**Science**

**Intent, Implementation and Impact**

**What is Science?**

• Developing the understanding of important scientific ideas, processes and skills and relating these to everyday experiences

• Learning about ways of thinking and or finding out about and communicating ideas

• Exploring values and attitudes through science

**Intent**

At Woburn Lower School, it is our intention to recognise the importance of Science in every aspect of daily life. We give the teaching and learning of Science the prominence it requires. The scientific area of learning is concerned with increasing pupils’ knowledge and understanding of our world, and with developing skills associated with Science as a process of enquiry. It will develop the natural curiosity of the child, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence. We intend t**o** build a Science curriculum which develops learning and results in the acquisition of knowledge which, enables children to become enquiry based learners.

**Aims:**

**The 2014 national curriculum for science aims to ensure that all pupils**:

• 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.

• Are equipped with the scientific knowledge required to understand the uses and implications of science today and for the future.

**Implementation**

At Woburn Lower School, we encourage children to be inquisitive throughout their time at the school and beyond. The Science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the ‘Working Scientifically’ skills are built-on and developed throughout children’s time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all pupils are capable of achieving high standards in science.

Our whole school approach to the teaching and learning of science involves the following;

* A clear and comprehensive scheme of work in line with the National Curriculum where teaching and learning should show progression across all key stages within the strands of Science and learning should plan for practical investigative opportunities within Science lessons.
* Through our planning, we involve problem solving opportunities that allow children to apply their knowledge and find out answers for themselves.
* Children are encouraged to ask their own questions and are given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom.
* Children will be able to build on prior knowledge and link ideas together, enabling them to question and become enquiry based learners. As the children’s knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.
* Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge.
* Children will use a range of resources to develop their knowledge and understanding that is integral to their learning and develop their understanding of working scientifically.
* Teachers demonstrate how to use scientific equipment, and the various ‘Working Scientifically’ skills in order to embed scientific understanding.
* Children have access to key language and meanings in order to understand and readily apply to their written, mathematical and verbal communication of their skills.
* Where applicable links to Science will be made to develop the children’s topical learning.
* Teachers find opportunities to develop children’s understanding of their surroundings by accessing outdoor learning.
* Children will reflect on previous learning and cross curricular links will be made wherever possible.
* Attainment will be assessed each half term through related topic assessment tasks
* Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class.
* Regular events, such as Science project days allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills.

**Impact**

The successful approach at Woburn Lower School results in:

* A fun, engaging, high-quality science education, that provides children with the foundations and knowledge for understanding the world.
* Children will be able to question ideas and reflect on knowledge
* Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them.
* Children will retain knowledge that is pertinent to Science with a real life context.
* Frequent, continuous and progressive learning outside the classroom is embedded throughout the science curriculum.
* Various workshops and trips children that have the understanding that science has changed our lives and that it is vital to the world’s future prosperity.
* Children learning about the possibilities for careers in science and have access to positive role models within the field of science from the immediate and wider local community. From this exposure to a range of different scientists from various backgrounds, all children feel they are scientists and capable of achieving.
* Children at Woburn Lower School overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.
* Most children willachieve age related expectations in Science at the end of their cohort year.
* Children will work collaboratively and practically to investigate and experiment.
* Children will be able to explain the process they have taken and be able to reason scientifically.

At Woburn Lower School we believe Science is good when:

* We apply our ‘working scientifically skills’ to solve problems, explore, observe and investigate. We ask questions and work together to discover the answers
* Science has a ‘wow’ factor and promotes a sense of awe and wonder
* Our learning is enhanced by outdoor learning, specialist visitors and we have access to quality resources
* We are involved in creating and carrying out investigations and can share and explain our ideas and conclusions
* We take a cross curricular approach to teaching Science