Marsh Green Primary School

Science Policy

Vision Statement

We at Marsh Green Primary School, firmly believe that each and every child deserves the very best opportunities and experiences to enable them to live fulfilling and successful lives and aspire to reach their full potential as a valued and respected member of the community.

"I will be the best that I can be"

Why Teach Science?

A high-quality science education provides foundations for understanding the world. Science has changed our lives and is vital to the world's future prosperity. Through building key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how things will behave, and analyse causes. This understanding should be consolidated through their appreciations of science in society and the economy.

Aims

Our Science Policy follows the National Curriculum 2014 for Science Guidelines. We strive to …

- develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life
- build on pupils' curiosity and sense of awe of the natural world
- use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science
- introduce pupils to the language and vocabulary of science

- develop pupils' basic practical skills and their ability to make accurate and appropriate measurements
- develop pupils' use of computing in their science studies.
- extend the learning environment for our pupils via our environmental areas and the locality
- promote a 'healthy lifestyle' in our pupils.

In teaching Science we are developing in our children:

- A positive attitude towards science and an awareness of its fascination;
- An understanding of science through a process of enquiry and investigation;
- Confidence and competence in scientific knowledge, concepts and skills;
- An ability to reason, predict, think logically and to work systematically and accurately;
- An ability to communicate scientifically;
- The initiative to work both independently and in co-operation with others.

Objectives

The following objectives derived from the above aims will form the basis of science work in school. Assessment will also be related to these objectives:

- Develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life both today and in the future..
- Develop a knowledge and appreciation of the contribution made by famous scientists to our knowledge of the world including scientists from different cultures
- Encourage pupils to relate their scientific studies to applications and effects within the real world
- Develop a knowledge of the science contained within the programmes of study of the National Curriculum.
- Build on pupils' curiosity and sense of awe of the natural world.

By using investigations pupils will:

- Develop a general sense of enquiry which encourages them to question and make suggestions
- Be encouraged to predict the likely outcome of their investigations and practical activities

- Plan a range of investigations and practical activities to gain a greater understanding of the concepts and knowledge of science
- Be provided with a range of specific investigations and practical work which gives them a worth-while experience to develop their understanding of science
- Develop an ability to plan, carry out and evaluate simple scientific investigations and to appreciate the meaning of a 'fair test'. structured activities to develop understanding of a scientific concept
- Carry out open ended investigations.

To develop the ability to record results in an appropriate manner including the use of diagrams, graphs, tables and charts, pupils will:

- Be introduced to the language and vocabulary of science
- Given regular opportunities to use the scientific terms necessary to communicate ideas about science
- Develop basic practical skills and an ability to make accurate and appropriate measurements
- Within practical activities, be given opportunities to use a range of simple scientific measuring instruments such as thermometers and force meters and develop their skill in being able to read them. structured activities to develop understanding of a scientific concept
- open ended investigations.

To develop pupils' use of ICT in their science studies, they will:

- Be given opportunities to use ICT (video, digital camera, data logger) to record their work and to store results for future retrieval throughout their science studies
- Be offered the chance to obtain information using the internet.
- Take part in activities to develop good observational skills
- Have practical activities using measuring instruments which develop pupils' ability to read scales accurately

School Curriculum

The programmes of study for science are set out year-by-year for Key Stages 1 and 2. We are however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, school has the flexibility to introduce content earlier or later than set out in the programme

of study and may introduce key stage content during an earlier key stage if appropriate. Teachers will base their short term planning on the programmes of study for their relevant year groups. The school follows the agreed planning map laid out in the Science Curriculum Document. Resources are stored on the school Shared Drive and are available for all staff.

Scientific Knowledge of Conceptual Learning

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage.

Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.

'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand.

Parental Involvement

Where relevant parents are invited into school to offer any skills and knowledge they may have in a particular area to enhance the teacher's skills.

Cross-curricular skills and links

Science pervades every aspect of our lives and we will relate it to all areas of the curriculum. We will also ensure that pupils realise the positive contribution of both men and women to science and the contribution from those of other cultures. We will not only emphasise the positive effects of science on the world but also include problems, which some human activities can produce.

Continuity and Progression

Foundation Stage pupils investigate science as part of Understanding of the World. Children are encouraged to investigate through practical experience; teachers guide the children and plan opportunities that allow the children to experience and learn whilst experimenting for themselves. By careful planning, pupils' scientific skills and knowledge gained at Key Stage 1 will be consolidated and developed during Key Stage 2.

Pupils in Key Stage 1 will be introduced to science through focused observations and explorations of the world around them. these will be further developed through supportive investigations into more independent work at Key Stage 2. The knowledge and content prescribed in the National Curriculum will be introduced throughout both key stages in a progressive and coherent way.

Equality of Opportunity

All children have equal access to the science curriculum and its associated practical activities. The SLT, Class Teachers and TAs are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably challenging activities. Gender and cultural differences will be reflected positively in the teaching materials used.

All children have equal access to the Science Curriculum, its teaching and learning, throughout any one year.

Health and safety

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers and TAs will check equipment regularly and report any damage, taking defective equipment out of action. A simple risk assessment will be carried out for all practical activities.

Assessment for Learning, recording and reporting

Teachers will assess whether children are working at/above or below the expected level for their age based on their understanding and application of the content of the National Curriculum 2014. In Years 2-5 this assessment

uses a separate booklet and is completed at the end of each unit. Children in Year 6 use SATs style questions, with more observational assessment taking place in Year 1 and Foundation Stage. Progress and attainment is reported to parents through parents' evenings and end of year reports, with end of Keystage data being reported and compared with National results .

Marking

Much of the work done in science lessons is of a practical or oral nature and, as such, recording will take many varied forms thus making marking different. It is, however, important that written work is marked regularly and clearly, as an aid to progression and to celebrate achievement. When appropriate, pupils may be asked to self-assess or peer assess their own or other's work.

Role of the subject Leader

Science will be led by the whole staff and will be an annual focus for a staff meeting. Standards of teaching and learning will be assessed using book scrutinises and data review.

Resourcing

Specialist pieces of equipment and those posing a potential safety risk will be held centrally and staff access when required.

Policy written by H Kelsall

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