



Science at Woodfield Primary School

Intent

At Woodfield Primary School, our vision is to provide children with a science curriculum that enables them to confidently explore and discover the world around them so that they have a deeper understanding of the world that we live in. We realise that our young children are naturally curious and passionate in their learning therefore we aim to provide a stimulating science curriculum that nurtures this curiosity and their on-going intellectual development.

We recognise the importance of science in every aspect of daily life and as one of the core subjects taught in primary schools, we give the teaching and learning of science the prominence it requires. The scientific area of learning within our school is concerned with increasing pupils' knowledge and understanding of our world, and with developing skills associated with science as a process of enquiry. Adopting this approach will encourage our children to have respect for living organisms and the physical environment, and provide opportunities for critical evaluation of evidence.

At Woodfield Primary School, in conjunction with the aims of the National Curriculum, our science teaching offers opportunities for children 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 the subject through 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;
- develop the essential scientific enquiry skills to deepen their scientific knowledge;
- become more independent learners through a range of activities;
- encourage all pupils to recognise the power of rational explanations and develop a sense of excitement and curiosity about natural phenomena;
- use a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including I.C.T., diagrams, graphs and charts;
- develop a respect for the materials and equipment they handle with regard to their own, and other children's safety;
- develop an enthusiasm and enjoyment of scientific learning and discovery as all children are naturally inquisitive.

The National Curriculum will provide a structure and skill development for the science curriculum being taught throughout the school, which is now linked, where possible to the theme topics to provide a creative scheme of work reflecting a balanced programme of study.

We endeavour to ensure that the science curriculum we provide will help children to see the value of the subject and its role in everyday life, and give them confidence and motivation to continue to further develop their skills into the next stage of their education, life experiences and career selections. We understand that knowledge is power and by understanding things, children can grow into adults and contribute to the society in which they live.

Implementation

At Woodfield Primary, we organise our curriculum in way that we feel best fits our children. The science curriculum is planned using the units and objectives directed for each year group in the National Curriculum, but consideration is given to when it is most appropriate to focus upon certain units. For example, in year 1 Seasons is revisited at various times of the year so that the children can make observations of plants, weather and wildlife during the different seasons; in other year groups, Plants and Living Things and their Habitats occur at certain times of the year to enable children to use the surrounding area to experience and observe what they may be learning first hand.

As units are revisited in different year groups, our knowledge organisers make teachers aware of any prior learning that may have occurred and how this unit will continue to build upon this further. This is shared at various times within the unit with the children so that they are aware of how what they are currently learning links to what they have studied before and where appropriate, what they may go on to study in their current academic year and beyond. In most science sessions, opportunities are provided for children to recall their previous learning by completing low stakes assessment in the form of a 'Quick Quiz'. This may refer to the work that children have completed previously in the unit that they are currently working upon or in their learning in previous year groups.

Where possible, we aim to engage the children and heighten their interest levels in a variety of ways including:

- Starting with an experiment that can generate questions and plan further investigations
- Demonstrate how scientific phenomena can occur when different things are mixed together e.g. sculpting sand and insta-snow mixed with water
- Use of photos to generate questions
- Presentation of mysterious and unknown equipment and objects
- Links to current news stories e.g. Covid and personal hygiene, the landing on Mars when looking at Earth and Space.

We promote opportunities wherever possible for children to complete investigations both supported and independently. This will help to provide chances for children to use the skills identified in our Working Scientifically documents, considering how these should become more complex as our children move through the different key stages. Where appropriate, we allow children to plan and develop their own investigations in order for them to become 'real life scientists'.

Within each unit, we aim to challenge children within the content that they are studying within their key stage rather than looking for knowledge present in higher year groups or key stages. Our assessment documents support teachers in doing this as they identify what children must demonstrate to show that they possess a greater depth in their scientific knowledge and understanding.

Impact

Children at Woodfield Primary will develop their long-term memory by recalling their prior learning at various points within each science unit. More children will have opportunities to deepen and broaden their understanding by completing more complex questions and tasks. They will confidently express what they have learnt in science identifying how their current learning builds upon what they have previously studied.

All teachers will be able to articulate how their own provision in the subject links to the 'bigger picture' explaining why they are learning what they are at this current time, and how this links to prior and future learning. Teachers will have an increased understanding of how they can challenge all children especially the more gifted children in the subject. Teachers will have a better awareness of the level that children are working at in science when they enter the year group across various strands of the science curriculum and use this information to ensure that work is pitched appropriately.