

Science Policy

SLATED ROW SCHOOL

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SLATED ROW SCHOOL | Old Wolverton Road, Wolverton, Milton Keynes MK12 5NJ





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Introduction

This policy document is a statement of the aims, principles and strategies for teaching and learning of Science at Slated Row School. It reflects the consensus of opinion of the whole teaching staff and has the full agreement of the Governing Body.

Science is a core subject in the National Curriculum. The fundamental skills, knowledge and concepts of the subject are set out in "Science in the National Curriculum" where they are categorised into 4 attainment targets.

At Key Stage 1 and 2:

Sc1 Scientific enquiry

Sc2 Life processes and living things

Sc3 Materials and their properties

Sc4 Physical processes

At Key Stage 3 and 4:

AT 1: How science works

AT 2: Organisms, their behaviour and the environment

AT 3: Materials, their properties and the Earth

AT 4: Energy, forces and space

Aims

Slated Row School aims that all children will:

Develop lively, enquiring minds and build upon their natural sense of curiosity about the world around them;

Develop a set of attitudes which will promote scientific ways of thinking, including open-mindedness, perseverance, objectivity and a recognition of the importance of teamwork both in science and in wider aspects of learning;

Begin to think logically and apply thoughts to given tasks/problems;

Come to develop an understanding of the nature of "scientific method" involving: meticulous observation, the making and testing of hypotheses, the design of fair and controlled experiments,



the drawing of meaningful conclusions through critical reasoning and the evaluation of evidence and questions both of their own and others within the class.

Become effective communicators of scientific ideas, facts and data and will begin to build up a body of scientific knowledge and understanding which will serve as a foundation for future enquiry.

Develop a sense of responsibility and a positive attitude towards caring for their whole environment.

Cross-Curricular Aims

To develop literate, numerate, creative, independent, enquiring and confident learners;

To recognise and celebrate all children's' gifts and talents;

Provide a curriculum which is broad, relevant and inspires children.

Health and Safety

Practice within this subject complies with the school's Health and Safety guidelines (see Health and Safety Policy)

The teacher has the responsibility to consider all safety implications and where fire, Bunsen burners or dangerous chemicals, such as strong acids are to be used, a written risk assessment should be provided. Further guidance can be sort from the Science Co-ordinator, ASE – Be Safe Booklet or CLEAPSS information.

Children will be encouraged to take responsibility for the safety of themselves and others during science lessons. Safety in the classroom will be discussed at the beginning of each term in Science lessons.

Provision In Science

Lower School plan from the Early Years Curriculum. Science is not taught as a discrete lesson but as an aspect of a theme. The emphasis is on experiential learning.

Middle School work on a three year rolling programme that is based upon the Key Stage 2 curriculum. Where Science does not fit into the theme for a given term, it is taught as a discrete lesson, otherwise it is approached thematically. Again, the emphasis is on experiential learning. The children may be working at 1 or 2 key stages below that of their chronological age.

In Key Stage 3 planning is based on the Key Stage 3 Programme of Study and organised into topics to access all aspects. Usually each class has the equivalent of 3 lessons in a week. The children may be working at 1 or 2 key stages below that of their chronological age.



At Key Stage 4 the children are following the AQA Entry Level Certificate syllabus and have the opportunity to access AQA Science GCSE if they are working at an appropriate level. The children may be working at 1, 2 or 3 key stages below that of their chronological age.

Principles of the Teaching and Learning of Science

In the Primary department Science is taught in classes. In the Secondary department Science is mainly taught by specialist teacher or by other teachers with support from the Science Co-ordinator. A variety of teaching methods are used in order to match the abilities, interest and safety of the children.

At Slated Row School it is imperative that Science is taught as a practical subject and through first hand experiences, whenever possible.

Other relevant techniques include

Investigation and experimental work using questions, predictions, hypothesis and measurement and to interpret results into meaningful conclusions;

- The use of ICT
- Discussion techniques (pupil/pupil and pupil/teacher) appropriate to practical work; Consolidation and practice of fundamental skills and routines
- Problem solving
- The committing to memory and recall of a range of scientific facts
- Recording through a range of methods e.g. diagrams, graphs, charts and models
- Class work, group work, individual work
- The use of the school resources and its own environment should be fully utilized
- Teacher exposition

Equal Opportunities

Every pupil will have access to the curriculum regardless of degree of ability, gender, race or religion. Pupils may need materials and activities modified to ensure access for all is available in the teaching and learning of Science.

Differentiation

Each child will be taught Science at his/her own level of understanding. Differentiation may take the form of different scientific experiences, tasks, outcomes and resources. Differentiation is planned for via the process of assessment, monitoring and evaluating.



Assessment

Assessment is regarded as an integral part of teaching and learning and is a continuous process. It is the responsibility of the Science teacher to assess all pupils and adapt planning accordingly. Pupils' progress is being continually assessed to:

- Ensure understanding and acquisition of new skills
- Identify pupils progress
- Aid future planning

Information for assessment purposes will be gathered in various ways: by talking to the children, observing them working, by marking their work. Teachers will use these assessments to plan the next steps in the learning process. Learning intentions and success criteria form an essential part of formative assessment. These are shared with the children at the beginning of the lesson and reviewed in the plenary. In this way children are involved in continuous assessment of their own learning.

Science Resources

Science is a very well-resourced curriculum area at Slated Row School. The resources are kept in the Science room but may be borrowed as required by staff teaching Science in other classrooms.

Information Communication Technology is a major resource, which is used in science for:

- Communicating information (word processing and graphics/drawing packages)
- Handling information (databases and data collecting)
- Modelling (simulations and spreadsheets)



The role of the *Science Co-ordinator* is to:

- Take the lead in developing the progression and continuity in science throughout the school with curriculum partners
- Support colleagues in their development of work plans and in assessment and record keeping and provide guidance and support in implementing NC and schemes of work;
- Monitor progress in science and highlight action needed
- Take responsibility for the organisation of central resources for science and manage a delegated budget and keep spending within it
- Keep up-to-date with developments in science education and disseminate information to colleagues as appropriate by attending courses and feedback sessions organised by LEA, Cluster groups or other colleagues
- Assist with diagnosis and remediation of learning difficulties;
- Encourage and assist in-service training
- Offer specialist advice and knowledge for special needs and gifted pupils;
- Co-ordinate recording and presentation throughout the school in consultation with colleagues
- Advise the Head teacher of action required (e.g. resources, standards etc)
- Encourage ways of involving parents in their children's learning
- Promote liaison throughout the school (moderation etc)