CURRICULUM STATEMENT: Science

Our Curriculum Implementation for Science:

The Key Characteristics that we have identified, and that we believe, will make a SCIENTIST are:

- Showing curiosity by asking questions to explore the world around us.
- Have the confidence in using a wide range of practical skills.
- Become independent in planning and carrying out scientific investigations in a variety of contexts
- Communicate scientific findings, knowledge and understanding in a range of written and verbal ways.
- Persevere in solving challenging problems through use of originality, imagination and innovation.
- Have a passion for Science and appreciate how Science helps us to understand the world and the impact it has on our past, present and future.

We believe Science stimulates children's curiosity as to why things happen in the way they do. We want our pupils to begin to appreciate the way Science will affect their future on a personal, national, and global level.

All pupils at Mountfields Lodge are entitled to be taught the key knowledge and skills in the scientific disciplines to develop understanding of the world around them at an age appropriate level. We aim to harness children's natural excitement and curiosity and inspire them to pursue scientific enquiry.

Teachers aim to nurture a love of the natural world and provide methods of creative enquiry so that children can learn to ask questions, explain and analyse phenomena, make predictions and solve problems. Teachers should provide many opportunities for pupils to respond creatively in the learning.

Staff ensure that all pupils are exposed to high quality teaching and learning experiences, which include allowing children to explore their outdoor environment, and developing their scientific enquiry and investigative skills. They are immersed in scientific vocabulary, which aid children's knowledge and understanding of the topic they are studying and of the world around them. We intend to provide all children with a broad and balanced Science curriculum.

Our Curriculum Implementation for Science:

In ensuring high standards of teaching and learning in Science, we implement a curriculum that is progressive throughout the whole school.

At Mountfields Lodge School, we use the National Curriculum Programmes of Study for Science 2014, supplemented by other materials such as PLAN documents from the Association of Science Education (ASE), as the basis for our planning and teaching. Teachers have a clear understanding of previous and subsequent year groups' key knowledge content in order to link learning and build on prior knowledge. Teachers know where a unit of work fits into the progression map for Science across the school – this is essential in ensuring key knowledge and vocabulary is taught and assessed to maintain progression throughout the curriculum. A creative approach to combining key

knowledge and skills is often taken through linking Science with other subjects and encouraging independent learning and recording.

Prior attainment is acknowledged and prior learning accessed so that future learning is based on knowledge and understanding that is secure and established.

Our approach to teaching Science in the Early Years Foundation Stage is based upon children exploring similarities and differences in their world around them. The Early Learning Goals which summarise the knowledge, skills and understanding that all children should have gained by the end of EYFS are the bedrock of our planning in Year 1 and beyond. We use guided teaching sessions and books to hook children's interest and let them explore and experiment for themselves through both guided adult led group time and free play within our continuous provision. We allow the children to regularly explore within the classroom and the school's wider natural grounds

Our expectations for Teaching and Learning are:

A progression map for Science is covered in each key stage (based on the NC Programme of study), which shows a clear progression of:the Scientific disciplines of

- Biology
- Chemistry
- Physics
- Working Scientifically.

Attention is given to what pupils have already experienced, and subsequent steps in learning planned. The progression maps also ensure that links can be made within an across areas and key stages to ensure connections are made between teaching and learning.

Teaching and learning of scientific knowledge and skills are sometimes linked to themes and across the curriculum, where appropriate. At other times, Science is taught discretely, e.g. during Science weeks.

Teachers should find ways of contextualising Science and helping pupils relate this to real world situations. Pupils should also learn and be inspired by well-known scientists, who have helped to shape the world in which they live.

Pupils should be encouraged to apply skills independently in order to demonstrate and use scientific thinking. They should be given opportunities to explore their ideas and to answer their own questions through scientific enquiry, including investigations.

Pupils should be encouraged to record their findings creatively and independently.

Our Curriculum Impact for Science

We measure progress in Science through pupil discussions, work sampling, and observation.

We measure the success of our curriculum through pupil interview and curriculum review; we ask our pupils how they feel about their learning as their voice is important to us. Pupils have said that

they enjoy and are enthusiastic about Science in school. Their work shows a range of evidence of our curriculum coverage for all Science topics. We actively involve pupils in their own learning, by allowing them opportunities to ask their own questions, and to allow specific time for children to read, reflect and respond to marking and feedback where appropriate.

We assess pupils' learning using assessment tasks throughout a unit: At the beginning to assess the retaining of prior knowledge.

Mid unit 'Focussed Assessment Task,' covering knowledge and one working scientifically objective.

End of unit task.

We assess and record pupils' attainment at the end of a unit using assessment record grids that include the objectives and the learning journey. Teachers use exemplification materials from ASE to support their assessments.

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