

Bushfield Road Infant School



Science Policy

Updated Autumn 2021 Next review: Autumn 2022
The policy will be reviewed annually.

The National Curriculum

'A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, 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)

The key aims of the national curriculum outline that children should be able to:

- 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
- Are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.

1. Curriculum Intent

At Bushfield Road Infant School, the teaching of science allows children to immerse themselves within the world around them, harnessing their natural curiosity and developing themselves as young scientists. The science curriculum is planned and sequenced so that new knowledge and skills build on prior learning. This enables pupils to build strong foundations for their scientific knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics. Enquiry skills are embedded within most science lessons enabling pupils to ask and answer questions and collect and analyse evidence. In addition, Teachers capitalise on spontaneous opportunities to discover and explore scientific ideas where possible, making science relevant to their lives and interests. We plan opportunities for learning within our local environment. This gives children real life experiences, enabling them to connect with the world around them and develop their cultural capital. Our pupils leave our school able to explain their ideas using scientific terminology and with the ability to apply their learning to their observations of the world around them.

2. Implementation

The Science curriculum is based on the programmes of study set out in 'Understanding the World' in EYFS and the Key Stage 1 National Curriculum. The school uses a variety of teaching and learning styles in science. Our aim is to develop the children's knowledge, skills and understanding in science through providing a broad, balanced and creative curriculum that meets the individual needs of our pupils. We do this through a mixture of whole class teaching and individual or group activities. Children develop their understanding of scientific ideas by using different types of scientific enquiry to make predictions and answer their own questions. Children also have the opportunity to use the library and ICT resources to support their learning.

We ensure that there are opportunities for children of all abilities to develop their skills and knowledge and we build planned progression into the scheme of work so that the children are increasingly challenged as they move up through the school.

3. Impact

Science provides children with the foundations for understanding the world. The impact of this is to ensure children not only acquire the appropriate age-related knowledge linked to the science curriculum, but also skills which equip them to progress from their starting points, and within their everyday lives. All children will use scientific vocabulary accurately. Children will be able to question ideas and reflect using their knowledge and understanding of key concepts. Children will work collaboratively and practically to carry out investigations and explain their findings. Children will be able to use their scientific knowledge to make predictions about the outcomes of investigations. Children will be inquisitive and confidently explore the world around them.

4. Teaching and Learning

We recognise the fact that we have children of differing ability in all our classes and so we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies:

- Setting common tasks that are open-ended and can have a variety of responses
- Setting tasks of increasing difficulty which builds on prior learning
- Grouping children by ability and setting differentiated tasks for each group
- Using additional adults to support the work of individual children or small groups
- Providing a range of activities with different resources

5. The Early Years Foundation stage

The Statutory framework for the Early Years Foundation Stage 2021 states that: -

'Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them - from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.'

Within the Early Years Foundation Stage documentation, exploring the natural world makes up a significant section of the Understanding the World element. It is an integral part of the early years education programme and is taught as part of a topic-based approach to learning. The objectives and success criteria are taken from the EYFS skills progression created by the school, which is based on Development Matters 2021. Children also have access to the investigation area, as part of continuous provision in both the Nursery and Reception classes, alongside adult led activities.

6. Science and SEND

At our school we teach science to all children, whatever their ability. Science forms part of the school curriculum to provide a broad and balanced education for all children. Through our teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs.

We enable all pupils to have access to the full range of activities involved in learning about science. Where children are to participate in activities outside the classroom, for example, a visit to the park, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

7. Assessment and Recording

We assess the children's work in science whilst observing them working during lessons. In every lesson, learning outcomes are noted in the outcome column of the short term planning. This informs future planning. Children are also given the opportunity to assess their own work and sometimes the work of their peers.

In KS1, Teacher Assessment Frameworks are used in Science to track individual progress. Each term Teachers highlight the relevant statements that each child has securely achieved. The science records are passed on to new teachers at transition points.

At the end of Key Stage 1 the National Curriculum is used to determine whether a child is working towards the expected level, working at the expected level or Working at greater depth.

In the Foundation Stage children's progress is monitored termly using the EYFS framework. At the end of Foundation Stage, children will be assessed using the EYFS profile. The ELG's will be used to determine whether children are working below or working at the expected level.

8. Resources

Science resources are stored centrally. They are available for use in science lessons when required.

9. Monitoring

The monitoring of the standards of children's work in science is the responsibility of all teaching staff. The work of the subject leader also involves supporting colleagues in the teaching of science, being informed about current developments in the subject and providing a strategic lead and direction for the subject in the school.

Written: September 2021

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