

Science Subject Policy

Intent

WE CAN Provide teaching that develops knowledge and skills so children can learn and progress effectively

Science teaching at Grendon is taught following Science guidelines from the National Curriculum.

WE CAN Offer enriching activities, event and experiences

Where appropriate, Science can be linked and connected to Whole School and Junior Leader Days to enable children to learn and make links with their learning in an exciting way. Educational visits or visits can be used to

WE CAN Work together to remove barriers and ensure equality

It is our intent that in our Science lessons, children are challenged to think more deeply about key scientific concepts. This may involve looking at an investigation in a different way and showing their understanding in greater depth.

WE CAN Build independent and resilient learners who are able to communicate confidently

It is our intent that in teamwork and collaborative investigations, children are given the opportunity to display our school's key concepts involving communication and independence, where they are encouraged to develop and share their own ideas either to the class or in small groups. Children are encouraged to face challenges and apply their Growth Mindset.

WE CAN Listen to and treat each other and all members of the community with respect, tolerance and concern

During Science lessons, it is our intent that children will have the opportunity to work with peers during paired or group investigations or tasks. These opportunities allow pupils to put into practice our school values, including treating other respectfully.

WE CAN Recognise ability, maximise potential and prepare children well for their future and life in modern Britain

Science is an integral part of every child's education, giving a secure foundation for secondary education. It helps foster a sense of curiosity about the world, encouraging them to think about how everyday processes occur. Scientific curiosity may even lead to a future career as someone working with animals, or even as a scientist.

Implementation

Roles and Responsibilities

- The Class teacher is responsible for delivering Science learning as outlined in the curriculum
- The Science subject leader is responsible for
 - Updating unit plans in response to annual evaluations
 - ensuring all resources for teaching are available and well organised,

- offering support with Science teaching and learning,
- maintaining an oversight of assessment outcomes,
- monitoring the quality of teaching and learning,
- keeping up to date with the latest best practice for Science teaching.
- The Academic Lead is responsible for ensuring progression and continuity across the school.
- The Headteacher is responsible for overall academic provision and performance.

Organisation

At Grendon, Science is taught as a regular subject either once or twice a week (in KS1) or twice or three times a week (in KS2). In the EYFS, children are encouraged to think about the wider world around them. Some of their topics are focussed on gaining Science knowledge.

For KS1 and KS2 Science teaching at Grendon is taught following Science guidelines from the National Curriculum.

In KS1, children's learning includes finding out about animals and their life processes; plants; materials and weather. In KS2, children learn a wide variety of important scientific concepts, including electricity; rocks and soil; forces and evolution.

Science is included in the annual cycle of homework projects. This allows children to engage in project based Science work at home with their families.

Teaching and Learning

Medium term planning is provided for each unit. These outline core coverage and should be followed, making adaptations for specific classes where appropriate. Practical tasks are appropriate in Science lessons.

Scaffolding:

To enable all children to develop from their starting points, scaffolding strategies could be used to enable children to complete an increasingly challenging standard of work with increased independence.

Differentiation:

Children of all ability levels should be supported to access Science work and to record their ideas in an appropriate way. Modifications to practical tasks including the use of different apparatus or additional adult or peer support may be appropriate.

Lower ability children may be asked to share their ideas verbally or have a simpler proforma for recording.

In Science, children may be challenged by modifying tasks to require additional explanation, Scientific reasoning or alternatives.

Skills:

Children will have opportunities to develop independence (e.g. making their own choices), communication (e.g. group work and sharing ideas) and resilience (e.g. repeating scientific investigation where necessary).

Cross Curricular Opportunities:

Opportunities for cross curricular Maths, Writing and Reading as well as the use of technology should be embedded in learning regularly.

Planning Process

Unit Plans:

A unit plan showing content and progression is provided to staff in Curriculum folders.

Where it is appropriate, horizontal, vertical and diagonal links are made throughout our Science curriculum; for example, in Year 1, children learn to name and sort a variety of plants before moving on in Year 2 to learn about processes involving plants in more detail. Similarly, cross-curricular writing tasks can be used to enhance learning; for example, when Year 5 write about their experiences with forces in space.

Mapping:

Teachers delivering the unit will map out the content across the number of lessons available. The Science subject leader is available to offer advice on how this Medium Term Planning can be edited. At this point, class teachers must identify which resources will be required, check what is available and make a request to the Science subject leader for any additional resources required.

Lesson Planning:

Teachers then plan individual lessons to deliver the required content.

Lesson plans should be produced on SmartBoard. They should contain differentiation as appropriate to the children. The focus for lessons should be on the Science knowledge and Working Scientifically skills.

Resources

Good use should be made of the school grounds e.g. visiting the school garden or pond.

Resources are stored in the Science cupboard in the KS1 corridor.

The Science cupboard holds resources that can be used to facilitate all Science units of learning.

Please keep all resources tidy and clean as you find them.

Health and Safety

Some lessons in Science will include an element of risk. In these instances, class teachers should identify the best ways to mitigate risk e.g. by setting clear expectations or increasing the level of adult support. Adequate spaces must be provided for children to complete activities safely. Teachers should be aware of the guidance provided for children to complete activities safely. Teachers should be aware of the guidance provided in the ASE publication Be Safe. Teachers must discuss any health and safety concerns with a Senior Leader.

Equality and Inclusion

Science teaching will be accessible to all children and challenge them appropriately. Where children need additional support this may be provided through scaffolding or adult support as part of universal provision.

Recording

Children from Year 1-6 have a Science exercise book in which they are able to record any of their own individual work. It is appropriate to include any research, planning or evaluations from the unit.

Each class from Y1-6 should use a Science Scrapbook, in particular for lessons that have a practical focus. In Reception, work should be recorded on Tapestry.

Class teachers should use and regularly update a class working wall display during the course of a unit. This should contain core vocabulary.

Impact

By the end of their time at Grendon Primary School, children will have been exposed to a wide range of Science units of learning. Pupils will develop scientific knowledge and understanding of Science; they can understand 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. They will also be sufficiently equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future; children will be ready to access the KS3 curriculum and indeed, children may be inspired to pursue a future career in Science.

Assessment

Assessments are made at the end of each unit. Class teachers refer to the assessment criteria referenced on unit plans and make a judgement (considering both Working Scientifically and subject knowledge) on which children are meeting the expected standard, below the expected standard or exceeding the expected standard.

The Science lead will analyse the data and identify strengths, weaknesses and any area where additional support is needed.