

Heron's' Moor Academy

Science

At Heron's' Moor Academy we follow the CLF 3-19 Curriculum, I am a scientist. We want our children to become scientists, exploring and learning about the Scientific disciplines of Biology, Chemistry and Physics.

We want them to be inquisitive while they are with us and to take this approach with them beyond this school. Our curriculum will foster a healthy curiosity about our universe and will promote respect for the living and non-living elements of our planet. We also want to prepare our children for life in an increasingly scientific and technological world.

Intent

We aim to:

- Stimulate and grow our pupils' enjoyment of science by building on their natural curiosity and sense of awe in the natural world.
- Allow our pupils to make sense of the world in which they live.
- Enable them to understand the relevance of science and its contribution to many aspects of everyday life.
- Teach them to think scientifically.
- Use a planned range of investigation and practical opportunities to give pupils the opportunity to experience, explore and understand scientific concepts. Through these they will acquire the essential scientific enquiry skills needed to deepen their scientific knowledge. Learning opportunities allow the acquisition and development of the scientific skills of : observation, accurate measurement, prediction, hypothesising, experimentation, communication, interpretation , explanation and evaluation.
- Introduce and establish the language and vocabulary of science.
- Develop the pupils' practical skills and their ability to make accurate and appropriate measurements, so that these are embedded.
- Teach the children a range of methods/approaches to communicate their scientific knowledge concisely and effectively, so that they can present information in a systematic and scientific manner.
- Promote a healthy lifestyle.
- Give the pupils the experience of a broad, balanced and extended curriculum that is progressive, building on knowledge and scientific skills as the pupils move through the school. The curriculum comprises the specific disciplines of Biology, Chemistry and Physics.
- Develop a respect for the materials and equipment that they use, ensuring their own and other children's safety.
- Identify and understand linkages between science and other subjects.

Implementation

At our school, science is taught through specific topics either on a weekly basis or specific science focussed whole days. The "I am a scientist" curriculum is organised in such a way to ensure that the scientific facts taught along with the scientific skills introduced and applied are appropriate for the age/stage of the children. The learning/skills are progressive allowing the children's expertise to grow and deepen as they move through the school.

At HMA, the teachers encourage/create a positive attitude towards science. The subject is delivered with an expectation that it is accessible for all and that all children have an opportunity to achieve in this area.

Our whole school approach to the teaching and learning of science includes the following :

- Science is planned by one member of each year group team, in a structured and developmental sequence, building on previous learning and then delivered by both team members.
- Planning allows all children to access the learning opportunities at their level.
- Opportunities are built into delivery to make the learning hands-on and experiential.
- Opportunities are taken to make the learning 'real and relevant' by linking the learning to the world outside of school.
- We plan opportunities for the children to 'find out'. Children are encouraged to ask questions and work as a scientist/scientifically to investigate and find out answers.
- Key scientific vocabulary is highlighted in the curriculum and is central to the children's learning.
- Links are made to scientists to act as role models/ inspiration to show that science is all around us and accessible to all.
- Links will be made to the children's learning in mathematics, particularly with regard to data handling.

Impact

Effective delivery of the science curriculum results in fun, engaging and interesting science experiences that will form the foundations for understanding the world in which we live. Children will grow to love the subject and develop a mindset that is inquisitive and keen to explore.

Our children will :

- Know facts about science and be able to articulate these.
- Will understand how to work as a scientist/scientifically.

- They will be able to demonstrate a range of scientific skills including planning/developing questions, fair testing, observing, measuring, recording and presenting results and drawing conclusions.
- Be able to work collaboratively to investigate and experiment.
- They will be able to connect their learning to real life.
- Be able to explain scientific concepts using the appropriate technical vocabulary.

Class teachers will employ formative assessment as the main tool for assessing the effectiveness of our science teaching. This allows the opportunity to address misconceptions, fill gaps in knowledge/understanding and extend/develop deeper understanding immediately to ensure that children are building their scientific knowledge upon firm foundations.

In addition, the impact of the learning experiences will be assessed through discussions with the children, questionnaires, work sampling, learning walks and being present when science learning is taking place.