



Curriculum policy: Science

Science:

Being curious, working scientifically, thinking critically



Curriculum Intent

Through Science we want our children to become independent learners who are curious and willing to ask and answer their own questions. Communicating their understanding and being able to explain their reasoning is essential so children should not only be able to talk about what they have been doing, but also why and what they have learned.



Curriculum Aims

We want children to be able to:

- Ask questions, discuss, communicate understanding, and revise their ideas
- Use specialist vocabulary
- Understand and clarify what Science is and the importance and value of studying the subject
- Develop their subject knowledge in terms of biology, chemistry, and physics
- Develop five key enquiry skills which develop their ability to work scientifically:

Observation over time

Fair or comparative tests

Identification and classification

Research

Pattern seeking

- Achieve age related expectations



Lesson structure

We want science to be an enjoyable experience. We believe that children learn best when there is a clear structure and purpose for the learning.

Science is taught using an enquiry approach. Each unit begins with a 'Get started' opener which provides ideas for eliciting prior learning from previous activities as well as first hand experiences at home and in the locality. 'Let us think like scientists' provides questions to encourage critical thinking and research.

There is also a clear unit outcome, providing a clear purpose for the learning.

Each lesson begins with a clear learning intention. Success criteria are expressed as 'I can' statements (Recorded as a title page in their exercise books) which the children can self-assess as the lesson and unit progresses.



Planning and Resources

Each unit employs the same structure. Teachers begin by looking at the unit overview. This provides an at-a-glance overview of what will happen in the half termly unit. It offers practical advice regarding resourcing and teaching of the unit of work. It starts with a 'Get started' opener and is followed by 'Let us think like scientists' questions.

Everything a child does and thinks in science is important, so we provide regular opportunities for children to engage in hands on practical, problem-solving activities where they can apply what they have learnt.

It is essential that teacher's read, digest, and fully understand how each lesson builds on the next.

Classroom displays are essential to support learning. These should include a range of questions from the unit including the key question and sub questions. Subject specific vocabulary should be included with definitions.



Curriculum Implementation

We teach science as an explicit subject from Years 1 to 6 using the Rising Stars scheme. All children work on the same core tasks, but there is clear guidance of how to adapt work where necessary.

Children are taught science every week. Throughout the lessons children are engaged in asking questions and using one of the five science enquiry activities: observation over time, fair or comparative tests, identification and classification, research or pattern seeking.

Children are asked to communicate their science using different approaches, e.g. writing, drama, poetry, discussion, using ICT etc.

We believe that vocabulary is important and a child's ability to use scientific words appropriately is a good indicator of understanding of knowledge and skills.

Where appropriate, links with other curriculum subjects are made.

Science knowledge and skills are taught and developed within 'Understanding of the World' in the Early Years Foundation Stage (EYFS). Learning experiences are a combination of adult led and child-initiated activities. Our forest school is also well used as it provides excellent opportunities to enhance the outdoor learning experiences.



Assessment

Formative assessment opportunities are integrated throughout the units. Some are informal and depend on the use of talk, eavesdropping on children's discussions or through direct conversation with children to check their understanding and correct use of vocabulary.

Each unit is clearly evidenced with a title page which breaks down the 'I can' statements for each lesson. The 'I can' statements should be constantly referred to throughout the lesson. Wherever possible the work recorded in the children's exercise books will demonstrate their understanding and allow them to indicate that they have achieved the 'I can' statement.

By looking at which 'I can' statements the children have achieved, the children, teacher and subject leader can quickly determine who is working at age expectations and the knowledge, skills and concepts that require further attention.



Inclusion

We teach science to all children, whatever their ability. Lessons are planned to meet the expectations of each year group, and the individual needs of the children. Children may also choose to demonstrate their understanding orally or visually, to avoid limited literacy skills hindering their achievements within the

subject. Where possible, children will be supported through paired and group work. Questions posed within the sessions provide opportunities for all children to be able to contribute.



Role of Subject Leader

- Ensure that the statutory requirements of the national curriculum for science are met
- Ensure appropriate professional development opportunities are provided for all staff
- Monitor their subject to ensure consistency of approach
- Ensure regular and appropriate assessment of science takes place and have a clear overview of who is achieving age related expectations
- Ensure that children who are not making enough progress to achieve age related expectations have been identified, and appropriate interventions put in place to ensure they catch up
- Ensure appropriate resources are available
- Engage with outside agencies and online communities to keep up to date and become the expert in their chosen subject in the school

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