Subject Statement

"I am the vine; you are the branches."

John 15:5

Just as the branches need the vine to grow and bear good fruits, so we need each other. Within the District family, each person is valued and loved, reaching out throughout our school, homes, families and the wider community for a stronger future.

This subject statement reflects our Christian vision. We value the efforts of all pupils, supporting them in developing their skills and knowledge through positive reinforcement and constructive feedback. We inspire high standards and encourage ownership and independence to build long-term positive learning behaviours that will take our pupils beyond primary school and into the wider world.

Our vision for Science

At the District CE Primary, teachers strive to create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in this subject. Within our science curriculum, we aim to broaden the children's scientific view of, and respect for, the world around them, whilst promoting a love for enquiry and a desire to explore new things. We want our pupils to develop a strong interest for science that carries through into later life, instilling in them an awareness of how science is extremely relevant in today's society. Progression documents have been created to ensure that Working Scientifically skills are built-on and embedded throughout pupils' time here, so that they can independently plan and carry out investigations to answer questions that puzzle them; competently use scientific equipment to measure and record data accurately, and have the necessary skills and vocabulary to confidently explain concepts and articulate their findings. Pupils express a real keeness for the practical aspects of science and every year group conducts a practical investigation every half term.

We endeavour to ensure that the science curriculum we provide will give children the confidence and motivation to further develop their skills into the next stage of their education and life experiences, inspiring all pupils to very much see science as a future career. Therefore, we constantly seek opportunities to further enrich their learning through trips, workshops and visitors to the school, developing important links with both the wider community and industry. We recognise the importance of narrowing the vocabulary gap that our pupils have and place a great emphasis on the teaching of scientific vocabulary and the children's ability to question things and problem solve.

Our school is committed to ensuring that every pupil, at every stage, has regular and appropriately challenging and engaging learning in science, as informed by the National Curriculum. They will be taught 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;
- be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Implementation of Science

Our scheme of work for science is informed by the 2014 National Curriculum and supported by a quality assured scheme (Rising Stars) and excellent resources from TAPPS and PLAN (Primary Science Assessment) from ASE, of which we are a member. The programmes of study for science are set out year-by-year for key stages 1 and 2. Children undertake one hour of science teaching a week in KS1 and two hours in KS2.

In Foundation Stage, the children follow the Early Years Foundation Stage curriculum, with the most relevant Early Years' outcomes for science taken from the following areas of learning: Physical Development; Understanding the World and Expressive Arts and Design. Science is delivered in a very practical, exploratory way. Children are able to develop their natural sense of curiosity for the world around them. They are

encouraged to talk about their ideas and ask questions. They are able to explore objects and materials, looking at similarities and differences and making discoveries for themselves. This takes place through a balance of child-initiated and adult-led activities, both in the classroom and outdoors. 'I wonder Wednesday' is also incorporated into the teaching week to spark curiosity and critical thinking within the children and as a means of engaging parents in their child's learning.

Progression of skills and vocabulary documents ensure that teachers are aware of and build upon previous learning across the key stage through regular revisits and, by carefully mapping these out, ensure that they are rooted in pupils' learning so that pupils can confidently communicate their understanding. The national curriculum for science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. Great importance is placed on teaching pupils specific scientific vocabulary: displays in classrooms, and regular retrieval tasks further assist the children in making their thinking clear.

Impact

At the beginning of each unit, prior knowledge is established. Formative assessments, like this, take place in all lessons, whether formally recorded or orally. Scientific vocabulary tasks are completed at the start (prior-learning task) and end (post-learning task) of a unit in order to show clear progression and children's new-found knowledge and understanding, and as a means of highlighting any gaps that still need addressing. Assessment tasks are designed to allow all children to demonstrate their new learning, regardless of ability. A variety of assessment tasks are also encouraged to ensure that children can apply their new knowledge and skills to different problems rather than just being able to regurgitate facts, without seeing the wider picture of why their knowledge is important or how their skills can be used in everyday life. At the end of a unit of work, class teachers record individual progress and attainment in science via Insight.

Not only do we want to ensure that children acquire the appropriate age-related knowledge linked to the science curriculum, but also the skills which equip them to progress from their starting points, and within their everyday lives. We want all children to:

- enjoy and be enthusiastic about science in our school;
- have a wide variety of skills linked to both scientific knowledge and understanding and scientific enquiry skills;
- have a richer vocabulary;
- become increasingly independent in science: selecting their own tools and materials; completing pupil-lead investigations and choosing their own strategies for recording;
- have the ability to think critically and find solutions to problems they face;
- have high aspirations, which will see them through to further study, work and a successful adult life.

Monitoring Impact

The science lead monitors and reviews the implementation and development of the science curriculum in consultation with the Headteacher, SLT, staff members and governors.
Monitoring is carried out through a range of methods, including:

- regular book scrutiny;
- learning walks;
- display and Learning Journey observations;
- teacher observations;
- pupil voice surveys
- CPD sessions;
- updating SLT and governors with subject reports, action plans and review meetings;
- analysing Insight data;
- moderating teachers' judgements internally and externally at science network meetings.