Hasland Infant and Nursery School

Science Policy

Intent

Science is the study of the natural world and at Hasland Infant and Nursery School we believe that this is best learned through experiments and observation. Our intention is to progressively develop the scientific ability of all of our learners, enabling every child to achieve their full potential in science. As children move through school, they are taught to extend their knowledge and vocabulary to aid their scientific thinking. As scientists, the children are encouraged to develop their investigation skills through the learning of a wide range of topics and to develop a sense of belonging within the scientific community. Children are given the means to question the world around them and to plan their own inquiries. By the time children leave our school they should be able to observe and compare, and to group and classify. They should also be able to raise their own scientific questions and have the confidence to research these. They will explore, inquire and be encouraged to notice patterns. It is our aim that they approach scientific experimentation logically by predicting, investigating, recording results and making conclusions. Exploration and investigation are embedded into every topic, allowing children to thrive as curious and independent learners, and the ultimate goal of our science curriculum is to nurture a thirst for knowledge. As responsible scientists, we also ask each child to take on the role of Global Guardian. This develops their understanding of the importance of reducing, reusing and recycling. We want our children to understand that they have an important role to play in looking after our Earth's resources and to recognise that their actions can make a positive difference to the wider world.

Implementation

Our expectations for each year group can be found in our progression of skills document. This highlights the key skills which each year group is expected to be taught and shows how these are built upon throughout their time at our school. These skills are taught within specific areas of science which include observation and research, questioning and predicting, and investigation. Measuring and reporting are also key areas, as are interpreting and evaluating results. Children's key knowledge is revisited and built on as they advance through school, enabling them to achieve success and develop confidence as young scientists.

Nursery

In Nursery, teachers plan opportunities to ensure that children gain first-hand experiences of science. The provision of science-based activities, both indoors and outdoors, allows children to start to investigate, make observations and discover knowledge about their world. For example, a floating and sinking activity where children can discover for themselves which objects float best or how many pebbles it takes to make a boat sink. Mini experiments are also carried out by teachers with groups of children to explore other wonders of science. An example of this would be demonstrating how food dye is carried through a plant and how this changes the colour of the petals. Adults ask carefully planned questions and encourage the children to talk about what they can see. They develop the children's vocabulary and knowledge and help them to understand what is happening in the scientific world around them. Through these shared experiences, children begin to develop curiosity, confidence and a sense of belonging as part of a community of learners.

Reception

During Reception, the children continue to access science-based provision. An area of the classroom is dedicated to Knowledge and Understanding of the World, where children can explore scientific concepts such as different materials and how magnets work. Whole-class teaching continues to develop knowledge, and children take part in class experiments such as growing plants from seeds or finding out how candles give light and heat. The children continue to question and research, and they begin to predict more specifically what might happen. Results are recorded and non-standard measurement is used. Vocabulary from Nursery is built upon and extended. This is detailed within our progression of skills document. Through these experiences, children are encouraged to thrive as curious explorers who are eager to investigate the world around them.

Key Stage One

Through whole-class teaching and group investigations, children develop their scientific skills and build upon previous learning. Investigation stages are formalised and children are encouraged to develop a logical and systematic scientific approach. Some topics of learning are specific to Year One or Year Two, but many are revisited so that Year One knowledge can be built upon in Year Two. This is shown in the Key Knowledge document. Teachers are clear about prior learning and vocabulary, ensuring that objectives and success criteria remain progressive. Children are encouraged to raise their own questions and standard measurements are used. Data is presented in a variety of ways and children are given opportunities to decide which methods are the most effective. Fieldwork in the Wildlife garden is built into the curriculum, and first-hand investigation underpins Key Stage One science, as it does in Nursery and Reception. Through these experiences, children develop the knowledge, skills and confidence required to achieve, belong and thrive throughout their scientific journey.

SEND

At Hasland Infant School, we are an inclusive school that promotes the wellbeing, happiness and progress of every child. All pupils are entitled to a high-quality, ambitious curriculum that meets their social, emotional and learning needs. To support access to all foundation subjects, subject leaders, the SENDCo and the Inclusion Support Advice Teacher have developed 'SEND in My Subject' documents. These provide guidance on adaptations across the four areas of need and are referenced within medium-term planning. We recognise that every child is unique, and while these documents support planning, adaptations are tailored to meet individual needs.

EAL

We recognise that children with English as an Additional Language (EAL) bring valuable linguistic and cultural experiences to their learning. Within our subject teaching, we ensure all children can succeed by providing inclusive teaching, clear modelling, visual support, intentional vocabulary teaching and opportunities for meaningful talk. Any barriers to language and understanding are identified and addressed so that children with EAL can access the full curriculum, participate confidently and demonstrate what they know and can do.

Science Co-ordinator

The role of the Science Coordinator is to:

- Provide the overview of science across the school.
- Aid the planning of science to ensure the provision of an engaging science curriculum.
- Give advice about the latest research developments and support teachers with their own science CPD needs.
- Keep staff informed about the national picture of science and any changes to the subject.
- Ensure the provision of high-quality science resources and replenish or update these as needed.
- Help the teachers to differentiate science.
- Monitor the standard of children's work and the quality of teaching.
- Collate assessment data.
- Plan and implement any special science events.
- Update science information on the school website.
- Help each class to elect a Chief Global Guardian and hold monthly meetings with these representatives.
- Deliver whole school assemblies to inform children about science developments and Global Guardian news.
- Review developments for science identified on the School Improvement Plan.
- Evaluate strengths and opportunities in the subject, and indicate areas for further improvement.

Links with the Community

To share and celebrate the teaching of science at Hasland Infant and Nursery School, the school website is kept up to date with science-related learning, showcasing the exciting experiences and investigations taking place across the school. Relevant outside specialists are used wherever possible to enhance science teaching and provide children with opportunities to learn from experts in a range of scientific and environmental fields.

Our Chief Global Guardians also work closely with the community, holding meetings with invited guests, writing letters and sharing information about the positive impact of our Global Guardian work. Through environmental projects, awareness campaigns and fundraising activities, children learn that they can make a meaningful difference both locally and globally. The Global Guardians have supported a range of charitable causes, raising money for charities and helping children to develop empathy, compassion and an understanding of their responsibilities as global citizens.

By working alongside members of the local community and engaging with real-life issues, children gain valuable first-hand experiences that bring their learning to life. These opportunities help children to recognise how they can contribute positively to society, develop a strong sense of belonging within their community and thrive as active, responsible and environmentally conscious citizens.

Impact

Our approach to the science curriculum provides a fun, engaging, high-quality education that equips children with the skills and knowledge needed to develop their understanding of the world. Each classroom has a relevant science area and a floor book that is regularly updated to showcase current and previous learning. Science lessons are well structured and supported by high-quality resources. Children are able to use and apply increasingly sophisticated scientific vocabulary as they progress

through the school. All science lessons have clear learning objectives, which are shared with the children, enabling them to achieve and take pride in their learning. Our use of the outside environment, including the Wildlife Garden, ensures that children learn through first-hand experiences. A variety of strategies, including questioning, discussion and marking, are used to assess progress and this information is used to inform future teaching. Children receive regular oral feedback from their teachers. During focus weeks and interactions with experts, children develop an understanding that science has changed our lives and is vital to the future. Science is promoted as extremely valuable to everyone's lives, and it is hoped that children can envisage future opportunities and careers in science for themselves. Their work as Global Guardians shows them that they can make a difference within school, our community and the wider world. Children at our school really enjoy being scientists and this results in motivated learners who belong to a positive learning community, thrive through exploration and enquiry, and leave with a secure scientific understanding.