



'A curious mind is never bored.' (Min Kim)

In today's fast paced world, there is often too little time to sit back and wonder but the world around us is full of marvels and mysteries; from unexplored oceans and unexplained phenomena to medical innovations and space travel. Science gives us the skills for exploring anything and everything in the physical and natural world and helps us to understand it; we learn how to ask good questions, suggest possible explanations and then test ideas to see if they make sense.

Scientific study not only helps learners develop important knowledge of the physical world, it invites us to question and reason and ponder and discuss. These skills, whether they are developed through playing with magnets or observing changes in the weather or simply reading a book, can help us in every aspect of our lives.

A well-rounded Science education paves the way for children to become engineers, doctors, nurses, researchers, pharmacists, technicians, teachers, veterinarians, chefs, sports therapists, personal trainers and even fashion designers but, perhaps even more importantly, it fosters curiosity and a curious mind is never bored.

INTENT

At Woodhall, we aim to provide a happy, safe, nurturing and caring environment and atmosphere for all; a broad, balanced curriculum; an enriching programme of extra-curricular activities, events and visits; and promote healthy, active lifestyles.

In Nursery and Reception, teachers facilitate foundational experiences in science which act as a springboard for our children's learning throughout their lives. In Key Stage 1 and 2, Science is taught as a discrete subject as part of larger cross-curricular themes. Objectives are carefully plotted throughout the year to develop knowledge and skills in science and to also tie into wider contextual learning. We use the Science Subject Ladders, based on the National Curriculum objectives, for clear progression and skills development in knowledge, working scientifically and subject specific vocabulary throughout the school. Class teachers use this document to create long term plans to ensure coverage, skills progression and links to other subjects where applicable.

South Oxhey is an area of significant socio-economic deprivation. Many of our children have a high level of need and limited experiences. Our children are energetic and enthusiastic and it is our job to pique their curiosity and use their interests to channel that energy into their learning. As a result, our curriculum is closely tailored to meet the specific needs of our school community; we want to envelope them with as many scientific experiences as we can.

We are dedicated to providing a challenging, engaging and language-rich programme of studies across the curriculum to help raise our standards in science, give our children a wider understanding of the world around them and better prepare them for the future. To support this goal, we use our extensive grounds, our school kitchen and our practical Science resources to make learning relevant and accessible to all children. Moreover, the curriculum is enriched through themed assemblies, relevant class trips (the Science Museum), visits (the local optician) and workshops (Set Point Bubbles workshop and Herts Catering Healthy Eating workshop).

Science Topic Boxes are available for each year group. They contain a mixture of age-appropriate equipment, visual aids and reading materials. They have been carefully organised by each strand of the Science Curriculum to ensure a clear progression of skills and equipment use. An extensive range of Working Scientifically equipment from microscopes to stopwatches, pipettes and test tubes are stored centrally and available for all year groups to utilise.

In every classroom, age-appropriate Working Scientifically vocabulary is displayed and a selection of relevant books, newspapers and magazines are available on the bookshelves and even more reference books are available in the School Library. These resources help further our children's reading and develop incidental conversation, interest and

awareness of science. We also share relevant resources and links in the Science Area of the Woodhall School Website so children and parents can revisit key concepts.

By the time our children leave Woodhall, we aim to:

- Create the scientists of tomorrow, developing a love and appreciation of science. Our children will experience and engage with science through practical investigations, tangible resources, inviting books, visits from experts and professionals, visits to places of scientific importance, workshops and whole school events. They will be interested and inspired, which in turn will help them develop a questioning mind, an inquisitive spirit and theories about the world around them.
- Develop a solid foundation in working scientifically skills so children can put their theories to the test in a measured and systematic way. Their skills of observing, classifying, comparing, contrasting, collecting and presenting data and drawing conclusions will not only prepare them to study Science at secondary school and beyond, but can also be transferred and applied to their wider learning and lives.
- Support and foster scientific knowledge within our children. We will explore and research key concepts, building on their understanding throughout the school. By developing their scientific vocabulary, we will help children articulate their learning, know more and remember more.
- Promote that Science is for everyone, no matter the age, disability, gender, race, religion or belief and sexual orientation. We will pitch the learning so that it scaffolds and challenges learning to meet the needs of the learner and celebrate the scientific successes of a wide variety of people.
- Ensure our children's sense of safety and responsibility, knowing how to use resources, scientific equipment and plan and carry out a range of investigations in a sustainable, appropriate and safe way.

IMPLEMENTATION

The Key Stage 1 and 2 National Curriculum for Science is quite prescriptive and outlines what topics should be taught in each year group and this is mapped out on our Science Subject Ladder. However, due to the nature of our mixed-age classes, the school must operate more flexibly and carefully map learning across the key stages to ensure all children are accessing relevant, challenging content whilst exploring age-related skills and a broad and balanced curriculum. Knowledge areas highlighted in yellow on the subject ladder may be taught out of the assigned year group in mixed-age classes. Necessary adaptations to the subject ladder can be tracked on the Woodhall School Topic Map, Woodhall Topic Coverage documents and the Long Term and Termly Planners of individual classes.

In the Foundation Stage, children explore the Early Learning Goal 'Knowledge and Understanding of the World' through child-initiated learning. Whether that is general play with water and sand, spending time outside in nature to experience plants, wildlife, the changes in the seasons and weather and also specific topic work such as 'The Dinosaur Museum' or 'Buildings and Builders'.

In Key Stages 1 and 2, Science lessons are taught regularly to ensure familiarity and fluency but some topics lend themselves to a block of learning and might be carried out over a day or every afternoon for a week (for example; tracing shadows on the playground at different times of the day or measuring the growth of a beansprout).

Teachers ensure that all lessons are varied and dynamic; we try to use real life materials and offer practical experiences wherever possible. Rich cross-curricular connections are provided to ensure Science learning is contextual and relevant.

We take pride in our science learning; work in books and on display around school is of high quality for every level of learner. Learning is recorded in a variety of ways, such as: annotated drawings, extended writing, charts and tables,

diagrams, formal investigations, photographs and the use of ICT and science lessons also develop a wide range of transferable skills including reading, extended writing, measuring and statistical analysis. In addition, we are developing our children's oracy in science; giving them the tools to share their understanding, ask questions and explain concepts and processes to others.

Teachers apply thoughtful differentiation in each lesson, whether that be by activity, support or outcome; we provide scaffolding and challenge for all levels of learners. SEND children often have personalised strategies, support and resources during science lessons and the teachers can use the Science Subject Ladder to track back, fill gaps and help all children access new learning.

Woodhall provides opportunities for children to explore, investigate and be awestruck whilst still developing rigorous scientific methodology. We have designed our own Key Stage 1, Lower Key Stage 2 and Upper Key Stage 2 fair test resources to formalise the investigation process. These resources ensure that all children can develop an understanding of how to ask questions, make predictions, plan fair investigations, carry out tests safely, record their results clearly and analyse their findings as part of a conclusion at an age-appropriate level and how each stage of the investigation links to the next. From Year 2 onwards, each year group completes at least one entire investigation from start to finish.

Additionally, we recognise nationally significant events such as British Science Week, Ada Lovelace Day, Healthy Eating Week through assemblies, workshops, school-wide competitions, themed days and group work where appropriate. Our successes are shared with our wider community on the Woodhall School website to help engage and raise awareness of science learning to parents. What is more, we invite parents to support their children by attending class assemblies, trips and workshops and support them in any Science homework projects.

Our Leadership Team have joined several national organisations to ensure we are up-to-date with current discussion around science education and that our provision is meaningful, enriched and evolving. These organisations include STEM, ASE (Association of Science Educators), BSA (British Science Association) and PSTT (Primary Science Teachers Trust). We are also building links with other local institutions such as secondary schools, the local optician and doctor's surgery.

IMPACT

Achievement in Science is closely monitored in each class by the teacher and overseen throughout the school by the Leadership Team. As a topic is being taught, teachers make careful observations about each child and assess their knowledge and understanding against the learning objectives. Children are assessed termly as working significantly below age-related expectations (ARE), working towards ARE, working at ARE or exceeding ARE. Progress, effort and attainment is reported to parents informally at Parent Consultations and as formally part of the End of Year Report.

The achievement of vulnerable groups such as SEND, PPG or EAL children are monitored closely to ensure their progress is in line with their peers. Where there is a large disparity, the Science Lead works alongside teachers to provide resources, support and help narrow the gap. Teachers Assessment in Science is reported at the end of each key stage.

The Leadership Team is also responsible for collating evidence of the impact of the Science Teaching and Learning providing feedback to all stakeholders; the teachers, the SLT, the Governing Body and outside agencies including Ofsted and advisors such as the Hertfordshire Improvement Partner.

Evidence is collected through teacher assessment, pupil voice, lesson observations, work and planning scrutiny and learning walks. During each monitoring cycle, the Leadership Team looks for appropriate coverage for that particular point in the year, high quality work being produced over a range of activities, thoughtful differentiation and care and attention over tasks from both teacher and pupil.

Following the monitoring activities, the Leadership Team summarises the strengths and weaknesses of the subject and puts actions in place to move the provision on; that could be through staff training, team teaching or planning, advisor visits, use of specific resources or even through whole school events. These actions are then evaluated and analysed for impact.

As educators, we are self-reflective and recognise the invaluable benefit of a strong start to science education. We are committed to moving our science provision on and providing the best possible outcomes for our budding scientists!

Woodhall School Leadership Team

Reviewed: September 2025