

St Stephens School

Science Policy

Agreed: Spring 2006

Reapproved: February 2010

Review: February 2014



Signed:.....

Position:.....

Date:.....

St. Stephens C. P. School
Science Policy

Rationale

Science is about developing children's natural curiosity about the world around us. Children should learn about their bodies and how diet and exercise affect them. They should also learn about how plants and animals function and are classified as well as about the importance of habitats. They find out about materials and properties, how they change when they are heated or cooled and how they can be mixed or separated. Children should also learn about electrical circuits, magnets and other forces, how sound and light travels and a basic knowledge of our planetary system.

Aims

To develop knowledge and understanding of important scientific ideas, processes and skills and relate these to everyday experiences. Pupils will be encouraged to:

- Be curious about the things they observe, experience and explore relating to the world around them.
- Use their experiences to develop understanding of key scientific ideas.
- Use models to represent things that they cannot directly experience.
- Acquire and refine practical skills necessary to investigate ideas and questions safely.
- Develop skills of sorting, classifying, planning, predicting, asking questions, making inferences, concluding and evaluating through investigative activities.
- Make informed decisions based on evidence and their own experiences, and to apply scientific knowledge to new situations.
- Practise mathematical skills (counting, ordering numbers, measuring, drawing and interpreting graphs and charts) in real contexts.

To develop effective ways of thinking, finding out about and communicating scientific ideas and information. Pupils will be encouraged to:

- Think creatively about science and enjoy trying to make sense of phenomena.
- Develop language skills through talking about their work and presenting their ideas using writing of different genre.
- Use progressively technical scientific and mathematical vocabulary and draw diagrams and charts to communicate scientific ideas.
- Use a range of sources of information and data, including ICT-based sources.

To explore values and attitudes through science. Pupils will be encouraged to:

- Work with others, listening to their ideas and treating these with respect.
- Develop a respect for the environment and living things.
- Recognise that there are hazards in living things, materials and physical processes, and to assess risks and take action to reduce risk to themselves and others.

How the curriculum is delivered

As science is a core subject, it is taught for at least one and a half hours in KS1 and two hours in KS2 each week. At the Foundation stage and in the Special Unit, science is an integrated part of topic work and commands approximately 40% of the total time allocation. Opportunities to link science to other subjects are actively encouraged so that children can develop and apply their scientific skills.

Science lessons

In each year group, science is taught in an imaginative, largely practical and investigative way. The children benefit from whole class or group teaching as well as being encouraged to work individually in order to find out information, practise skills, and to think scientifically for themselves.

Science lessons will typically contain the following elements:

Discussion; pupils recalling what they already know from experience, what they have learnt so far, and then considering what they will be finding out about next.

Teaching; directly to the whole class or through group or individual work.

Practical tasks or investigative work; pupils working in groups or individually, practising scientific skills, finding out answers, being encouraged to think scientifically.

Recording; pupils writing about what they have discovered, drawing charts and tables and diagrams, using the computer and other media to record what they have done or found out.

Communicating; pupils sharing their ideas with each other, the teacher, other classes and adults as appropriate.

SEND

Pupils with special educational needs or disabilities have the same science entitlement and curriculum as all other pupils and are offered similar tasks at their own level. Those children whose difficulties are severe or complex will be supported by a special needs assistant in order to complete differentiated tasks set by the teacher. Where necessary, P-Levels will be adopted for these children and greater emphasis will be placed on practically orientated activities. Teachers will liaise with the SENCo when setting science targets for IEPs.

Gifted and Talented Children

These children will be challenged and motivated by the setting of differentiated work that will cater for their particular needs. Very occasionally, special arrangements will be made for an exceptionally gifted child to follow an individualised programme containing more challenging concepts.

Staff responsibility and training

The teacher with curriculum responsibility for science is Mrs K. Ferguson and her overall responsibilities are outlined in the school's Curriculum Leader Job Description. The governor with a special interest in science is Mrs Claire Paul. Responsibility for identifying training needs and facilitating them for staff lies with the Staff CPD Leader who is Ms T. Mills.

Resources

The Science Leader is responsible for the regular review of materials and equipment, the ordering of new or replacement items and their deployment.

Science resources are essentially kept in three different areas from where they should be collected and returned. Class teachers are responsible for the care and good order of the equipment, and for informing the leader of the need for repair and replacement. Any equipment considered to be of danger to the user, should be removed straight away and the leader informed:

1. KS1: In the Class 5 Corridor store. resources room. These resources are kept in red boxes.
2. KS2: In the Class 5 Corridor store. These resources are kept in coloured boxes according to the attainment targets, and labelled according to particular sub-sections of these.

3. Each class has additional science resources collected for particular units of work. The opportunity exists to share between classes. This will assist with meeting the requirements of special needs pupils by simplifying tasks and providing equipment of which they have some working knowledge. The sharing of resources can also cater for the needs of G+T pupils. However such sharing 'down' should be restricted to ensure class equipment remains new to each cohort of pupils as they progress through the school.

A full audit of science equipment is kept by the subject leader

Teacher reference material including professional discussion documents, published and photocopiable materials, subscription magazines, videos, CD ROMs and reference books to assist professional development are all kept in the Class 5 Corridor store.

Information and Communication Technology

The use of ICT to support and enhance the learning of scientific concepts will be identified on the ICT termly planning sheet. At both KS1 and KS2 a minimum of 20% of science lessons should be taught using ICT.

For teacher reference, a list of the software available in school and any websites of interest are kept in the science co-ordinator's file.

Health and Safety

When planning activities, teachers will need to anticipate likely safety issues. Appropriate grouping and location for practical activities, good classroom management and supervision, awareness by staff and pupils of potential hazards will ensure any risk is kept to a minimum.

Teachers will also explain the reasons for safety measures and discuss any implications with their class. The children are required to identify hazards at the planning stage of an investigation and are encouraged to adopt ways of working which control the risks to themselves and others.

For specific guidance about safety in science, teachers should refer to the ASE publication '*Be Safe*' (3rd edition), kept in the staff room, and to the School Risk Assessments File located in the office. The local authority also maintains a subscription to the CLEAPSS School Science Service: this organisation produces a termly newsletter, *Primary Science and Technology* and a wide range of guides about primary science, which are available on the internet.

Homework

This is used to support science as the opportunity arises through such tasks as:

- Researching the answers to questions posed in school using books, Internet and local library.
- Collecting data for further use in school.
- Making observations at home following science work in school. - Bringing in resources and artefacts from outside school.

Planning and continuity

Planning in science is an integral part of teachers' planning. At St. Stephens School it consists of the following:

- A yearly programme derived from a thematic scheme of work. This is balanced to ensure full coverage of the National Curriculum 2000. (currently under review)
The Foundation stage curriculum follows the Early Learning Goals for *Knowledge and Understanding of the World*. The ARB covers this from the Equals Curriculum.
- Medium term, half-termly, plans drawn up by individual teachers and monitored by the Headteacher and Science Leader.
- Short term, weekly plans written by individual class teachers.

Assessment

Short-term assessments will be an informal part of every lesson to check the children's understanding and to give the teacher information to adjust future lessons. Teachers will make notes on their weekly planning of any children not achieving, or surpassing, the lesson's objectives.

Medium-term assessments take place at the end of every unit of work. The teacher will assess the children based on the end of unit expectations laid down in the Scheme of Work. The outcomes will be recorded on a class record sheet, which will follow the cohort through the school. Key topic areas are revisited throughout the primary curriculum and the use of colour coding for each year group provides a continuous record for tracking progress.

Long-term assessments will take place towards the end of the year. Teachers will carry out a 'bestfit' analysis of every child directly related to the P-Levels/National Curriculum levels. This information is then transferred to SIMS Assessment Manager.

Reporting to parents

Parent interviews are offered twice a year and there is an annual written report. The written report focuses on the pupil's:

- Attitude to science.
- Competence and accuracy in carrying out investigations.
- Knowledge of scientific concepts.
- Ability to apply scientific skills and knowledge to new situations.
- Progress in science as measured by P-Levels, Early Learning Goals and National Curriculum levels.

RRSA

Within our Science teaching, we, as ADMAT Schools, aim to promote the UNCRC in all aspects of our work. This reflects our position as a Rights Respecting School.

Science relates to the UNCRC articles:

Article 13 (freedom of expression): 'Every child must be free to say what they think and to seek and receive all kinds of information, as long as it is within the law.'

Article 17 (right to education): 'Every child has the right to reliable information from the media. This should be information that children can understand.'

Article 28 (right to education): 'Every child has the right to an education.'

Article 29 (goals of education): 'Education must develop every child's personality, talents and abilities to the full. It must encourage the child's respect for human rights, as well as respect for their parents, their own and other cultures, and the environment.'

Other relevant policies

The following policies need to be born in mind when teaching science:

- Drugs Education
- Sex Education
- Environmental Education (under development)
- Health and safety
- Equal Opportunities
- English as an Additional Language
- Multicultural
- Gifted and Talented - Assessment.

Review timetable

This policy was written in the spring term of 2006. It was re-approved by the Curriculum SubCommittee at their spring 2010 meeting and adopted by the Governing Body in spring 2010.

Signed

Headteacher

Revision date: **Autumn 2014**

Signed

Chair of Governors