



Pipworth Community Primary School



Article 13: I have a right to find out and share information with others.

Article 24: I have a right to good quality health care, clean water and food.

Article 28: I have a right to an education.

Article 29: I have a right to be supported to achieve in education.

Science Policy

Statement

Intent:

Science is a body of knowledge built up through experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us.

Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills.

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

Implementation:

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;

Our aims in teaching science include the following:

- Preparing our children for life in an increasingly scientific and technological world.
- Fostering concern about, and active care for, our environment.
- Helping our children acquire a growing understanding of scientific ideas.
- Helping develop and extend our children's scientific concept of their world.
- Developing our children's understanding of the international and collaborative nature of science.

Our Principles for science were generated through pupil voice questionnaires and discussion with all the staff.

These are our Principles:

I wonder...
Exciting
Hands on
Inspirational
Trial and error
Visual recording
Teamwork

Attitudes

- Encouraging the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and responsibility.
- Building our children's self-confidence to enable them to work independently.
- Developing our children's social skills to work cooperatively with others.
- Providing our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

- Giving our children an understanding of scientific processes.
- Helping our children to acquire practical scientific skills.
- Developing the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording and techniques.
- Developing the use of ICT in investigating and recording.
- Enabling our children to become effective communicators of scientific ideas, facts and data.

The National Curriculum

Science is a core subject and is organised according to the guidelines set out in the National Curriculum. It has four attainment targets and a statement of breadth of study.

These are:

- Sc1 Scientific enquiry;
- Sc2 Life and living processes;
- Sc3 Materials and their properties;
- Sc4 Physical processes.

Key Stage 1 and Key Stage 2 will use the National Curriculum Programmes of Study and the Foundation Stage will use the Early Years Foundation Stage Profile: Knowledge and Understanding of the World.

Impact

In EYFS, staff professional judgements are valued. Assessments are formative so that they quickly make a difference to children's learning. They inform the provision of activities and experiences which develop children's skills and knowledge as well as giving opportunity for further practise. Significant learning is recorded on Tapestry to build up a detailed picture of each child from all areas of learning.

A wide range of strategies are used to measure the impact of our science curriculum. Our teaching sequence allows for a range of assessment opportunities so pupils can demonstrate their understanding. Scientific discussion is encouraged, therefore teachers can address misconceptions quickly. Formative assessments are also carried out by teachers after each lesson which will allow them to inform future planning. Retrieval practice opportunities are built into lessons so that children have the opportunity to revisit 'sticky knowledge' and an opportunity to store it in their long term memories. Additionally, summative assessments are carried out by using an Assessment Focus materials. As a result of these assessment tools, pupils' misconceptions or gaps in subject knowledge, skills, behaviours and attitudes are addressed and additional teaching and support is provided.

The science leader will also monitor the effectiveness of the science curriculum through carrying out regular subject 'dip-ins'. These evaluations are quality assured by the Curriculum Lead and Senior Leadership.

The effectiveness of science is also monitored through pupil voice throughout the course of the year.

Planning

Teachers link Science learning and planning around the theme in their half termly class novel or topic. In Key Stage 2 and in Key Stage 1 and Foundation Stage, Science planning is linked to themed teaching blocks. Teachers are responsible for maintaining long term plans, medium term plans and writing short term plans. Links to the National Curriculum are made in the short term plans. Science has links with Design Technology, Mathematics, and IT in particular including opportunities to use computer skills and speaking and listening work when engaging in evaluation.

Where links can be made in other subjects, such as literacy evidence of this may be found in literacy books and/or science books.

Lessons must be taught once a week- due to Science being a Core Subject. Where there needs to be a longer session for investigations this can be blocked over two sessions. It is vital that at least 50% of lessons are investigative in KS2 and at least 33% of lessons in FS and KS1 are investigative.

The work covered in each year group ensures a balance of:

- Investigative, enquiry and evaluative activities,

- focused practical science,
- Acquisition of scientific knowledge and understanding.

Knowledge organisers are sent home with the science vocabulary for the topics.

Every year the whole school take part in British Science week.

SEN

Through the Science curriculum we provide high quality teaching for all our pupils including those with SEND. We do this through:

- Scaffolding
- Explicit Instruction
- Technology
- Cognitive and Metacognitive strategies: chunking, collaborative learning, pre teaching vocabulary, revisiting prior learning
- Flexible groupings
- Quality Interventions
- Rosenshine's Principles of Instruction

Monitoring

The co-ordinator monitors long term, medium term and short term plans for coverage and progression. Teachers must ensure that skills are built on each year and children have the opportunities to develop taught skills from the previous year. The co-ordinator will monitor the Science curriculum annually.

The Science Lead will do a RAG every 3 years, and there are regular book looks and dip ins every Half Term.

Equal Opportunities

Teachers ensure that pupils have access to the range of science materials and use opportunities within science to challenge stereotypes. Pupils are encouraged and supported to develop their science skills using a range of materials. Teachers support and scaffold within Science to ensure that the specific needs of individual children are best met.

- We ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, physical or intellectual ability.
- Our expectations do not limit pupil achievement and assessment does not involve cultural, social, and linguistic or gender bias.
- We aim to teach science in a broad global and historical context, using the widest possible perspective and including the contributions of people of many different backgrounds.
- We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.

- In our teaching, science is closely linked with literacy and mathematics.
- We recognise the particular importance of first-hand experience for motivating children with learning difficulties.
- We recognise that science may strongly engage our gifted and talented children, and we aim to challenge and extend them.
- We exploit science's special contribution to children's developing creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.
- STEM projects with outside agencies allow wider opportunities for our children to further develop their scientific skills and questioning (where possible)
- We celebrate the children's science on the website using photos and videos allowing the children to show case their learning to their parents at home.

Marking

- It is expected that children will receive instant feedback within lessons in order to improve and further their learning and that work in books will be marked and feedback provided where necessary.

Assessment

Teacher's assessment will be ongoing and informative. It should lead to direct and appropriate teaching about the use of tools, materials and techniques. Assessments should be made on all four attainment targets.

Tasks are assessed at the end, questions may be asked to clarify the scientific knowledge or to correct any misconceptions.

We use Otrack to record our assessments and data is collected.

Teachers will formally report on each child's progress and achievement annually in the school end of year report.

Resources

Science resources are stored centrally in the Science Resource Cupboard at the end of the Key Stage 2 corridor. Most resources are stored in clearly labelled boxes and will be replenished by the Science Co-ordinator. All staff have a responsibility to inform the co-ordinator when resources are running out.

Each year group also has a science box which will house equipment they will need for their topics. These are stored in or in shared resources rooms/cupboards.

Centrally stored resources must be returned to the store room after use so everyone can benefit from them.

Safety

Staff should refer to the school's Health & Safety Policy.

It is the responsibility of teachers to teach the safe use of tools and equipment and insist on good practice. Teachers must take care and show children how to safely use scientific equipment, materials, chemicals and other products. If necessary, an individual lesson risk assessment should be written and presented to the Headteacher especially when dealing with candles, microbes and chemical reactions. Equipment must always be stored safely, cleaned thoroughly and returned so children do not have access to items that could cause a hazard. Children should never be asked to taste anything associated with a science test or experiment unless it is a specific food unit.

Food - Hygiene and Safety

Food products are often purchased for use in science experiments (bread for mould, vinegar for CO² experiments, flour, yeast and so on). Many products will have expired their best before dates and it is essential that children never taste products used in science for experiments.

Remote Home Learning

In the event of a school closure or 'bubble' having to self-isolate, work will be put onto Google Classroom for children to access from home as closely matched to lessons and learning taking place in school at that time. Paper copies of any work will also be available for families to collect from the school office or sent home with children. Children completing work on Google Classroom will be given feedback on their work. Where specific resources may be needed these lessons will be taught when the children return to school.

EYFS provision

Within EYFS setting the children are given opportunities to pose questions about the "whys" of the world. Children are encouraged to pose and answer questions about ourselves and the world around us.

Teachers structure time and resources to encourage talk for learning opportunities linked to science topics which are part of the ELG.

Investigation stations are set up to encourage paired/group talk for science- posing questions-discussing new vocabulary and ideas.

The teachers use scientific and topic specific vocabulary and encourage the children to say the vocabulary when discussing the topics. Pictures are used to reinforce the new vocabulary where necessary.

Children can use their own life experiences and are encouraged to share these in the class.

The role of the Subject Leader:

There is a designated Science Co-ordinator to oversee the planning and delivery of Science within the school.

The coordinator will be responsible for

- Raising standards in Science as a national curriculum subject and evaluating the effectiveness of teaching and learning within the subject
- Facilitating the use of Science across the curriculum in collaboration with all subject coordinators as well as liaising and consulting with outside agencies where appropriate
- Developing their own role as subject leader through e.g. research, National College
- Providing or organising training to keep staff skills and knowledge up to date through up to three staff meeting slots per year
- Advising colleagues about effective teaching strategies, managing equipment and purchasing resources.
- Monitoring the delivery of the Science curriculum and reporting to the SLT on the current status of the subject.
- Reporting the current status of the subject to designated School Governors.
- Action Planning linked to whole school priorities
- Updating the policy annually

Support from SLT/Curriculum lead will be given to subject leaders in order to further develop their role through:

- Mentoring subject leaders new to role
- Developing the role of subject leaders and providing professional development opportunities
- Guidance for Action planning linked to whole school priorities
- Support for monitoring
- Professional Development Opportunities for subject leaders e.g. National College, NPQ

Policy Review

Updated December 2025

Due to be updated December 2026

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