



# Curriculum policy: Science

# Science:

Being curious, working scientifically, thinking critically



## Curriculum Intent

Our science curriculum aims to enable children to understand the world around them and we develop this through a scientific lens. We want our children to become independent learners who are curious, passionate and have a desire for discovery, as well as have an appreciation for the importance of science in the wider world. We strongly believe that every child should see themselves as a scientist which is reflected in the diverse range of important scientists studied. Throughout the school, we want children to be able to communicate their understanding and explain their reasoning using appropriate and accurate vocabulary so that they are well equipped to go forth into secondary school.



## 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 believe that children learn best when there is a clear structure and purpose for the learning.

Each lesson begins with a clear learning intention and success criteria (knowledge goals) before moving onto revisiting prior learning to ensure children are 'knowing more' and 'remembering more'.

Following this, teachers share key scientific vocabulary that children need to communicate their understanding accurately. This will involve oral rehearsal and explanation of definitions where needed.

Teachers will then deliver teaching input: this may involve imparting new knowledge and modelling of a particular skill. Throughout this, pupils will be asked questions to assess their understanding and allow for any misconceptions to be addressed. Children will then move on to completing a task independently to show their understanding, as well as have opportunities to deepen their understanding through discussion tasks and other activities.



## Planning and Resources

Each year group has a unit overview which shows the order in which the units should be taught. Within a unit, lessons are carefully sequenced so that they build upon knowledge the children have previously learned.

Where scientific investigations take place, children have access to the relevant resources to ensure every child can be involved.



## Curriculum Implementation

We teach science as an explicit subject from Years 1 to 6 using Primary Knowledge Curriculum. All children work on the same core tasks with work adapted where necessary to ensure access to the curriculum.

Children are taught science every week. Every unit allows children to develop their working scientifically skills and children are given opportunities to communicate their understanding regularly through frequent discussion and writing opportunities. This encourages children to use the vocabulary taught within each unit.

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 area is also 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. The work recorded in the children's exercise books will also demonstrate their understanding and allow teachers to assess where additional teaching may be required.

Each unit has a list of specific end points which identifies the key knowledge and/or skills children should be able to evidence by the end of the unit. This supports teachers in identifying gaps in knowledge that need to be addressed as well as assess who is working at age related expectations.



## Inclusion

We teach science to all children, whatever their current attainment or starting points. Lessons are planned to meet the expectations of each year group, and adapted for 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
- Improve the quality of provision for all pupils
- 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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