be needed and modelling good practice in the teaching of science
- Monitoring and evaluating the Science curriculum

Teaching and learning is monitored through lesson observations, learning walks and work scrutiny. These are led by the Senior Leadership Team.

Feedback is given to individual teachers, and patterns may be used to inform the school improvement plan or develop any action points for the school. Assessments are monitored by the Senior Leadership Team Leadership Team. Again, patterns identified from the assessment data may inform the school improvement plan.

Policy reviewed: July 2025

Date of next review: July 2026