

Heamoor School Science

Intent

We intend for children to:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- be equipped with the scientific skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this

At Heamoor School, we encourage children to be inquisitive throughout their time at the school and beyond. The science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living things. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes.

Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the Working Scientifically skills are built-on and developed throughout children's time at school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

Implementation

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following;

- A cycle of lessons for each subject, which carefully plans for progression and depth;
- Through our planning, we involve problem solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning, so that all children keep up;
- Spaced retrieval questions through carefully planned lessons, help create a deeper level of processing any previously learned content into children's long term memory;
- We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence;

- Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching and knowledge organisers. This is developed through the years, in keeping with the topics;
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning whenever possible;
- Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class;
- Regular events such as Science Week, or Royal Institute Of Science visits, allow all pupils to come off-timetable, provide broader provision and allow for the acquisition and application of knowledge and skills. These events often involve families and the wider community;

Impact

We encourage children to enjoy and value the curriculum we deliver. We want learners to discuss, reflect and appreciate the impact computing has on their learning, development and well-being. Our Science Curriculum is high quality, well thought out and is planned to demonstrate progression. If children are keeping up with the curriculum, they are deemed to be making good or better progress. In addition, we measure the impact of our curriculum through the following methods:

- A reflection on standards achieved against the planned outcomes;
- Tracking of knowledge in pre and post learning quizzes;
- Pupil discussions about their learning;