



Science Policy Forest Fields Primary School

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.

Science Curriculum Intent

At Forest Fields Primary and Nursery School, children will:

- experience and observe the natural and human worlds around them and broaden their view of these worlds
- be inquisitive
- be filled with curiosity
- answer and ask questions about what they notice
- use vocabulary appropriate for their year group
- take an active lead in their learning

Aims

- To develop children's scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- To develop children's 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
- To ensure children are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future
- To seek to ensure that all children achieve their full potential in Science

Science Curriculum Implementation

'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study.

Lessons begin with a review of prior learning to ensure confident retrieval of knowledge across all strands of Science. The curriculum is delivered in a way which is as practical as possible, providing rich opportunities for enquiry and challenge. New learning is delivered through a well-sequenced lesson plan, with the learning outcome being made clear to all children. Next steps are shared so that the children are aware of where their current learning will take them. We encourage students to be resilient and question, to support development in their work and learning behaviours.

Learning experiences

Snap Science is used to inform and support our teaching and learning. Many scientific experiments and investigations are suitable for mixed ability groupings, but children will be encouraged to develop and extend an investigation further. Class lessons will be used to ensure coverage of 'sticky knowledge' in each area, and also in cases where the availability of expensive equipment or safety issues demand them.

The teaching methods include:

- Investigation and experimentation
- Teacher demonstration
- Discussion and debate
- Question and answer
- Individual investigation
- The use multi-media such as video clips, computer programs and simulations
- Fieldwork
- Visits to places of scientific interest
- Science clubs

Early Years

As part of the Foundation Stage of the National Curriculum, we relate the development of the children's knowledge and understanding of the world to the objectives set out in the EYFS (Early Years Foundation Stage). Children are guided to make sense of the physical world around them and their community.

Key stage 1

Children will:

- experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them
- be encouraged to be curious
- ask questions about what they notice
- be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions
- start to use simple scientific language to talk about, as well as reading and spelling, what they have found out

Lower key stage 2

Children will:

- broaden their scientific view of the world around them
- explore and test ideas about everyday phenomena and the relationships between living things and familiar environments
- be encouraged to ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them
- draw simple conclusions and use some scientific language

Upper key stage 2

Children will:

- develop a deeper understanding of a wide range of scientific ideas
- explore and verbalise ideas, asking their own questions about scientific phenomena
- analyse functions, relationships and interactions more systematically

- encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates
- begin to recognise that scientific ideas change and develop over time
- draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings

Equality of Opportunity

Every child in this school, regardless of gender, race, cultural background or ability is entitled to have full access to our curriculum in Science. Resources are carefully chosen to reflect positive images. Teachers will include in their planning differentiated activities in order to meet the needs of all children. Science also provides excellent opportunities for mixed ability grouping in practical investigations.

Resources

The main stock of scientific resources are currently kept in the store cupboard located in the magenta staircase in the Berridge building and staff are encouraged to return them promptly after use. Consumables are replenished as required, with relevant equipment being distributed, as appropriate, in preparation for the areas to be studied according to the curriculum plan.

Safeguarding

Science is taught in a way which puts safety first. Resources used are carefully selected to ensure they are non-toxic and safe for children to use. Allergies are also taken into account to safeguard all pupils. When learning takes place outside of the classroom, steps are taken to ensure there is adequate staffing to keep children safe. Children are briefed on the activity beforehand and any potential hazards are discussed so that they can be prevented.

Assessment, Recording and Impact

Science is assessed using the 'snap shot assessment' tool on Snap Science at the end of each module. There is one task for each curriculum objective within a module. This is supported with 'questions to check understanding' consisting of definitive questions to ask following an activity created for the end of the topic. Snap Science Assessments will inform teacher assessments recorded at the end of each module on Classroom Monitor, to be monitored by Science Leads.

Evaluating and Reviewing

Planning and children's books are reviewed regularly. Experienced staff are available to support teaching and planning as needed. The school council have been consulted in order to evaluate children's attitudes towards science teaching at Forest Fields.

Role of the Co-ordinators

- Providing leadership and management to secure high quality teaching and learning in science
- Monitoring the full coverage of the programmes of study areas across the school
- Evaluating the quality of planning, teaching and assessment in science
- Undertaking work analysis as part of the whole school programme of monitoring and evaluation in the curriculum
- Contributing to the School Improvement Plan, highlighting areas for development
- Managing organisation of materials and resources
- Keeping abreast of current developments in science
- Providing colleagues with relevant information support and advice through training and informal discussion