SCIENCE

Intention, Implementation Impact

Intention
It is our intention for Science to develop in all young people a lifelong curiosity and interest in the sciences. Our science curriculum, intends for children to have the opportunity, wherever possible, to learn through varied investigations, leading to them being equipped for life to ask and answer scientific questions about the world around them. As children progress through the year groups, they build on their skills in working scientifically, as well as on their scientific knowledge, as they develop greater independence in planning and carrying out fair and comparative tests to answer a range of scientific questions. Each science unit has accompanying knowledge and vocabulary as set out in the science national curriculum. Our Science planning ensures that children have a varied, progressive and well-mapped-out science curriculum that provides the opportunity for progression across the full breadth of the science national curriculum building on from KS1, developing within KS2 and then prepares them for science in KS3.
Implementation
The acquisition of key scientific knowledge is an integral part of our science lessons. Our biology, physics and chemistry books, enable children to learn and retain the important, useful and powerful knowledge and vocabulary contained within each unit (they may have these for several years and will help embed links between topics and thus their understanding of the world eg Forces with Earth and Space. The progression of skills for working scientifically are developed through the year groups and scientific enquiry skills are of key importance within all areas. Each class will have a Big Class Science Book (A2 size) to use as a scrap book for each topic they cover throughout the year; this will lessen the expectation for EACH child to have a copy of photos etc in their own, individual book. The scrapbook may contain post-it notes, data records, group work etc. Each lesson has a clear focus. Scientific knowledge and enquiry skills are developed with increasing depth and challenge as children move through the year groups. They complete investigations and hands-on activities while gaining the scientific knowledge for each unit. Interwoven into the teaching sequence are key assessment questions, and at the start of each unit a baseline collected through a concept map. These allow the teacher to assess children's levels of understanding at various points as they can be added to at other times. The sequence of lessons within each unit helps to embed scientific knowledge and skills, with each lesson building on previous learning. There is also the opportunity to regularly review and evaluate children's understanding through the use of quizzes. Activities are effectively differentiated so that all children have an appropriate level of support and challenge. Influential scientists, discoveries, news and enquiries, along with skills and careers are regular parts of lessons.
Impact
Science progress is monitored through a child's ability to know more, remember more and explain more. This can be measured in different ways in our units. The use of key questions ensures opportunities are built into the lesson for ongoing assessment. Attainment and progress can be measured across the school by our science teachers who have a picture of progress across the subject in all classes. The impact of using the full range of resources included in the science unit will also be seen across the school with an increase in the profile of science. The learning environment across the school will include displayed science. Whole-school and parental engagement will be enhanced through the use of science-specific home learning tasks and mini projects. Children who feel confident in their science knowledge and enquiry skills will be excited about science, show that they are actively curious to learn more and will see the relevance of what they learn in science lessons to real-life situations and also the importance of science in the real world.