

School Improvement Review 2019-2020

Priority 4 - Quality of teaching, learning and assessment - Science

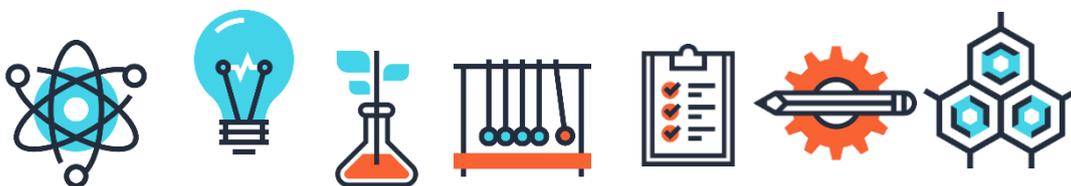
To develop pupils' characteristics as scientists and their greater depth of knowledge, understanding and skills.

Summary

Over the last academic year, we have been working on the progression of our Science curriculum. Our aim in this subject was to ensure that pupils have a passion for science and understand its application in the world, teach the essential knowledge and skills to be a confident and successful scientist and to inspire and nurture curiosity. We want our pupils to have secure foundations that progressively accumulate throughout their time at The Meadows, ensuring they are well equipped to succeed in the next phase in their education and beyond.

The uses and implications of science, today and for the future, are huge and it is very important to us that children at The Meadows not only understand this but are motivated to be involved. Over the last year, we have begun studying some of the numerous careers that have links to the science curriculum and want to continue doing this as we hope to build our pupils aspirations for the future as successful scientists.

We want our pupils to have enquiring minds and as a result have had a much greater focus on scientific enquiries. Throughout the academic year, we have implemented a range of tools and resources that enable our pupils to achieve a greater understanding of the different scientific disciplines, raise their own questions, explore ideas and self-direct their own enquiries. These include the use of enquiry mats for each class to support children in practical investigations with the use of symbols to help children identify different areas of enquiry. Each term, we have carried out investigation days, to ensure thorough coverage of working scientifically skills and promote further engagement and enjoyment of science. Activities were designed to excite and inspire pupils by stimulating curiosity, discussion and debate and encouraging them to think like scientists.



We have focused on the use of higher level subject specific vocabulary with clear progression across the milestones to ensure children gain a better understanding of key terms used in each topic area. We have further explored how we can provide deeper cognitive challenges for all pupils, meaning that they are accessing the curriculum to a higher standard and are able to apply their knowledge, understanding and skills to make real life links.

There have been a number of additional opportunities for children to develop and apply their science over the year. In the Autumn term we went on a whole school trip to Chester Zoo, which was not only a fun and exciting day out, but also greatly impacted on our Biology curriculum. All

children took part in purposeful workshops on the day to enhance their understanding of animals and their habitats.

There have been science clubs for Key Stages 1 and 2, as part of which we took part in a CREST award. These are nationally recognised accreditations which are part of the STEM (science, technology, engineering and mathematics) learning approach, providing science enrichment activities. Children attending the club in Reception and Key Stage 1 achieved the Star award and in Key Stage 2, the Super Star award. A presentation ceremony to receive these awards will be taking place at Wolstanton High School on the 26th September.

We have additionally taken part for the first time in the GreenPower Goblin Car event which involved two teams of our Year 5/6 children, in collaboration with Madeley High School pupils in Year 9, designing and racing electric cars. This was a great opportunity and all the children involved learnt a lot about science and engineering throughout the project.

Each of the classes across the school took part in science workshops, provided by Scott Walker from Keele University and the Ogden Trust. Key Stage 2 were able to build their own solar powered cars, which involved a great deal of problem solving and real-life application of skills. Key Stage 1 and Reception took part in a 'Squishy Circuits' workshop which involved learning about electricity and different conductors, including play dough. We have also been keen to promote science in other areas of the curriculum and have regularly looked at science related stories in the news to see what impact it currently has in the world. In addition, we have carried out environmental studies and examined what we can do to help protect the world in which we live.

We took part in a Peer Review of our Science Curriculum in July and were able to share lots of good practice with the Shaw Education Trust and our successes over the year. Pupil voice has evidenced that children enjoy science and in particular the greater choice that they have to self-direct their own learning. They are more aware of the three disciplines: Biology, Chemistry and Physics and are motivated by the opportunities for investigations.

Moving into the next academic year, we will continue to refine and develop science at The Meadows and look for further opportunities that enable our pupils to thrive and be inspired by this exciting subject.