**Marwood Primary School Science Curriculum Statement**

**INTENT**

At Marwood Primary School we have designed our science curriculum with the intent that our children will develop an in-depth understanding of the world around them and an understanding of how major scientific ideas have played a vital role in society, to prepare them for life in an increasingly scientific and technological world.

Working scientifically lies at the heart of Science at Marwood Primary School as children develop their scientific knowledge and understanding through practical, hands-on experiences in the first instance. We recognise that science plays a vital role within our school community, with many parents and carers having professional careers within medical/ veterinary fields. We therefore embrace their expertise and recognise the valuable contributions that families can make to the delivery of an engaging science curriculum.

Our aim is to build science capital for all our children, regardless of their background and starting point so that they are inspired to continue to use science in their everyday life, future education and careers.

We will deliver a Science Curriculum that:

* Builds upon prior knowledge and a progression of skills to ensure all children have a secure understanding and knowledge of key science concepts
* Develops creativity and challenges all
* Inspires and excites our children through engaging practical sessions which are enriched where appropriate with visits and visitors, the space dome and a whole-school celebration of National Science Week
* Develops aspirational learners with an awareness of the key role that science plays within our community and the world and the opportunities that this creates for future careers
* Encourages our children to be self-motivated, independent, curious and resilient learners by developing inquiry-based skills and sessions
* Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
* Develop children’s understanding of key scientific vocabulary and enable them to apply this vocabulary to explain, reason and justify their scientific ideas.
* 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.
* Equip children with the scientific knowledge required to understand the uses and implications of science, today and for the future.
* Wherever possible, uses high quality ‘Texts That Teach’ and Science themed fiction and reference books to enhance and reinforce Science learning and English skills
* Makes links with other areas of the curriculum, to provide opportunities in STEM (Science, Technology, Engineering and Maths).
* Makes links with history and the impact of work carried out by famous Scientists.

**IMPLEMENTATION**

We have carefully mapped all of the required areas of the Science curriculum to ensure full coverage over the children’s time with us at Marwood. The units we cover across the school can be found in our Marwood School Science Provision Map and the skills the children will learn and develop are organised by Key Stage in our Marwood Progression Map, both available on our website.

‘New’ EYFS

Through the 7 areas of learning, children start their Science journey through activities and discussion to promote physical development and self-care, developing an early awareness of the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe. ‘Understanding The World’ involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment. This area offers children opportunities to explore and observe the environment, living things and objects. To give children the best opportunities through Positive Relationships, parents’ and carers’ knowledge extend children’s experiences of the world. In Enabling Environments, open-ended questions like, “How can we..?” and “What would happen if…?” are used. Learning and Development is based on first-hand experiences to observe, predict, make decisions and discuss.

KS1

Science teaching in Key Stage 1 will encourage children to ask questions and demonstrate a curiosity about the world and enable them to experience and observe phenomena, looking closely at the natural and human world around them. They will be helped to develop an understanding of scientific ideas through a range of scientific enquiries to answer their own questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests and researching using secondary sources of information. They will be encouraged, through sentence stems, scaffolds and frames to use relevant scientific vocabulary with the opportunity to rehearse this language in order to communicate their ideas to a range of audiences. Children will be taught to read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge.

Lower KS2

Science teaching in lower key stage 2 enables children to broaden their scientific view of the world around them. They achieve this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments and beginning to develop their ideas about functions, relationships and interactions. Children ask their own questions about what they observe. Building on their experiences in key stage 1, children begin to make decisions about which types of scientific enquiry are likely to be the best in answering their questions. Children continue to develop their scientific vocabulary to draw conclusions to talk and then write about what they have found out. Children should read and spell scientific vocabulary correctly and with confidence, using their growing word and spelling knowledge.

Upper KS2

The principal focus of science teaching in upper key stage 2 is to enable children to develop a deeper understanding of a wide range of scientific ideas. Through exploring and talking about their ideas children are encouraged to ask their own questions about scientific phenomena, analysing functions, relationships and interactions more systematically. Children will encounter more abstract ideas and begin to recognise how these ideas help them understand and predict how the world operates. They will also begin to recognise how scientific ideas change over time. Children will select the most appropriate way to answer scientific questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying, carrying out comparative and fair tests and using a wide range of secondary sources of information when researching. Children will draw conclusions based on their data and observations, using evidence to justify their ideas, and scientific knowledge and understanding to explain their findings. Children will read, spell and pronounce scientific vocabulary correctly.

Assessment and Evidence

Elicitation tasks are completed at the beginning and end of science units. These are designed by the teacher and may take the format of a quiz/ creating a glossary/ brainstorms/ drawing a poster of previous learning/ a Q&A session/ a practical activity and based on previous knowledge organisers and the teachers’ awareness of prior teaching and learning. The elicitation is then repeated at the end of the unit to check progress. At KS2, an end of unit test may be appropriate from the optional SATS or similar, to provide practice in written responses in Science to prepare for secondary and possible DfE Science Sampling Tests.

Children from Y1-Y6 have Science books for recording their work. We expect these to be kept to a high standard with the same expectations as our English books, so that evidence can be taken from this area of the curriculum to provide evidence of the child’s writing ability.

As Science is such a practical subject, based around exploration, observation, discussion and experimentation, many of the activities are collaborative and physical. A class ‘Evidence Book’ is used in each class to record experiments, children’s comments, samples of group work and collaborative investigation reporting.

The Science coordinator will monitor coverage, engagement, outcomes and staff needs through audits, learning walks and book-looks to ensure how quality teaching and learning across the school.

**IMPACT**

The Science Coordinator will monitor the impact of our curriculum coverage; engagement, outcomes and staff needs, through audits, learning walks and book-looks to ensure how quality teaching and learning across the school.

Science will be a high-profile subject throughout the school and children will be enthusiastic and motivated about their Scientific learning.

Children will become resilient, independent and curious scientists who ask questions which are increasingly based on scientific understandings and find things out for themselves.

The Science learning environment across the school will be consistent, with the use of knowledge organisers, Class ‘Evidence Logs’, and Science key words for ‘Working Scientifically’ displayed, spoken and used by all practitioners and learners and technical vocabulary for each unit identified, taught and displayed.

Parents and the wider community will support science learning through trips and visits on regular basis where appropriate.

Children will feel confident in their science knowledge and enquiry skills will be excited about science, show that they are actively curious to learn more and will see the relevance of what they learn in science lessons to real-life situations and also the importance of science in the real world.

Children will have an awareness of the full range of scientific careers and pathways available to them and will be keen to pursue STEM subjects at secondary school.

Children will leave for secondary school equipped with the science knowledge and skills needed to succeed in their further education.