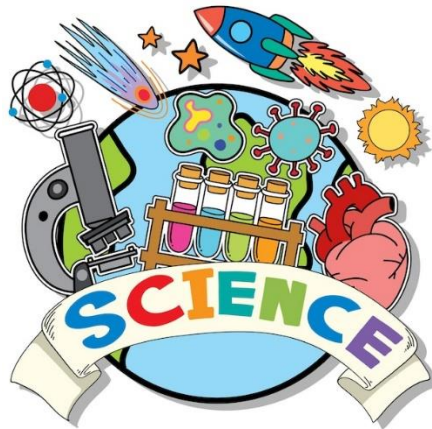




Our children leave Mile Oak thinking big with no limit on their potential. The school family works together to inspire and support every child. They learn and achieve through inspirational teaching in a lively, ambitious environment. Every child is nurtured to gain the creativity, responsibility and full breadth of skills required to take an active and fulfilling role in society.

# Mile Oak Primary School:

## Science Policy



### Vision

At Mile Oak, we provide children with a range of exciting, engaging and thought-provoking learning experiences which enable them to develop their scientific skills and their understanding of the world.

We aim to harness children's innate curiosity and enthusiasm for Science. We will provide them with fun, practical and meaningful lessons, where every child is challenged and supported to reach their full potential. We want children to Think Big, which includes them generating their own questions and designing, developing and improving investigations with which to answer them. We will explore both the challenges of and the solutions to climate change. We want children to appreciate the value of Science in the wider world and the potential it offers for our future.

### Principles of Science

The principles of Science at Mile Oak are:

- Science is fun
- Children are curious
- Science is important
- We are skilful scientists

### Rationale

The teaching programme for Science contributes greatly to many aspects of a child's development. Through science, children can develop their thinking skills, make decisions and solve problems, both individually and in collaboration with others. An enquiry-based approach engenders a wide range of attitudes, skills and concepts that are relevant to pupils in everyday life. We encourage children to ask questions about the world around them and to think about how we can answer those.

The implementation of the policy is the responsibility of all teaching staff and will be monitored by the Science Lead and the Senior Leadership Team.

### Aims and Purposes

Through teaching and learning in Science, children are given opportunities to:

- Acquire a curious and questioning mind.
- Develop their knowledge and understanding of important scientific ideas, processes and skills and relate these to everyday experiences.
- Develop skills of observation and investigation.
- Collect, retrieve, present and communicate their findings to others in a variety of ways.

### Strategies

These aims and purpose are taught through:

### Knowledge and Understanding

Children should:

- Be curious about things they observe, experience and explore the world about them with all of their senses.
- Use this exploration to raise questions which will develop their understanding of key scientific ideas and make links between different phenomena and experiences.
- Try to make sense of phenomena, seeking explanations and thinking critically about claims and ideas.

### Processes and Skills

Children should:

- Acquire and refine the practical skills needed to investigate questions safely, including; measuring, recording and presenting.
- Develop skills of asking questions, planning an investigation, concluding and evaluating based on evidence and understanding, and using these skills in investigative work.
- Practice mathematical skills in real contexts.
- Learn how scientific ideas are proved and how they relate to each other.

### Language and Communication

Children should:

- Think creatively about Science and enjoy raising questions and investigating answers
- Develop language skills through talking about their work and presenting their own ideas using sustained and systematic writing of different kinds.
- Use scientific language including scientific vocabulary, as specified in the Science Progression document.
- Draw diagrams and charts to communicate scientific ideas.
- Read non-fiction texts and extract information from sources such as reference books or the Internet.

### Values and Attitudes

Children should be encouraged to:

- Work with others, listening to their ideas and treating these with respect.
- Develop respect for evidence and critically evaluate ideas, which may not fit evidence available.
- Develop a respect for the environment and living things and for their own health and safety.

### Organisation

Teachers are responsible for the teaching of Science. It is taught in units which link with the topic being studied wherever possible. The units are based on the 2014 National Curriculum. One Science based topic should be taught in each year (YR1-6).

An overview of Science units covered can be found on the school website  
<https://www.mileoakschool.co.uk/learning/science/>

More detailed information on what each child should achieve in Science can be found in the Progression document.

Children learn through a combination of whole class teaching, group and individual work.

In order to ensure the children receive a balanced science curriculum it is essential that the Working Scientifically objectives are covered throughout each year.

During the Foundation Stage, children begin to explore the world around them mainly through the Early Learning Goal *Understanding of the World – The Natural World*.

Throughout our Science teaching, we hope that our children will develop a sense of awe and wonder about the world around them.

### Displays

There should be a Science display in all classrooms. This should show the learning intentions for the current unit, key vocabulary, children's questions & answers and examples of children's work.

### Assessment & Record Keeping

Formative assessment is used to guide the progress of individual pupils in Science. This can be achieved in a variety of ways. Formative assessment involves identifying each child's existing understanding, what their progress is in each lesson, and what therefore should be the next stage in his/her learning.

Summative assessment takes place at the end of each term and is based on self-assessment and reinforcing skills and knowledge learned.

### Planning

Planning in Science is a process which involves all teachers and which ensures all objectives from the National Curriculum are covered. We use questions to drive the learning in Science. Each term half-term, Big Questions will usually be answered through our Science lessons. These are knowledge based questions.

Planning should include a focus on Working Scientifically skills and challenge and support for children at all levels of attainment. There is no specific requirement on how planning is recorded, however it is advisable that an overview of the entire Science Unit should be completed on one document, to provide an overview of how the learning progresses.

Other things to consider when planning include:

- The use of concept cartoons
- Covering a range of Enquiry types (observing over time, identifying & classifying, pattern seeking, research and fair testing).
- Opportunities for children to design and improve their own investigations.
- A range of teaching strategies

#### Health and safety

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers and Teaching Assistants will check equipment regularly and report any damage, taking defective equipment out of action. Class teachers are expected to assess the safety of any practical science work and take steps to ensure it as safe as it practically can be.

#### Resources

Central resources for Science are the responsibility of the Science Lead who has a small budget available. All Science equipment is stored in the Science Cupboard in the Junior Hall. Adults who remove equipment from this room must ensure it returned in the same state and to the same place (most trays have a numbered location). This room also contains a range of resource books.

#### The role of the Science Lead

The Science Lead is expected to:

- Take a lead in policy development and the implementation of the Scheme of Work.
- Support colleagues in their development of work plans, and implementation of the Scheme of Work.
- Monitor the resources in Science and advise the Head Teacher of any action needed.
- Take responsibility for the purchase and organisation of central resources for Science.
- Keep up to date with developments in Science education and disseminate information to colleagues as appropriate.
- Monitor the teaching and learning of Science throughout the school.
- Raise the profile of Science by promoting it to parents & carers and seeking accreditation where appropriate.

### Special Educational Needs

All children are encouraged and supported to develop their full potential in Science. Some children may require extra support in the classroom and opportunities for consolidation and reinforcement. Science is an excellent example of a subject where a child can demonstrate good understanding when supported with skills from other areas of the curriculum. Activities should be differentiated to meet the needs of all pupils and this should be clearly shown in teacher's planning.

### Equal Opportunities

All children are entitled to access to the Science curriculum in line with the school's policy for equal opportunities.