



SCIENCE AT HAMER

Vision and Intent

At Hamer, our vision is to provide a hands on science curriculum, which empowers pupils to explore and discover the world around them. We aim to do this through practical and exciting experiences, which encourage curiosity and foster learning. We believe that science will help children understand their relationship with the world around them (how the physical world behaves, the independence of all living things) and by making new discoveries, this increases their sense of awe and wonder at the complexity of the world they inhabit.

Children at Hamer are naturally curious and passionate about learning. We aim to provide a stimulating and open-minded curriculum that nurtures children's natural curiosity, independence and their on-going knowledge and understanding of the world around them. Through hands on, enquiry-based activities, children will confidently experience the joy of exploration, discoveries and improvements. Our aim: for children to have an understanding and **care** about the how science impacts their everyday life, to **challenge** their own and others thinking and to have **fun** while doing so.

Content and Sequencing - Implementation

We follow the National Curriculum for Science, we also use the non-statutory guidance to support our planning. From this, we have organised our topics throughout each year group, taking into account the times of year and investigations which might take place. For example, learning about plants during Spring, learning about shadows during summer and KS1 learning about seasons throughout the year. We have also taken into account when year groups might use the same resources, this way there are enough resources for everyone. Finally, some of our Science topics link with our history and geography topics. For example the LKS2 Geography topic Rocks, Relics and Rumbles topic runs alongside the year 3 Science Rocks topic. Where possible, learning will take place outdoors in our Forest School. Due to the 2 year geography cycle, this will happen every 2nd year.

In EYFS, our children start to gain an understanding of the world around them. They have weekly forest school which allows the children to observe first-hand the changing seasons and animal habitats. Science is interwoven into their topics such as materials when reading the Three Little Pigs and Healthy lifestyle when learning about Arcimbaldo.

Through Key Stage 1, our children learn about plants, living things and their habitats. They use forest school and the school grounds to learn about seasonal change throughout the year. They will also learn about materials and the different everyday uses and animals including humans.

In Lower Key Stage 2, our children will build on their learning from EYFS and KS1. They will investigate different parts of the human body and how to keep healthy. They will also build on their plant knowledge, taking part in fair tests to investigate different variables. Year 3 children will be introduced to the topic of rocks and fossils, whereas year 4 will learn about electricity.

In Upper Key Stage 2, will revise the previous year's topics, whilst also learning about Earth and Space and evolution and inheritance.

Throughout school, each year group will learn about 2 people who are either scientists or have had an impact on the world through science. This means that when children leave Hamer, they will have learnt about at least 12 different people who are a range of genders and ethnicities. For example, Year 1 will learn about David Attenborough through the topic Living things and their habitats. Year 3 will learn about Marie Curie through their topic of Animals including Humans and Year 5 will learn about Galileo through their topic of Earth and Space.

Links Due to having a 2 year curriculum in history and geography, topics will not be linked every year. Cycle A: Year 5 will learn about living things in Science at the same time as From Field to Fork. This project teaches children about the features and characteristics of land use in agricultural regions across the world, including a detailed exploration of significant environmental areas. Year 6 will learn about Animals, living things and evolution and inheritance, whilst also learning about Polar Zones. This project teaches children about the characteristics and features of polar regions, including the North and South Poles, and includes a detailed exploration of the environmental factors that shape and influence them. Cycle B: Year 3 will learn about rocks at the same time as the unit Natural Disasters. This project teaches children about the features and characteristics of Earth's layers, Volcanoes and Earthquakes.			Progress and Assessment-Impact Teachers assess children in a variety of ways to check their understanding of what has been taught and ultimately, what the children remember. We assess children on their substantive at the end of unit each unit using a quick quiz. These scores are recorded in the back of their books. We then assess children 3x a year based on their substantive knowledge of previous topics. (Autumn 2- 2x topics, Spring 2-4x topics, Summer 2- all topics.) We will use assertive mentoring Science tests for this. In order to assess the children’s disciplinary knowledge, we use ongoing teacher assessment which will be recorded in the back of children’s books. <table><tr><th colspan="3">Assessment Data for 2022-23</th></tr><tr><th>ELG – The Natural World</th><th>EOKS1</th><th>EOKS2</th></tr><tr><td>85%</td><td>76%</td><td>80%</td></tr></table>			Assessment Data for 2022-23			ELG – The Natural World	EOKS1	EOKS2	85%	76%	80%
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Retrieval Floor books in KS1 Displays in classrooms Knowledge organisers Regular quizzes End of topic assessments.		SEND All children are given the opportunity to access the Science curriculum at Hamer. Where additional support is required, adaptations will be made to ensure that individual children access learning that is meaningful to them.		Enrichment At Hamer, we strongly believe that the core knowledge we have identified as being key for our children takes precedence. However, we also believe that our children need the opportunities to see and hear things beyond the classroom. - We have a set of ‘Science Books’ which rotate between KS2 classes. These books focus on underrepresented groups within science such as women and BAME groups. - The science co-ordinator runs a weekly science club. This will run for KS1, LKS2 and UKS2. - For science week 2023, we used the Plymouth science resources. Each class worked through the lessons throughout the week and this was recorded in floor books. 1x a year named children receive a science award in assembly.										