



Science Policy

## **Science Policy**

### **Vision Statement**

Children at St Anne's Fulshaw should be inspired to think of science as creative, imaginative and fun! It is essential that we foster a positive and thoughtful attitude towards science at a time when attitudes are being formed which may have an influence on the rest of their lives.

Children should have regular opportunities to investigate their own ideas.

Teachers must have a sound understanding of the science curriculum and an imaginative approach to delivering it.

### **Aims**

to stimulate and excite pupils' curiosity about changes and events in their own environment and the wider world;

to develop learning skills which promote a scientific way of thinking, including open-mindedness, creativity, perseverance and a recognition of the importance of teamwork, as well as the key science process skills

to become effective communicators of scientific ideas, facts and data

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 recognise the cultural significance of science and trace its development.

to build a body of scientific knowledge and understanding which will serve as a foundation for future learning

### **Entitlement and curriculum provision**

Pupils undertake some science activity every week at both key stages and the Foundation Stage. Pupils in the foundation stage develop their knowledge, understanding and skills through play activities and direct teaching from which the pupils undertake planned tasks.

Science is allocated ten per cent of the taught time at both key stages and this amounts to about 80 hours per year at Key Stage 1 and about 90 hours per year at Key Stage 2. Additional time is allocated in Year 6 for revision and testing.

Science units are covered on a two year rolling programme and additional cross curricular activities are linked to investigation work when appropriate.

### **Teaching and learning**

All lessons have clear learning objectives and success criteria which are shared and reviewed with the pupils effectively. A variety of strategies, including questioning, discussion, concept mapping and marking, are used to assess progress. The information is used to identify what is taught next. Children may be grouped by ability or in mixed ability groups

Pupils have opportunities in each half term to develop their skills in, and take responsibility for, planning investigative work. Activities inspire the pupils to experiment and investigate the world around them and to help them raise their own questions such as "Why...?", "How...?" and "What happens if...?" These activities develop the skills of enquiry, observation, locating sources of information, selecting appropriate equipment and using it safely, measuring and checking results, making comparisons and deciding on the best form of communicating their results and findings. These may include traditional writing up of investigations, using close procedure, pictures and diagrams, graphs, IT, displays, or oral presentation.

When writing up investigations, children should be introduced to the formal style of headings to organise their writing, ie; Question as title, what I think will happen, what I used, what I did, what happened, was my prediction right?

Opportunities are planned to capitalize on effective links with other curriculum areas and subjects, especially literacy, numeracy and IT. Activities are challenging, motivating and extend pupils' learning.

### **The learning environment**

Classrooms will have regular displays of science work and investigations. Resources for the unit of work being covered should be appropriately accessible. Other sources of information should be available, eg encyclopedia, and general science books in class libraries.

Teachers at both key stages should maintain a science interest display, which encourages the pupils to be curious about the world in which they live. At Key Stage 1 this might involve something to look at carefully using a hand lens. At Key Stage 2 this might involve a recent newspaper article about a scientific discovery, which builds on, or contradicts, the work of a famous scientist in history.

All classrooms should display prominently the relevant scientific vocabulary being introduced in current units of work.

### **Safe practice**

Safe practice as indicated in The Association of Science Education publication, "Be Safe!" must be promoted at all times. Teachers must also take into account the school's Health and Safety policy. Particular attention must be given to avoiding the use of anything that aggravates individual pupils' allergies. Safety issues are identified in medium-term planning and risk assessments must be completed in weekly planning, when activities are identified that are unusual and beyond the scope of normal safety practice.

### **Extra-curricular opportunities**

Medium-term planning identifies the fieldwork, visits to places of scientific interest and visitors to the school in order to support the learning objectives for units of work where relevant.

Whole school trips to museums or places of scientific interest are undertaken at least once a year.

The whole school takes part in Science Week during the autumn term.

### **Homework**

No specific homework is set at either Key Stages, with the exception of revision as appropriate for KS2 SATs, although teachers may choose to involve the pupils, parents and carers in small investigation activities related to the work in hand or to complete tasks not finished within the lesson.

### **Assessment and recording**

Assessment is at the heart of the process of promoting children's learning.

Informal assessment is used to inform the next stage of teaching. This may include observation of children individually or in groups, discussion about activities and learning, marking of children's written work.

Teachers' assessment also takes place at the end of each unit of work which notes any attainment and progress which is significantly lower or higher than expected. They also assess children specifically against the layered target for that unit.

Teachers analyse pupils' progress in the units of work they have completed at the end of each school year to complete the annual report to parents. This report takes the form of a summary of the teachers' observations and continued assessment of the pupils at work thus giving parents a view of what their children know, understand and can do. Pupils use the traffic light system to assess their own understanding of each topic.

Statutory assessment is carried out at the end of each key stage, by use of teacher assessment and SATS.

## **Inclusion**

Planning at all levels ensures that the interests of boys and girls are taken into account. At Key Stage 1 the pupils are grouped in mixed ability and gender groups for all activities. In Key Stage 2 pupils may be grouped by ability for some activities.

The pupils work individually, in pairs, as part of a small group and as a whole class each term. They use a variety of means for communicating and recording their work.

Educational support staff, when available, work as directed by the teacher.

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.

At St Anne's Fulshaw every effort will be made to ensure the highest quality teaching and learning is provided, regardless of any physical, emotional or learning difficulties that may be experienced by the child.

## **Cross –curricular links**

Opportunities are exploited whenever appropriate to teach literacy, numeracy and IT skills in science.

## **Literacy**

In the Foundation Stage and at Key Stage 1, pupils are encouraged to use their speaking and listening skills to describe what they see and explain what they are going to do next. They also make books to record their investigations and learning. At Key Stage 2, planning for non-fiction writing incorporates science teaching whenever appropriate.

## **Numeracy**

At both key stages the pupils are expected to use their knowledge and understanding of measurement and data handling at appropriate levels.

## **IT**

At both key stages, science planning gives the children opportunities to practice their IT skills in a realistic context with a real purpose. This includes opportunities to: locate and research information (CD ROM, internet); record findings (using text, data and tables); log changes to the environment over time (sensing equipment); gain confidence in using calculators, video cameras, digital cameras, and tape-recorder, as well as digital microscopes. The use of this equipment is indicated in medium-term planning and must be used. It forms an important part of the entitlement of all pupils in IT.

## **Leadership and management**

The management of the science curriculum is mainly the responsibility of the science subject leader. The role of the subject leader is to

- Take a lead in policy development
- Retain an overview of the scheme of work and progression throughout the school
- Support colleagues in the planning, delivery and assessment of the curriculum
- Monitor overall progress in science and keep the head teacher informed
- Take responsibility for purchase and organisation of resources for science
- Keep up to date with developments in science education and disseminate information to colleagues
- Identify staff inset needs and arrange appropriate training

## **Staff development and training opportunities**

Staff development needs are identified during performance management and lesson observations, and, where appropriate, these are built into the school's staff development programme. Staff attending training are expected to share the useful points with other relevant staff. The school allocates an annual budget for science equipment.

A governor is allocated to take a specific interest in science and discusses developments with teachers and the Headteacher.

## **Resources**

Resources are kept in the staff room, including apparatus for investigations and books and videos for teachers. There is also an extensive selection of science books in the entrance hall library. The education library is also used regularly to support learning in classes.

## **Review**

Reviewed 2006

Reviewed 2009

Reviewed February 2012

Reviewed January 2015