



Science Policy

2021

Rationale

Science stimulates and excites pupils' curiosity about phenomena and events in the world around them; it also satisfies their curiosity with knowledge. Because Science directly links practical experience with ideas and concepts, it can engage learners at many levels with first-hand experiences. Through our Science teaching and learning, pupils develop their respect for the world around them (both the natural and man-made aspects of our environment) and learn how to appreciate our varied planet.

Science is taught at Spire Junior School following the programme of study within the 2014 National Curriculum.

Intentions

- To provide our children with skills-based and knowledge-rich experiences linked to Science, Engineering, Technology and Maths (STEM subjects)
- To develop a love of Science learning within our pupils, with an appreciation of how much science impacts on everyday life.
- To engage pupils as learners at many levels through linking ideas with practical experience;
- To help pupils to learn to question and discuss scientific issues that may affect their own lives;
- To help pupils develop their 'working scientifically' skills in order for them to ask, action and evaluate their own enquiries;
- To promote a healthy lifestyle in our pupils;
- To broaden the children's understanding of science through visits, use of the outdoors and visitors to school from STEM backgrounds

Science Teaching and Learning

Science is taught regularly throughout school, as best to fit in with our curriculum questions. Where possible, when a strong link is evident between the project within a class and the Science topic, Science will be taught within the class's key question. However, if there is no clear link between the subjects, Science may be taught as a stand-alone subject that term.

The long-term overview for Science shows what programme of study each year group is taught each term. This also takes into account the rolling programme of study for Years 3 and 4.

Working Scientifically

Children at Spire Junior School will be given the opportunity to develop their working scientifically skills through:

- Asking and exploring their own scientific questions;
- Activities to develop strong observational skills;
- Practical activities which allow children the chance to take accurate measurements and record data;
- Investigations which allow children to make predictions about control variables;
- Activities which allow for children to scientifically compare different phenomenon;
- Open-ended investigations;
- Drawing and labelling scientific diagrams, as well as making scientific models and accurate representations.

Children will have the chance to work on these investigations independently, in groups or as a whole class, depending on the activity.

Assessment

After each topic, there will be a knowledge assessment activity taken from 'Rising Stars' science assessment scheme. These are marked and scored by the teacher – these scores are used to inform end of year assessments. Information from the tests will feed into class teachers' future planning.

To monitor and assess the children's Working Scientifically skills, teachers will track progress on the Science Skills Assessment document, which follows the school proforma. This ongoing assessment will also contribute to the end of year science data.

Marking and feedback

The continuous assessment for learning made by the class teacher will inform subsequent curriculum planning. As per our marking and feedback policy, most feedback will be given verbally on the work, with written comments only being used if these are deemed to be the most effective way of giving feedback in that lesson.

Children will respond to feedback in pink pen.

Equal Opportunities and Inclusion

At Spire Junior school we acknowledge our responsibility to provide a broad and balanced curriculum for all pupils irrespective of gender, ethnicity or ability. The following three principles will be applied to provide a more inclusive curriculum:

1. Setting suitable learning challenges;
2. Responding to pupils diverse learning needs;
3. Overcoming potential barriers to learning for individuals and groups of pupils.

All pupils, including those with special educational needs, undertake the full range of activities. Teacher assessment determines the depth to which individuals and groups go during each unit of work.

Science resources

Learning resources are kept in the resource room. All teachers are responsible for the maintenance and organisation of these areas, though the Science co-ordinator will do a general stock check annually.

In the resource area resources are organised in boxes, which are linked to themes. These resources should be returned in this way.

Safe practice

We accept a responsibility for the planning of safe activities in science. When in doubt, staff should refer to 'Be Safe' from the ASE or consult with the science co-ordinator or Head teacher.

Children will be taught how to use all of their equipment safely in and out of the classroom. Any equipment found to be faulty or dangerous will not be used, but will be disposed of in an appropriate manner.

Animals will not be kept in school on both health and moral grounds.

Scientific Vocabulary

At Spire Junior School, we are always aiming to improve our children's use of vocabulary and broaden their understanding of words. Therefore, through our teaching, Knowledge Mats and activities, our Science teaching aims to constantly improve our children's understanding of scientific vocabulary. To aid

this further, science lessons should make use of a short scientific text, news extract or vocabulary task to embed understanding.

STEM subjects

There are clear links between the Science, Technology, Engineering and Maths (STEM) subjects, and this is promoted within school in lessons and through visits and visitors.

To develop further links between Science and Maths, children are given opportunities to read, respond to and generate questions about a range of data. This aims to develop their data handling and number skills.

The school iPads are used within science for recording and data purposes, as well as to conduct research. There are other technological devices available in school to support STEM learning, including loaned products from a local University and a growing bank of resources which link with the iPads.

Roles and Responsibilities

Role of the Science co-ordinator

- Continue to evaluate and undertake training on the national and local impact of the National Curriculum for Science
- Prepare, organise and lead INSET, with the support of the head teacher;
- Work co-operatively with the SENDCO;
- Observe colleagues with a view to identifying the support they need;
- Teach demonstration lessons;
- Attend external CPD meetings, as deemed appropriate;
- Present the policy to staff and governors;
- Discuss, with the head teacher and all staff, the progress of implementing this policy.

Role of the curriculum governor

- To visit the school to talk with the teachers and observe some of the weekly lessons, as well as supporting Science initiatives in school such as Science week or environmental projects;

- To report back to the curriculum committee;
- To be part of book trawls;
- To attend any relevant INSET or training.

Role of the head teacher

- Lead, manage and monitor the implementation of the policy, to include monitoring the quality of teaching in the classrooms together with the coordinator;
- With the curriculum governor, keep the governing body informed about progress;
- Ensure that science remains a high priority in the school's development work;

Role of the teachers

- To inspire the children to work scientifically, explore the world around them and to appreciate the day to day phenomenon of science
- To have passion and dedication that will impact each one of your students;
- To ensure that your pupils have the knowledge and skills that will help them to succeed and care for the wider world.
- To accurately and creatively plan, teach and assess an exciting curriculum.

Role of the TAs

- Enable children to access the curriculum with support;
- Work with individuals and small groups using concrete resources and pictures;
- Leading learning with fun activities;
- Support pupils with additional needs including SEN and G&T.

Review

This policy and the associated science curriculum will be reviewed by the Science co-ordinator and Headteacher annually and updated if required.

The needs of staff regarding the teaching of science, either expressed by the teachers directly or identified by the co-ordinator will inform the school development plan.