SWINTON QUEEN PRIMARY SCHOOL

POLICY STATEMENT FOR SCIENCE

Coordinator: Mrs H Audin

At Swinton Queen Primary School we believe that a high-quality science education provides the foundations for understanding the world. Science has changed our lives and is vital to the world's future prosperity, and therefore all pupils are taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils are encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They are encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Children will be provided with the opportunity to:

- develop scientific knowledge and conceptual understanding through the disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

Long, medium and short term objectives direct our planning.
Long term planning is guided by the National Curriculum in England: science programmes of study (updated 6 May 2015) and, where appropriate, supported by the "Star Science" Scheme of Work, which is divided into Foundation Stage, Key Stage 1, lower and upper Key Stage 2 key skills. STEM Primary Science resource packages are also used to supplement planning.
Medium term planning is provided by termly topic webs and short term planning is provided on a weekly basis through the teachers' planning. Continuity and progression is ensured by the "Star Science" Scheme of Work.
Wherever possible Science is taught through first hand experiences (visits and visitors), building upon the child's own knowledge and understanding. These experiences may be taken from the home, school or the local environment but are

carefully planned and prepared in order to maximise the potential for learning. The curriculum encourages children to look closely and to discuss similarities and differences in both the natural and made world. They are encouraged to ask questions and to suggest explanations as to why things work referring to a variety of first and second hand resources.

The nature, processes and methods of science

'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group. It is not taught as a separate strand, but, following the examples in the notes and guidance, 'working scientifically' is embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils seek answers to questions through collecting, analysing and presenting data.

Independence is encouraged through the opportunity to select the correct equipment and develop own ways of testing, exploring and of recording findings to present to others. Different teaching strategies are used, depending on the activity being undertaken. This could take the form of a class discussion, collaborative group investigations or work by individuals or a pair of children. The children are taught how to use equipment and be aware of any safety implications. All Science activities are undertaken within LA guidelines. Children are closely supervised and the class teacher always demonstrates new equipment.

Scientific vocabulary is highlighted in planning and scientific displays, some of which are interactive, are used to stimulate investigations. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. They are assisted in making their thinking clear, both to themselves and others, and teachers ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Children are given the opportunity to work individually, in small groups and as a class group. Class teachers are responsible for implementing the teaching of

Science and may be supported by TAs where available. Parent helpers and members of the local community are welcomed to support the teaching of Science. Information Technology will be used where appropriate to collect scientific information and present work in a variety of formats.
Science equipment and resources are stored in the cupboard between Class 4 and Class 3.

Assessments are carried out at the end of each unit of work and these are recorded in the White Assessment books and assessments sheets. These assessments are then used as the basis for future planning. Assessments are also made on the child's ability to use scientific equipment and the ability to talk about experiments and findings.

In **Foundation Stage,** Science is taught within the framework of knowledge and understanding of the world. The children are offered a range of experiences and activities closely related to the World about them, underpinning their future work on the National Curriculum.

The principal focus of science teaching in **key stage 1** is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. Most of the learning about science is done through the use of first-hand practical experiences, role-play, visitors to school and visits out of school, but there is also some use of appropriate secondary sources, such as books, photographs and videos.

The principal focus of science teaching in **lower key stage 2** is to enable pupils to broaden their scientific view of the world around them. They do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions.

The principal focus of science teaching in **upper key stage 2** is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they encounter more abstract ideas and begin

to recognise how these ideas help them to understand and predict how the world operates. They also begin to recognise that scientific ideas change and develop over time.

All children have equal access to the Science Curriculum regardless of the race, gender or ability. Differentiation is by task, outcome, teacher input or resourcing (including Teaching Assistants). Pupils can be arranged in ability or social groupings which can aid differentiation. Assessments are used in order to differentiate tasks.

The role of the subject leader is to collect evidence throughout Key Stages, therefore monitoring continuity and progression. Advice and support will be given to colleagues. The subject leader will attend courses and will keep staff up to date on current issues regarding good practice in the teaching of Science through staff meetings and INSET days. The subject leader is also responsible for maintaining stock level and ensuring the Science resources are kept neat and tidy.