Meadowhead Junior School

Science Policy

Updated: July 2023

Next Review Date: July 2024

Approved By: _____

Full Governor Ratification Meeting Date _____

Chair of Governors to Approve: _____

Subject Leader: Mrs Rebecca Carins
Governor Subject Leader:

Meadowhead Junior School

Our Mission Statement

High Aspirations, Bright Futures

Intent

1. Statement of Intent

At Meadowhead Juniors our intent is to teach children key scientific knowledge required to be able to gain a strong understanding of the world we live in, developing a sense of excitement and curiosity about natural phenomena. They will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Children will be taught a progressive range of skills which will allow them to work scientifically, leading them to become independent science learners, exploring ideas and planning and investigating scientific experiments. Alongside this we encourage the children to be inquisitive via hands on learning.

Children will be taught key scientific vocabulary before and during teaching of topics. This vocabulary will be revisited to ensure it is embedded and knowledge and understanding is being built on progressively.

Learning is enhanced through school trips to places of scientific interest and visits from professionals into school.

At Meadowhead we want our children to become responsible humans as they begin to have awareness of the world around them and to be able to show how we have positive and negative impacts on the world.

2. Legal Framework

This policy has due regard to all relevant legislation and statutory guidance including, but not limited to, the following:

- DfE (2018) 'Keeping children safe in education'
- National Curriculum DfE (2013) 'Science programmes of study: key stages 1 and 2'

The school aims to assist pupils in achieving attainment targets set out in the national curriculum. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills, and processes specified in the national curriculum. Pupils will learn a broad range of subject knowledge and draw on disciplines such as

maths, science, engineering, computing and art. For further information on the National Curriculum please see Section 5

1. 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 balance science education is the entitlement of all children regardless of ethnic origin, gender, class, aptitude or disability.
Our aims in teaching 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.

Attitudes

- Encouraging the development of positive attitudes to science.
- Developing a scientific approach to problems and building on our children's natural curiosity.
- Encouraging open- mindedness self assessment, perseverance and responsibility.
- Building self confidence to enable our children to work independently.
- Developing social skills in order to work collaboratively with each other.
- 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, questioning, 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.

Meadowhead Junior School

Implementation

2. Teaching Aims

- To teach science in ways that are imaginative, purposeful, well managed and enjoyable.
- To give clear and accurate teacher explanations and offer skilful questioning.
- To make 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.
Staffs' subject knowledge is developed and supported through Reachout CPD units as and when required.

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.
Science at KS2 should be taught for a minimum of one hours per week alongside half termly science days which will be cross curricular. We do not block science lessons in order for key skills to be revisited on a regular basis . We aim to include practical scientific enquiry wherever possible and follow health and safety guidance from Be Safe and CLEAPSS.
The school follows the programmes of study from the 2014 National Curriculum that specifies what to teach in each year group.
The school uses PLAN documents as MTP's where the NC objectives are covered and there is clear Key Learning Progression, Vocabulary progression and Working Scientifically progression for each year group. This ensures progression between year groups and guarantees topics are revisited. Science is enhanced by the use of Explorify where children are encouraged to think like scientists and ask questions.
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. Approach to Science

- Wherever possible, science is taught through practical tasks in order to immerse children in phenomena to develop understanding and support the development of vocabulary and provide children with real experiences of planning, carrying out and evaluating the results of investigations.
- Science is taught actively focussing on "Working Scientifically".

- Explorify, Inspiring Science Creative Contexts documents and PLAN are used to ensure the children are learning for a real purpose.
- Educational visits are organised to enhance the children's science study and visitors will be invited into school to support and enhance learning.
- ICT such as digiscopes and data logging is used when appropriate.
- Children are encouraged to ask and answer their own questions as far as is practical to do so.
- Children's learning is enhanced by working outside the classroom with the LOTC lead to upkeep growing beds, revisit vocabulary linked to nature, grow and sell vegetables to the school kitchen and parents, skills to use equipment and communication and teamwork skills.
- Cross curricular links to science with, for example, design technology units are used and LOTC.

5. Equal opportunities in science

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

- All 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 historic context, using the widest possible perspective and including contributions of people from many different backgrounds.
- Examples are drawn from other cultures, recognising that simple technology may be superior to complex solutions.
- Science is valued as a vehicle for the development of language skills, and children are encouraged to talk constructively about their science experiences.
- Science teaching is linked with our maths and English teaching.
- The importance of providing first- hand experiences for motivating children with learning difficulties is recognised.
- We recognise that science may strongly engage our gifted and talented children, and we aim to challenge and extend them.

6. Assessment and recording in science

We use assessment to inform and develop our teaching.

- Topics commonly begin with an assessment of what the children already know using a double spread page in the children's books this focusses on vocabulary, questions and facts which is updated in a different colour with what children learn and remember.
- Work is marked positively, making it clear verbally, or on paper, where the work is good, and how it could be improved further.
- We use assessment for learning. 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.
- The science subject leader monitors progress through the school by discussion with children and sampling children's work.
- The Y6 staff assess children's attainment in line with expectations at the end of KS2. Teacher's use national exemplifications which is supported through the use of PLAN Assessment.
- Reports to parents are written once a year, showing each child's attitude to science, his/her progress and attainment in scientific enquiry using TAPS Focussed Assessment to support and understanding of the content of science. There are 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"

8. Role of the Subject Leader

The subject leader for Science will monitor Science throughout the school. Long Term planning sheets reflect the programme of study for each year group from the 2014 National Curriculum against PLAN Knowledge Matrices, exemplifications, knowledge and skills and progression documents . Medium term plans are evaluated by the teacher and saved on T shared each half term. Pupils' exercise books will be scrutinised during the year, with opportunities through out the year, with professional dialogue, sharing good practice meetings and pupils outcomes linked to actions in action plan .

9. Resources and Equipment

All practical science equipment is stored in the Year 5 resource area. Equipment is organised according to the programme of study area. Equipment is constantly reviewed and items purchased annually. Teachers should inform the subject leader when consumable products need replenishing.
Reference materials and photocopiable resources for teachers are to be found in the Year 5 resources area and teacher shared on the school computer system. Teachers may have year group specific books and resources in their base.

Signed subject leader:
Chair of Governors:
Headteacher:
Date: