

Position Statement July 2019

Co-ordinator	Frances Harrison	Subject or Aspect	Science
Intent			
<ul style="list-style-type: none">• To what extent does the school's curriculum sets out the knowledge and skills that pupils will gain at each stage?• How does our curriculum plan set out the sequence and structure?• How does is cater for disadvantaged and minority groups?			
<p>In our rapidly evolving world science is a vital part of our curriculum intention. Science stimulates and excites pupils' curiosity about phenomena and events in the world around them. It also satisfies their curiosity with knowledge. Because science links direct practical experience with ideas, it can engage learners at many levels. Scientific method is about developing and evaluating explanations through experimental evidence and modelling. Pupils learn to question and discuss science-based issues that may affect their own lives, the direction of society and the future of the world.</p> <p>Within a child's education at Meadow View, their learning will go on a journey that will set them up to be successful scientists for the remainder of their education. The children learn about key scientific skills (working scientifically, research, observing over time, comparative or fair testing, identifying and classifying and variables). These key skills are introduced in Y1 and then taught through experiments in years 2-6. Our school curriculum follows the sequence and structure as set out by the National Curriculum. It is organised in a way that ensures all children access the correct modules for their age and stage of development. Teachers plan their science modules and where possible they link them to their topics, however this isn't always possible and in these cases science is run as a standalone lesson. Key scientific knowledge is retaught at various times within the year and then later in other year groups where it is expanded on. This is so that knowledge becomes embedded.</p> <p>At Key Stage 1 pupils observe, explore and ask questions about living things, materials and physical phenomena. They begin to work together to collect evidence to help them answer questions and to link this to simple scientific ideas. They begin to evaluate evidence and consider whether tests or comparisons are fair. They use reference materials to find out more about scientific ideas. They share ideas and communicate them using scientific language, drawings, charts and tables with the help of ICT if it is appropriate.</p> <p>At Key Stage 2 pupils learn about a wider range of living things, materials and physical phenomena. They make links between ideas and explain things using simple models and theories. They apply their knowledge and understanding of scientific ideas to familiar phenomena, everyday things and their personal health. They think about the effects of scientific and technological developments on the environment and in other contexts. They carry out more systematic investigations, working on their own and with others. They use a range of reference sources in their work. They talk about their work and its significance, using a wide range of scientific language, conventional diagrams, charts, graphs and ICT to communicate their ideas</p> <p>The science curriculum caters well for the disadvantaged and the minority groups. It is an inclusive curriculum and teachers planning ensures that all children are able to access the learning regardless of challenges they face.</p>			
Implementation			
<ul style="list-style-type: none">• Consider the way that the curriculum is developed and how it is taught and assessed in order to supports pupils to build knowledge and to apply that knowledge as skills.• How does your subject join with cross-curricular planning?			

- How are we encouraging progression?
- How do we differentiate for different ability groups?
- How do you know staff have/have not got the correct subject knowledge?

In ensuring high standards of teaching and learning in science, we implement a curriculum that is progressive throughout the whole 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 programmes of study for Science 2014' and, 'Understanding of the World' in the Early Years Foundation Stage. Science teaching at Meadow View Primary School involves adapting and extending the curriculum to match all pupils' needs. Where possible, Science is linked to class topics. Science is taught as discrete units and lessons where needed to ensure coverage. Teachers plan to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available. All teachers are encouraged to link science to other subjects where possible. Long term yearly plans are created to ensure that these links are successfully made and taught. For example, science and maths are often taught hand in hand and science is linked to geography topics around the climate and weather. Each science topic is carefully planned to link where possible with classroom topics.

We ensure that all children are provided with rich learning experiences that aim to:

- Prepare our children for life in an increasingly scientific and technological world today and in the future.
- Help our children acquire a growing understanding of the nature, processes and methods of scientific ideas.
- Help develop and extend our children's scientific concept of their world.
- Build on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and developing the skills of investigation – including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Develop the use of scientific language, recording and techniques.
- Develop the use of computing in investigating and recording.
- Make links between science and other subjects.
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We believe in ensuring a balance of adult and child led activities. Children access at least 1 taught science input a week but it is discretely taught in many different contexts throughout all areas of the curriculum. These are used to teach carefully crafted skills and knowledge. Teachers encourage children to be autonomous in their science learning. Teachers are encouraged to ensure that each area of scientific learning has key questions planned that are explored and answered with the children as part of their learning. These key questions are selected to develop the children's scientific knowledge and education. Key skills from the science national curriculum have been planned into the curriculum overview to ensure that children access the breadth of the curriculum and develop their skills across all aspects.

Science is assessed by class teachers using the EAZ mag system. Data is inputted three times a year which allows teachers to assess where the children are, what their ability is and any gaps they may have in learning. This assessment is part of a triangulation which then informs the planning, the planning produces lessons and the lessons produce work that teachers are able to assess. Through this process, children are able to use their scientific knowledge and skills to develop and therefore we are encouraging progression in learning.

Impact (Include data)

- Outcomes that pupils achieve
- How do we use evidence of pupils learning to feed into planning?

- How well do we consolidate learning?
- How do we know that knowledge and skills are in children's long term memory?
- How do you know that your subject is having an impact across all pupils, including those disadvantaged?

The impact and measure of this is to ensure children not only acquire the appropriate age related knowledge linked to the science curriculum, but also skills which equip them to progress from their starting points, and within their everyday lives.

All children will have:

- A wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
- A richer vocabulary which will enable to articulate their understanding of taught concepts.
- High aspirations, which will see them through to further study, work and a successful adult life.

DATA

No data available on Eaz Mag for pre 2018.

	KS1	KS2
2017	MVP: 84.8% Local Authority: 80.2 % National: 82.6 %	MVP: 76.3% Local Authority: 82.8 % National: 81.5 %
2018	MVP: Local Authority: National:	MVP: 76.3% Local Authority: 82.8 % National: 81.5 %
2019	MVP: Local Authority: National:	MVP: Local Authority: National:

WHOLE SCHOOL			
	Pupil Premium	EAL	SEN
2018	45/60 75%	19/39 63%	23/48 48%
2019	50/63 79%	25/36 69%	29/51 57%

Children achieving age related expectations:

	2018	2019	Had the gap closed?
Y1	21/28 75%	15/24 63%	
Y2-	24/31 77%	22/30 73%	Yes
Y3-	21/29 72 %	27/30 90%	yes
Y4-	28/31 90%	27/31 87%	yes
Y5-	20/28 71%	31/33 94%	yes
Y6-	No Data Available	21/29 72%	Stayed the same
Total	114/147 78%	143/177 80%	yes

Science learning at Meadow View is consolidated and mastered over the years that the children are with us, with regular repetition, revisiting and securing key skills. The impact of encouraging children to be independent, enthusiastic learners who are encouraged to question and explore during science and promote positive learning habits. Children's progress is closely monitored, including

vulnerable groups so it can quickly be identified and addressed should a child require additional intervention.

Science learning walks this year have provided mixed results in relation to learning influencing planning. It was found that it was happening in some classes but not all. Some teachers were using learning to influence planning and vice versa, but some weren't. As a result of this, as science leader I have given staff CPD on how to ensure this happens and examples of what it looks like when it is done well. Further checks have since shown that there is an improvement in this area.

Teachers that teach science show an awareness of the importance of consolidating learning in order to ensure scientific learning is committed to children's long term memory. Talks with each class teacher has shown me that whenever possible staff revisit and review old learning on a regular basis in order to consolidate learning. This is something that could be done better in future years.

Strengths for 2018/2019

- The new posters for working scientifically have been introduced and well-used. Children are getting a better understanding of what working scientifically means and which skills link to their learning.
- The staff have had three staff meetings to boost their scientific knowledge and keep them up to date with what is happening in primary science.
- Every child in school has accessed at least 3 high quality science modules linked to their topic, year group and stage of learning
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Priorities for 2019/2020

- Ensure that science is taught in a way that consolidates learning.
- At LEAST 3 learning walks per year to gather evidence and data
- More CPD for staff. Encourage them to use reach out CPD to boost their own knowledge and skills
- Regular management time for the science leader- it is incredibly difficult to lead the subject successfully without this.
- Establish the use of rubrics in science lessons