

Grimsargh St Michael's C of E Primary School

Science Policy

'Let your light shine' Matthew 5 v16

This policy reflects the school values and philosophy in relation to the teaching and learning of Science at Grimsargh St Michael's C of E School. It sets out a framework within which teaching and non-teaching staff can operate and give guidance on planning, teaching and assessment. This policy should be read in conjunction with the 2014 National Curriculum for Science which sets out in detail what pupils in different year groups should be taught.

This document is intended for all teaching staff and non-teaching staff with classroom responsibilities, and school governors. Copies of this policy will be available for parents who wish to see it; this can be requested at the school office.

1. Our rationale for teaching science

Science is a body of knowledge built up through experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills.

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

Our aims in teaching science include the following.

- Preparing our children for life in an increasingly scientific and technological world.
- Fostering concern about, and active care for, our environment.
- Helping our children acquire a growing understanding of scientific ideas.
- Helping develop and extend our children's scientific concept of their world.
- Developing our children's understanding of the international and collaborative nature of science.

Attitudes

- Encouraging the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and

- responsibility.
- Building our children's self-confidence to enable them to work independently.
- Developing our children's social skills to work cooperatively with others.
- Providing our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

- Giving our children an understanding of scientific processes.
- Helping our children to acquire practical scientific skills.
- Developing the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording and techniques.
- Developing the use of ICT in investigating and recording.
- Enabling our children to become effective communicators of scientific ideas, facts and data.

2. Our teaching aims

- Teaching science in ways that are imaginative, purposeful, well managed and enjoyable.
- Giving clear and accurate teacher explanations and offering skilful questioning.
- Making links between science and other subjects.

Science is a core subject in the National Curriculum. The programmes of study for each year group describe a sequence of knowledge and concepts. Children need to develop secure understanding of the knowledge and concepts in order to progress to the next stage. 'Working Scientifically' specifies the understanding of the nature, processes and methods of science for each year group.

Children in the Foundation Stage are taught the science elements of the Foundation Stage document through the Early Years Curriculum: Understanding the World.

3. How Science is structured throughout the school

Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of the National Curriculum for Science and science in the Foundation stage. Science teaching in the school is about excellence and enjoyment.

KS1 and Foundation stage teachers should be teaching science for a minimum of one hour each week.

KS2 teachers should be teaching science for a minimum of two hours per week.

This may not be the case if teachers are blocking their science lessons.

We aim to include practical scientific enquiry wherever possible.

The school follows the programmes of study from 2014 National Curriculum that specifies what to teach in each year group. We then use the Lancashire Key Learning Progression documents and the Creative Contexts documents to plan the units of work for our classes. This ensures progression between year groups and guarantees topics are revisited. Teachers are expected to adapt and modify the model plans to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available.

4. Our approach to Science

The essential elements describing how Science is taught in our school are described below.

- Wherever possible, we teach science through practical tasks to provide children with real experiences of planning, carrying out and evaluating the results of investigations.
- We actively teach science skills focusing on 'Working Scientifically'.
- We use Lancashire's Creative Contexts documents to ensure the children are learning for a real purpose.
- We use educational visits to enhance the children's science study and visitors will be invited into school to support and enhance their learning.
- We use ICT widely in science for example digital microscopes and data logging.
- We encourage children to ask and answer their own questions as far as is practical to do so.
- We use cross-curricular links to science with, for example, design and technology units.

5. Equal opportunities in science

Science is taught within the guidelines of the school's equal-opportunities policy.

- We ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class, physical or intellectual ability.
- Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.
- We aim to teach science in a broad global and historical context, using the widest possible perspective and including the contributions of people of many different backgrounds.
- We draw examples from other cultures, recognising that simple technology may be superior to complex solutions.
- We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.
- In our teaching, science is closely linked with literacy and mathematics.
- We recognise the particular importance of first-hand experience for motivating children with learning difficulties.
- We recognise that science may strongly engage our gifted and talented

children, and we aim to challenge and extend them.

- We exploit science's special contribution to children's developing creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.

6. Assessment and recording in science

We use assessment to inform and develop our teaching.

- Topics commonly begin with an assessment of what children already know.
- We use assessment for learning (AfL). Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve. Activities during, and at the end of, each topic record achievement and celebrate success. For example, children at Key Stage 2 may self-mark completed work with 'two stars and a wish' - identifying two good points in their work and one in which they could improve.
- We mark pieces of work positively, making it clear verbally, or on paper, where the work is good, and how it could be further improved.
- The school science subject leader monitors progress through the school by sampling children's work at regular intervals.
- All staff assess children's level of attainment at the end of the year. This teacher assessment is made using KLIPS statements and the 'I can...' statements (Learning Ladders) and work samples.
- Reports to parents are written once a year, describing each child's attitude to science, his/her progress in scientific enquiry and understanding of the content of science. There are also two parents' evenings in the autumn and spring terms where verbal reports are given.

7. Health and Safety

Please refer to the school Health and Safety Policy and CLEAPSS "Model Health and Safety Policy for Science in Primary Schools" which refers to the "Be Safe Booklet". (Appendix 3)

8. Role of the Subject Leader

The subject leader for Science will monitor Science throughout the school. Long Term planning sheets reflect the programmes of study for each year group from 2014 National Curriculum. Medium term plans are evaluated by the teacher and passed on to the Subject Leader each half term. Pupils' exercise books will be scrutinised annually, a sample of children will be interviewed and lessons may be observed.

Displays of work and discussions with pupils and staff will also assist the subject leader when monitoring.

9. Resources/Equipment

All practical Science equipment is stored in the p.e/maths/science cupboard off the hall. Equipment is constantly reviewed and items purchased annually. Reference materials and photocopiable resources for teachers are to be found on the shelves in the staffroom. These are grouped according to Key Stage and Programme of Study Area. Teachers may have year group specific books and resources in their classrooms.

A small sum of money is set aside each year for consumable products needed for some of the investigations.

Date of policy review – 14/09/18
Updated by Alison Loughran

Date for next policy review - Autumn 2019

Adopted by the Governing Body
Date