SUBJECT ON A PAGE

Science

ASPIRE- BELIEVE- ACHIEVE

Intent- We aim to…

"Children should be taught how to think, not what to think." Margaret Mead (1901–1978: anthropologist)

- Deliver an investigative based curriculum where children are encouraged to ask question and search for answers.
- Provide children with real life scenarios where they are required to use their knowledge of the world around them to solve problems as faced by Scientists
- Develop an enquiry-based approach to Science by planning lessons around a question. Can I…?
- Support all children in accessing high-quality Science teaching, while challenging diversity stereotypes both in & outside the classroom
- Foster a love of learning where children develop their passion for Science

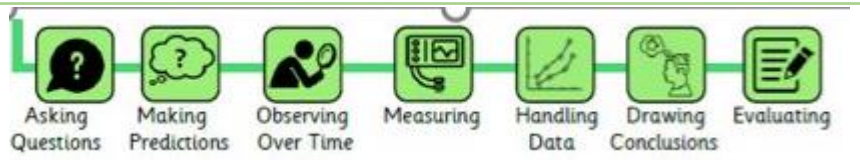
Implementation- How do we achieve our aims?

Our curriculum

At Keep Hatch, we are proud of our exciting science curriculum which promotes a true love of Science. Children are naturally curious and ask many questions about the world around them – science at Keep Hatch is what children ***do*** to help understand the world around them. Teachers support children to develop their curiosity for scientific exploration, so that by the time they leave in year 6, children can work independently and collaboratively. We foster a healthy interest about the universe and world around them and teach them the scientific skills, knowledge and concepts they need, through practical experiences. '***Doing***' of science at Keep Hatch is engaging and exciting There is a range of different investigations to motivate and ignite curiosity in the minds of our children. Science enquiry is delivered though a well-sequenced curriculum where children apply what they know to draw conclusions.

Progression of skills

At Keep Hatch School we teach the three Sciences: Physics, Biology and Chemistry through an enquiry approach. Seven Working scientifically key skills underpin the teaching and learning of Science.



Progression of Knowledge & our 'Golden Threads'

At Keep Hatch, children will encounter 'Golden Threads'. These are substantive concepts that are revised and developed throughout different history units and across the key stages. For example, the idea of 'Exploration & Empire' will be introduced in KS1 with a study of the significant achievements of Christopher Columbus. Children will question whether Columbus should be remembered positively nowadays. In Year 4, the children will develop the idea of exploration studying the Polar explorers and their impact on Antarctica. Children will question whether exploration is always a positive step for mankind. In Year 6, their Civil Rights unit will pull on the idea of empire and exploration, and question what is means to be British nowadays.

Additionally, the curriculum has been carefully mapped so that children build a clear picture of chronology. In EYFS, children begin exploring their personal history; by Year 3, they are exploring their local history and by the time children reach Year 6, they will be applying knowledge from the periods previously studied to their learning around 'The History of Medicine'.

Enquiry led learning

Enquiry-based learning requires children to search for knowledge by investigating and questioning. Put simply, it is 'learning through doing'. Children take an active role in learning, guided by the teacher. We aim to build Science Capital so that children see themselves as 'science-y' and know that they can do Science related jobs in the future.

Each science lesson is based on an enquiry question. Children then work to find the answer to this enquiry and always explain what they have learnt. Enquiry is linked to what the children know outside of the classroom or from what they have read in a fiction or non fiction book.

Strong Foundations

Science at Foundation Stage is covered in the 'Understanding the World' area of the EYFS Curriculum. It is introduced indirectly through activities that encourage every child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them.

Pedagogy

Every classroom has a Science display on which current unit vocabulary are shown. Key vocabulary is used by teachers and children are expected to use these too. All lessons begin with a recap of the previous lesson. where children recall prior learning and, in some cases, extend the learning from that lesson. At this time key vocabulary is reiterated .

Each unit of Science is based on an enquiry question which emphasises a pupils' role in the learning process and asks them to engage with an idea or topic, ask questions and be curious. This enquiry question is then guided by teachers through a series of lessons with the aim of answering this question in the end.

Cross-curricular links

Science is a STEM subject so there are obvious links to Maths and Technology eg. charting results There are also natural links to Literacy eg. writing an explanation of a scientific process. Each unit has recommended fiction and non fiction books which can be used to set the context for learning and each unit has a recommended scientist for children to learn about. Links are also made to music eg. in sound unit or songs to help learn new ideas, drama and art.

Assessment

Opportunities for formative assessment are integrated throughout the lessons through discussion and writing opportunities. In EYFS, work may be recorded in their Learning Journals and in KS1 & KS2, children each have a Science book. Summative assessments are planned at the end of each unit and are based on key learning outcomes. These are often writing opportunities to answer the key enquiry question posed at the beginning and will draw on the 'Golden Threads' children have explored.

Equitable Science

The content of the curriculum is not reduced for children with SEND, rather the manner in which they access the curriculum and produce work related to it, is amended to suit their needs. Teachers use strategies such as retrieval practice, recording orally, questioning focus children and sentence stems to support SEND children. High expectations exist for all pupils at their own level of understanding

Using our environment

At keep Hatch we are fortunate to have an amazing outdoor space to support Science learning . Outdoor environments and surroundings act as a rich stimulus for creative thinking and learning. This affords opportunities for challenge, inquiry, critical thinking and reflection. Children at Keep Hatch use playground, field and school pond to enhance their learning.

Science Capital

Most of our children will one day have a career which involves STEM. Some of them will have jobs which have not yet been discovered. At Keep Hatch engagement in Science is key so making Science relevant, by being inclusive and tweaking a lesson so that children (especially disadvantaged) see the relevance of Science to them.. Science careers are introduced throughout KHPS.

Impact- How will we know we achieved our aims?

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- Pupils are engaged in their learning and share a passion for science.
- Pupils are confident in the use of key vocabulary in a range of contexts & are ambitious in achieving age -related expectations
- Pupils know more and remember more, demonstrating good progress from their starting points
- Pupils have the ability to explain their own Scientific thinking and understand that science is constantly developing and improving thus impacting our daily lives.
- Pupils feel they are all scientists and capable of achieving high aspirations in the field of science. They understand that science has changes our lives and is vital to the world's prosperity.
- Pupils can recognise & appreciate the diversity of Scientists in Britain and around the world.