

Approved Autumn 2024

Review Autumn 2026

Website Policy

THE GLEBE PRIMARY
SCHOOL

Science Policy





Science Policy

Gateway to Learning where Everybody Excels

1 Aims

1.1 The national curriculum for science aims to ensure that all pupils:

- 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.

1.2 The objectives of teaching science are to enable children to:

- Work scientifically, asking and answering questions in a variety of ways.
- Plan and carry out scientific investigations; observing, performing, classifying, gathering, analysing and recording data.
- Know and understand the life processes of living things, their habitats, evolution and inheritance.
- Know and understand the physical processes of materials, electricity, light, sound, states of matter and natural forces.
- Know about the nature of weather, seasonal changes, rocks, earth and space.
- Evaluate evidence and present their conclusions clearly and accurately.

2 Teaching and learning style

2.1 At the Glebe Primary School, it is our mission to instil a lifelong love of Science into all of our pupils by not only delivering the curriculum, but also inspiring children to find out about the world around them. Through a thinking, doing, talking approach to Science and by making links to life to outside of school, we believe we can help to foster young scientists, who can continue to apply their knowledge and understanding throughout their lives. It is our mission to help our children realise that science skills are transferrable and vital for many prospective career paths, including those in the STEM fields. With an engaging and inspiring approach to delivering our Glebe curriculum, our aim is to create future scientists, emboldened and confident in the knowledge that they can achieve. We provide all children regardless of ethnic origin, gender, class or ability, with a broad and balanced science curriculum, offering high quality teaching and learning experiences for all.

2.2 At the Glebe Primary School, we recognise that in all classes, children have a wide range of scientific abilities, and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways such as:

- Setting tasks which are open-ended and can have a variety of responses.
- Setting tasks of increasing difficulty (we do not expect all children to complete all tasks)
- Grouping children by mixed ability in the room and using peer mentors.
- Providing resources of different complexity, matched to the ability of the child.
- Using teaching assistants to support the work of individual children or groups of children.
- Incorporating higher order questions that apply to scientific thinking to extend the most able children in Science.
- Using focused recording in Science.

3. Science curriculum planning

At The Glebe Primary School, teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following:

- Science is taught weekly in KS1 and KS2, with every lesson starting with a definition of Science and reference to Science Capital related to the topic. Topics are sequenced in a progressive way to build upon prior knowledge and are arranged into blocks, lasting between half a term to a term.
- Our curriculum is progressive. We build upon the learning and skill development of the previous years, which is tested through our 'pre-learning activities' where teachers can identify misconceptions that need addressing.
- Teachers use assessment for learning to tailor lessons around our children's needs and help them plan for next steps.
- We ensure that scientific vocabulary is explicitly taught at the beginning of each lesson and is then displayed in classrooms so that it can be continuously referred to and applied throughout a unit. To ensure secure prior knowledge, quickfire retrieval activities are also used at the start of each lesson.
- At The Glebe Primary School, we aim to use a 'Thinking, Doing, Talking' approach to teaching and learning. Lessons are language-rich, and allow children time to orally reason, justify and explain. Children are encouraged to verbalise their thinking collaboratively and to use key scientific vocabulary to aid their responses. Where possible, lessons begin with a 'big question' or other stimulus to promote oracy in order to encourage scientific thinking and arouse curiosity.
- Through enrichment days, such as 'Science Week', we promote the profile of Science and allow time for the children to freely explore scientific topics.
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find

opportunities to develop children's understanding of their surroundings by accessing outdoor learning and workshops with experts where possible.

- The Glebe Primary school uses the 'Plymouth Science' scheme of work for science in EYFS to Year 6 as the basis of its curriculum planning. The scheme has been adapted to fit the school values and aims and to expand the Science capital of our pupils. This scheme is then adapted by teaching staff to ensure that the lesson content is suitable for our children.
- The Science lead has mapped out when units should be taught in each year group. We build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school. As units of work are repeated throughout year groups, staff use the science skills progression framework to ensure that learning is built upon and that children are making progress.

The Foundation Stage

Science at Foundation Stage is covered in the 'Understanding the World' area of the EYFS Curriculum. It is introduced indirectly through activities that encourage every child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them.

During their first years at school our children will explore creatures, people, plants and objects in their natural environments. They will observe and manipulate objects and materials to identify differences and similarities. They will also learn to use their senses, feeling dough or listening to sounds in the environment, such as sirens or farm animals. They will make observations of animals and plants and explain why some things occur and talk about changes. Children will be encouraged to ask questions about why things happen and how things work. They might do activities such as increasing the incline of a slope to observe how fast a vehicle travels, or opening a mechanical toy to see how it works. Seasons are observed and discussed throughout early years. Children will also be asked questions about what they think will happen to help them communicate, plan, investigate, record and evaluate findings.

4. Practical work/Scientific enquiry/Working Scientifically

All Science lessons from Y1-Y6 have links to a working scientifically skill and/or an enquiry type. At The Glebe Primary School, we have symbols that are used consistently to reference these. These are displayed and shared with the children each lesson.

To ensure that we are covering a range of enquiry types and working scientifically skills, teachers in KS1 and KS2 complete a sheet (with the appropriate date) at the beginning of every child's book to say when they have demonstrated this. This is then used to inform future planning. As the children become more confident in recognising these enquiry types and working scientifically skills, there will be opportunities for them to plan their own enquiries and identify these in their lessons.

5 Science and Inclusion

At our school we teach science to all children, whatever their ability and individual needs.

Science forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our science teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities and those learning English as an additional language, and we take reasonable steps to achieve this. For further details see individual whole-school policies: Special Educational Needs; Disability Non-Discrimination; English as an Additional Language (EAL).

6 Assessment for learning

At the Glebe Primary School, teachers will assess children's work in science by making informal judgements during lessons. On completion of a piece of work, the teacher assesses it, and uses this assessment to plan for future learning. Written or verbal feedback is given to the child to help guide his/her progress. Older children are encouraged to make judgements about how they can improve their work.

At the end of a unit of work, teachers make a summary judgement about the work of each pupil in relation to each objective in that unit, based on the National Curriculum levels of attainment. The teacher records their assessment using the terms 'emerging', 'expected' and 'exceeding' based on the outcomes for each year group, on SIMS. This is done at the end of each school term or half term, depending on how long each unit is. We use this as the basis for assessing the progress of each child. Where a child is not making the required progress, we use the marked work to inform teaching and intervention. We pass this information on to the next teacher at the end of the year.

Teachers make an assessment of the children's work in science at the end of each year group and key stage. This is reported to parents through school reports. Assessment sheets are used to monitor children's progress throughout the year.

The science subject leader keeps samples of children's work to demonstrate the expected levels of achievement in science for each age group in the school. At the end of each year, 3 workbooks are taken from each class demonstrating the Emerging, Expected and Exceeding level.

The success that is achieved in science is celebrated. Certificates are given termly in whole school celebration assembly and children are praised and awarded points for effort and achievements in their work. Best pieces of work in science are given to the head teacher as and when produced to be recognised in celebration assembly.

The Glebe Primary School promotes curriculum-related off timetable weeks. Science weeks explore the fun side of scientific investigations and allow the children to experience a

wide variety of science related activities. We have at least 1 Science week each Year and follow the theme from the British Science Association.

8 Resources

The central store is in the large hall, although year group teams also purchase and store some of their own science resources. The resources in the central store are boxed and labelled by subject e.g. electricity, rocks, soils. Or by type e.g. measuring cylinders, weighing scales. There is a box for breakages (except broken glass), faulty equipment and flat batteries. A sheet for staff to record missing and broken items, and to suggest new acquisitions, is kept in the central store. All staff help manage our resources by tidying away after using something. A complete and up-to-date list of the school's science equipment is available on the school system. A notice reminding staff to consult CLEAPSS is displayed with our resources, along with a copy of Be safe! The science curriculum leader is responsible for the school science budget, which is spent after consultation with the head teacher and teaching staff. Consumable items can be purchased on request.

Health and Safety

We are a member of CLEAPSS and follow the read, think, record, do model for risk assessments. A notice reminding staff to consult CLEAPSS is displayed with our resources, along with a copy of Be safe!

Recommended websites

- Explorify
- Wow science
- Twig science reporter
- PLAN
- STEM learning
- CREST awards
- Royal Society of Chemistry
- Primary Science Teaching Trust
- CLEAPSS

Children recording their learning

In most lessons, children are expected to record their learning in individual books. Presentation in these books should be in line with other subjects and will be completed in pen and/or pencil. All learning should include a learning objective and reference to the scientific enquiry and working scientifically skills. There is no expectation that the children should be writing learning objectives and these can be printed and stuck in. Each piece of work should be dated as per presentation in other subjects. Children can also record any learning on Seesaw and this should be used for verbal recording/videos and pictures.

Teachers recording evidence of learning

At The Glebe Primary School, we try to use focused recording in Science lessons. In KS1 and KS2, children have their own Science books to record lessons but practical/verbal work can be uploaded to Seesaw, where teachers can file this into the Science folder. There is no need for this evidence to be repeated in books if uploaded onto Seesaw. In Reception, learning is evidenced in the floorbook under 'Understanding the World.' All observations are recorded on observation sheets. In Nursery, learning is recorded in learning journies.

Marking

Teachers should mark in accordance with the whole-school marking policy. In Science, teachers should indicate where the child has worked in each lesson by ticking the working scientifically box that the child has achieved. Teachers are expected to complete the working scientifically/scientific enquiry tracker at the start of each child's book after each lesson. In Year 6, Teachers should be completing the Y6 Science assessment, which is stuck in the back of children's books.

Displays

All KS1 and KS2 classes should have a Science display. This should match the current topic being taught and include key vocabulary and examples of children's work.

In EYFS, key vocabulary should be taught and displayed in the environment in Reception as and when it is being taught. This could include sound buttons and/or pictures to help children to access this.

9 Monitoring and review

At the Glebe Primary it is the responsibility of the subject leader to monitor the standards of children's work and the quality of teaching in science. The subject leader is also responsible for supporting colleagues in their teaching, for being informed about current developments in the subject, and for providing a strategic lead and direction for science in the school. The head teacher and the science subject leader termly analyse progress in science, in all areas of school and identify strengths and areas for further improvement. The subject leader has specially allocated time for fulfilling the vital task of reviewing samples of children's work and visiting classes to observe science teaching and learning.

This policy will be reviewed every two years.

THE GLEBE PRIMARY SCHOOL

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This Policy has been approved at a meeting of the full Governing Body of the Glebe Primary School

On: ...Autumn 2024.....

To be Reviewed: Autumn 2026

Chair of Governors:

.....Gill Broome.....