

Science Curriculum - Cotherstone Primary School

Intent:

Cotherstone Primary school's vision of science is to instil a life-long love of science and learning about our world and the universe in our pupils through high-quality science education that provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. We believe that it is essential to observe and question the world around us and this curiosity is modelled and encouraged continuously. We provide the highest standard of scientific education built around scientific enquiry and working scientifically to enable children to acquire the skills, knowledge and concepts relevant to their future. Where appropriate, links to local scientists, engineers and innovations are studied to further enhance children's pride and place in their community, local heritage and British values whilst looking outwards. From EYFS to Year 6, pupils are encouraged to recognise the power of rational explanation and the importance of fair testing to ascertain proof of phenomena. Children become excited about science and increasingly independent in devising, planning and carrying out investigations to test theories and hypotheses, to think scientifically and understand the applications and implications of science in the past, present and future. At the end of our children's time in our school, children leave with the tools to identify the difference between fact and opinion and are able to make informed decisions about what they believe and know that they have the potential to change the world through scientific enquiry.

Implementation:

By following the National Curriculum and beyond, relating science to various subjects and enhanced learning experiences, children are given a strong foundation of knowledge on which to build.

Science is taught on, at least, a weekly basis to all age groups in school. Learning is sequenced to build knowledge, skills and vocabulary. Scientific enquiry skills are embedded in all science topics and lessons are planned effectively which take children's prior learning and current assessment into account and are appropriately differentiated. Key concepts are revisited as children progress through the school enabling knowledge and skills to be built upon whilst giving time for the procedural knowledge required for scientific enquiry to be embedded into their long-term memory. A range of teaching styles, matched to children's needs means that all children develop and use a

range of skills including: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources to become independent learners. Children use specialist, scientific vocabulary which is modelled by well-informed staff across the curriculum – not just in science – to enable them to make links to other curriculum areas and the wider world. Effective monitoring of progress is used to extend children’s scientific learning both within individual lessons and over time.

Teachers plan interesting and exciting lessons that challenge all children to an appropriate level enabling all to access science and to make progress. We enrich our children’s learning by organising relevant trips (Such as meeting astronaut Michael Foale), special events such as *Space Camp* and inviting visits from experts to enhance learning experiences and create memories and excitement around science for them to keep forever.

Impact:

Children enjoy and are enthusiastic about science in our school. Through careful planning and delivery, children remember key facts and concepts while developing an ongoing interest in science. There is a clear progression of knowledge and skills in children’s books and evidence of increased independence in science as they progress through the key stages. Children are inquisitive and ask their own questions about science and the world around them while at the same time questioning current thinking. They understand how the world has been shaped by scientific thought and actions throughout history and that fundamental ways of thinking about our world have changed and will continue to change with scientific progress. Children want to be a part of the process of shaping their world in the future. By knowing our children well, children of all abilities are helped to achieve the very best of their potential and 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
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

