Science Subject Statement

Intent

At Edenham CofE Primary School, we instill a love of Science by ensuring practical Science is at the forefront of our curriculum. Linking taught skills and knowledge, allows children to apply their learning to everyday life, their own personal experiences and will equip them with the foundations for understanding the world through a scientific lens.

Using this key knowledge, which has been informed by the National Curriculum, children are able to develop their understanding aiding them to reach phase 'end points' in accordance with National Curriculum expectations. We teach children the importance of physical and natural science relating this to our immediate setting and educating children about how science affects the wider world. By using key individuals within each Science theme, we teach children the importance of those who have come before us and the impact a single person can have on the world, inspiring those children we are teaching. By teaching in this way, it will enable the children to develop an enjoyment of Science and discovery, giving them the confidence to be independent in investigations as well as philosophical and critical thinkers in not only Science, but the wider curriculum and their future.

Implementation

At Edenham, Science begins right from the start of a child's primary education. At Edenham, as Science is a core subject, we teach lessons discreetly (not necessarily connected to the class topic for the term). Science is taught during weekly lessons with EYFs and Key Stage 1 children receiving at least thirty-six hours per year and Key Stage Two at least forty-five hours per year. Science is taught across a two-year cycle (with the exception of EYFS who work off a one-year cycle) of explicit units in line with the National Curriculum ensuring children progress their knowledge and understanding throughout their Primary Education.

Our curriculum (the knowledge children will learn) is split into substantive knowledge (Biology Chemistry Physics) and disciplinary knowledge (scientific methods, apparatus and techniques, data analysis and presentation and how Science uses evidence to develop explanations). This will ensure that all pupils develop scientific knowledge and conceptual understanding, work scientifically, and develop higher-order thinking skills. We use different contexts to maximise pupils' engagement with and motivation to study Science by actively encouraging children to work both independently and with others in practical ways, developing secure subject knowledge, skills and vocabulary at an age-appropriate level as seen in the progression documents below.

Our Science curriculum is based around the areas of Working Scientifically to ensure the children learn the appropriate scientific knowledge, skills and understanding. By teaching in this way, it allows children to gain the necessary skills to problem solve and work collaboratively to conduct a range of investigative activities. When conducting investigations, children are encouraged to think like scientists and make predictions using their previous knowledge and experiences to support them. Teachers model the use of vocabulary, various scientific equipment and the scientific skills needed in order to embed

scientific understanding. We begin each new topic by introducing a focus question. By using questions within our curriculum, it allows children to apply their knowledge and to reflect on their learning. We also use this question as an assessment tool by revisiting at the end of a unit to see what new knowledge and understanding the children have gained.

The children are also given the opportunity to ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They draw simple conclusions and use scientific language to talk and write about what they have found out.

Within each classroom is a working wall which is used regularly within each Science lesson. These boards bring our curriculum to life in a visual manner within the classrooms. They are used to display key vocabulary, the assessment question, our Scientist of the term and WOW work. Throughout the school year, children look at a variety of key scientists linked into their learning to ensure they gain a broad and real understanding of the subject.

Children also have access to regular events such as Science Week are implemented across the school in order to broaden the provision pupils receive to allow them to gain and apply scientific skills within a new, real-life context. Children also have the opportunity to attend a STEM club as an extra-curricular activity.

Impact

The way in which we teach Science at Edenham Primary School allows the children to progress their understanding of the three areas of Science (Biology, Chemistry and Physics) as they move through the school and to provide them with the foundations for understanding the environment in which they live which they can then take with them beyond their primary education. By ensuring that Working Scientifically is at the forefront of our Science teaching, our curriculum is fun and engaging to encourage all learners to learn through first hand experiences and to apply their knowledge to answer the questions given to them. Children are able to be prepared for the future by gaining an understanding of the wide range of scientists in the real world and to gain a broad understanding of the subject.

Scientists at Edenham Primary School will:

- Demonstrate a love of this subject and show an interest in further study within this field.
- Be able to suggest questions, answer given questions and reflect on the knowledge they have gained.
- Have a wider variety of skills linked to both scientific knowledge and understanding, as well
as scientific enquiry and investigative skills.
- A rich vocabulary that will enable all children to articulate their understanding of taught concepts.
- Achieve age related expectations in Science at the end of each phase.