Cawston Church of England
Primary Academy

Science Curriculum

Diocese of Norwich Education and Academies Trust

Science Vision

Our vision at Cawston is to give all children a lifelong love of the world around them and understand the everyday science they encounter by **'Growing Excellence'** in all that they do.

- We begin by **'Planting'** knowledge, skills and enquiries throughout their time learning science as they move between classes and key stages. Each skill and knowledge helps them to develop what they need to develop and progress onto the next stage.
- Jesus said that seeds will flourish if they are nurtured properly. All of the skills and knowledge a child needs in science are carefully developed by **'Nurturing'** them through quality first teaching, using the Developing Experts tools which raise aspiration and awareness of careers post 16 that has science links.
- Once all of this has been achieved, we will see them 'Flourishing' as they apply all that they have learnt and communicate their findings in different ways including written and oral work.

Early Learning Goals
Understanding the World-Past and Present

Children at the expected level of development will: -

- Explore the natural world around them, making observations and drawing pictures of animals and plants;
- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class;
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Intent

The science curriculum at Cawston is a coherently planned sequence of enquiries and lessons which help pupils ensure they have progressively covered the skills and concepts required in the National Curriculum. Our aim is to develop working scientifically skills and concepts which are transferable to what is being studied and will equip children for future learning across the curriculum. Our aim is to develop in all young people a lifelong curiosity and interest in the sciences. When planning for the science curriculum, we intend for children to have the opportunity, wherever possible, to learn through varied systematic 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 enquiry has an accompanying knowledge organiser which can be used to help reinforce the key knowledge for each enquiry as set out in the science national curriculum. The knowledge organisers help children to consolidate and retain the science knowledge they have learnt and also reinforce key scientific vocabulary from each enquiry. Developing experts 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 for KS1 and KS2.

Implementation

The acquisition of key scientific knowledge is an integral part of our science lessons. Linked knowledge organisers enable children

to learn and retain the important, useful and powerful vocabulary and knowledge contained within each unit. The progression of skills for working scientifically are developed through the year groups and scientific enquiry skills are of key importance within lessons. The progression of these skills is set out in the three additional progression documents. 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, which allow teachers to assess children's levels of understanding at various points in the lesson. They also enable opportunities to recap concepts where necessary. The sequence of lessons 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. Activities are effectively differentiated so that all children have an appropriate level of support and challenge. The enquiry starts with ‘What we know’ and ‘What we want to find out’ and ends with what we have learned and an assessment task.

Our detailed lesson plans include adult guidance to ensure that teachers are equipped with secure scientific subject knowledge, enabling them to deliver high-quality teaching and learning opportunities while making them aware of possible scientific misconceptions.

Impact

The impact and progress in science is measured through a child’s ability to know more, remember more and explain more. This can be measured in different ways through key questioning skills built into lessons, child-led assessment such as success criteria grids, jigsaw targets and KWL grids and summative assessments aimed at targeting next steps in learning.

The learning environment across the school will be more consistent with science technical vocabulary displayed, spoken and used by all learners. Whole-school and parental engagement will be improved through the use of science-specific home learning tasks and shared use of knowledge organisers. 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.