

STOW-on-the-WOLD PRIMARY SCHOOL

heart hand mind

Science Policy



Approved by: Full Governing Body

Date: 5th February 2024

Last reviewed on: 1st February 2024

Signature: *T. A. Bartlett*

Next review due by: 1st February 2025

Chair of Governors

Science Policy for Stow-on-the-Wold Primary School

Vision Statement

Stow-on-the-Wold Primary School will be at the heart of the community; a place where everyone is keen to achieve and share success, making best use of all resources and celebrating diversity. Everyone will have a clear understanding of their contribution to the school in its central role of raising standards; educational, physical, moral and social.

What is Science?

Science stimulates and excites pupil's curiosity about natural phenomena and events in the world around them. It also satisfies their curiosity with knowledge. Since science links direct practical experience with ideas, it can engage learners at many levels. Scientific method is about developing and evaluating explanations through experimental evidence and modelling. Through Science, pupils understand how major scientific ideas contribute toward technological change – impacting on industry, medicine, business and improving quality of life. They learn to question and discuss science based issues that may affect their own lives, the directions of society and the future of the world.

Aims

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

As well as these, Stow-on-the-Wold Primary School aims to enable pupils to :

- make decisions about the uses and values of scientific work and achievements
- develop an understanding and respect for the natural world
- question, hypothesize, test and discover for themselves about our world.
- develop the skills required to investigate the world around them.

Objectives

1. Scientific knowledge and conceptual understanding

The programmes of study describe a sequence of knowledge and concepts. Pupils develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage. (Please see scheme of work.)

Skills to be developed will include:

- describing associated processes and key characteristics in common language, building up an extended specialist vocabulary.
- applying their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.

2. *The nature, processes and methods of science*

'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand. 'Working scientifically' should be embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry should include:

- observing over time
- pattern seeking
- identifying, classifying and grouping
- comparative and fair testing (controlled investigations)
- researching using secondary sources.

Curriculum Organisation

Science will be:

- included in the taught curriculum for each term and in each week
- linked to other subjects when appropriate skills have been taught

As the composition of the classes changes yearly depending on numbers, the school has adopted a 2 year rolling programme of work across the school to ensure coverage of the National Curriculum.

The EYFS strand 'Understanding the World' leads directly to scientific elements of the curriculum and leads to more formalised Science learning in KS1 and then KS2. Within a secure and challenging environment with effective support, children can explore, develop and experiment as they play to help them make sense of the world.

Children will be taught as appropriate to their age and ability. In matching tasks to the needs of all children, teaching will recognise individual plans to meet special needs and/or individual targets and in particular, meeting the needs of the more able. Target setting in science identifies a way to raise pupil attainment and ensure progression.

Teaching Assistants will be used to support pupils' work at all ability levels and help those that need it to access the curriculum. They will support enrichment activities to ensure learning is matched to individual needs where appropriate.

The overarching principle for the science curriculum provision will be to provide an enquiry approach to offer opportunities for learning science and developing key skills. Equipment provided by teachers will stimulate pupils' questions and they will be encouraged to design their own investigations.

Equipment and Resources

There is a wide range of resources available to the school which will be maintained and monitored by the Science Leader. The resources, mostly stored in the Science cupboard, are a collective responsibility for the whole school, and pupils are encouraged to treat resources carefully and safely.

Children are expected to, where appropriate, to choose their own equipment and set such equipment up for practical Science. This should be done under adult supervision with health and Safety requirements in mind. By doing so, they:

- make sensible choices about which equipment to use
- treat the equipment with care
- use the equipment with their own and other's safety in mind
- become independent learners

The school grounds with a pond and forest school areas offer a great resource for staff and pupils.

The Role of the Class Teacher

A variety of strategies are used depending on the age, ability and learning styles of pupils. These will include practical tasks as much as possible. Guest speakers and visits are planned to enhance learning as often as possible.

Teaching plans (medium and short term) will:

- be based on this policy, the scheme of work and the Planning, Recording and Assessment policy;
- clearly identify learning objectives for main teaching in addition to clear learning activities and experiences;
- identify assessment for learning opportunities, using probing questions to stimulate understanding;
- identify a means of displaying pupils' ideas and suggestions for scientific investigations, their outcomes and different ways of presenting their findings to give science a high profile in class;
- include a planned plenary, shared and agreed success criteria and key questions which deepen thinking and extend children's learning;
- be shared with the science leader for monitoring purposes and checking the school's science action plan when necessary;
- identify specific activities and learning outcomes for the wide ability range in each class, clearly differentiated and annotated in order to assess for future learning.

The class teacher will be responsible for effective recording of assessments and reporting to parents and relevant other staff members and governors.

The Role of the Headteacher

The head monitors this policy in collaboration with the co-ordinator on a regular basis and reports to governors when requested on the effectiveness of the policy. The head will celebrate the achievements of the children in assembly and will rigorously monitor the progress made by all year groups and all vulnerable groups in school to ensure progression.

The Role of the Science Leader

The Science leader is responsible for ensuring that the aims of the Science Policy are met. In addition to this, the Science Leader should:-

- Be enthusiastic about Science and demonstrate good practice
- Encourage and support staff in the implementation of the curriculum and school approaches to Science teaching
- Co-ordinate assessment procedures and record keeping to ensure progression and development throughout the school
- Monitor the teaching and learning of Science throughout the school
- Consult, inform and liaise with the Science governor
- Bid for funding to maintain resources
- Organise and review all science-based resources, ensuring they are readily available and maintained.
- Support staff by encouraging the sharing of ideas and organising in-service training as appropriate.
- Attend regular Primary Science network meetings and feedback information to staff.
- Create and fulfil 'actions' on School Aspects for Science.

Monitoring

The Science Leader is responsible for monitoring the teaching and learning of Science.

The Leader will:

- observe lessons in line with action plan and give effective feedback
- monitor copies, when necessary, of teaching plans for Science, in line with action plan
- monitor progress on class assessment trackers

- analyse evidence of the strengths and weaknesses of children's achievement and generate targets with the head teacher and staff and monitor and evaluate the impact of these on teaching and learning
- write the action plan every year and monitor its effectiveness
- develop Science with visiting Governors, the Headteacher and staff consult, inform and liaise with Science governor

Assessment and Reporting

Teachers will assess children's Science work in a variety of ways to ensure they gain a full understanding of what each child has learnt, and what is needed to progress their understanding. Teachers will observe, provide written and oral feedback. Teachers will use the statements on our Science progress trackers to support them to make an overall judgement of children's scientific ability. Progression in science is discussed in pupil progress meetings and relevant targets and actions are considered. In addition, teacher assessments are recorded as part of each child's annual report to parents.

Professional Development for Staff

The Science leader and the Head teacher will identify training needs and organise as appropriate for whole school development and individuals. Staff will discuss with the Head teacher ways in which Science training needs can be met:

- the co-ordinator will organise and lead Science training within the school
- in line with the School Improvement plan
- professional development opportunities will be made available to all staff including governors, classroom assistants and other interested parties
- non-contact time will be provided to support appropriate curriculum initiatives identified in the improvement plan including working alongside colleagues during lessons and /or planning Inset work

Equal Opportunities

The Science curriculum will provide equal opportunity through:

- activities which are well matched to the different needs of pupils
- careful attention to the interests and actions of boys and girls
- ensuring the images of people who use science illustrates achievement by both genders, different cultures and abilities
- that children are given equal access and opportunity to learn and take part in science enrichment or extension activities

SEN/Gifted talented pupils

All pupils are entitled to a broad and balanced Science curriculum in accordance with the School policy for SEN and other Equalities policies.

All pupils who are on the SEN register will have their own 'My Plans' with targets clearly identified which teachers need to take into consideration when planning.

More able children are identified and their needs met through class practice and through our Gifted and Talented policy. Opportunities are actively sought within the cluster group for children to attend gifted and talented sessions across the cluster.

Inclusion

Every child is given the opportunity to be included in all aspects of school life and in all areas of the curriculum. Teaching and learning in the school ensures that all children are set suitable learning challenges. A broad range of teaching styles are adapted in response to diverse learning needs. We make every effort to overcome potential barriers to learning and assessment for individuals and for groups of children. We aim for Stow-on-the-Wold Primary School to be an ideal learning environment for nurturing and developing the whole child. In short, every child matters.

Safe Practice

Children are encouraged to consider their own safety and the safety of others at all times.

Teachers will provide a safe and secure environment for children to learn. Any experiments or activities which are considered a particular risk will need a Risk Assessment to be completed and to consult the Science leader prior.

Stow-on-the-Wold Primary School is a member of CLEAPPS, where further guidance may be found.

This policy and scheme of work for Science will be reviewed as outlined in the School Improvement Plan or in response to national requirements.

Reviewed in April 2018 by Lisa Clough , Science Leader.