

# Science Statement of Intent



## **Intent**

At Willow Tree Academy, we understand the importance of science teaching and its pertinence to everyday life. As one of the core subjects, we offer an ambitious curriculum which goes above and beyond the national expectation and exposes children to the real world. As an academy, staff and pupils also work to a set of agreed science principles, which are our core principles of the teaching and learning of science.

The 2014 National Curriculum for Science aims to ensure that all children:

- 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 skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this.

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 nonliving. As an academy we believe that our curriculum encompasses the acquisition of knowledge, skills, concepts and understanding. The children continually develop their science capital by gaining a thorough perception about the world around them, making links with the outdoors and wider community and building a network of learning which is cohesive. Our children will be exposed to outstanding science teaching which focuses on developing investigative and inquisitive learners who wish to deepen their curiosities and thinking. 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. In its early stages, we encourage the children to consider career opportunities in science by inviting parents and professionals into the classroom with the aim to inspire and raise ambitions.

## **Statement of Implementation**

Teachers at Willow Tree Academy actively involve students in their own learning, teach pupils to develop a conceptual framework as well as to develop problem solving skills.

Equally, we promote pupil discussion, collaborative learning and help students experience science in varied, interesting ways, creating positive learning experiences.

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

- Lessons will be planned using the National Curriculum objectives and make links to year group topics. Planning involves teachers creating engaging lessons, involving quality resources to aid understanding of conceptual knowledge.
- All staff will ensure that problem solving opportunities are planned for allowing child led learning experiences. Children will be encouraged to be independent, ask questions and work collaboratively. We will provide opportunities for children to use their scientific skills and research to discover the answers to their questions.
- Each school year, working scientifically skills will be embedded into lessons to ensure these skills are built on. New vocabulary and challenging concepts will be taught through direct teaching and the use of vocabulary support sheets.
- Teachers will find opportunities to develop children's understanding of their surroundings by utilising outdoor spaces and the local area regularly.
- Science will be taught in real life contexts, having the opportunities for children to listen to experts and carry out workshops, supporting the pupils understanding of STEM and science capital.
- Children will access resources to support their learning through science equipment and digital technology. Children will use a range of secondary resources to develop their knowledge and understanding that is integral to their learning.
- Parents will be involved in science learning through workshops and home learning challenges.

**Statement of Impact**

Our approach at Willow Tree Academy is to deliver engaging, high-quality science curriculum, that provides children with the foundations for understanding the real world. The academy focus is that pupils achieve age related expectations or above in Science at the end of their school year. Our engagement with the local environment and involvement in NEMESIS projects ensures that children learn through varied and first hand experiences of the world around them. We take pride in knowing our children work collaboratively and practically to investigate and experiment. In doing so, children are

able to explain the processes they have taken and be able to reason scientifically. Through educational visits and interactions with experts and local organisations, children have the understanding of science capital and STEM. Children also learn the possibilities for careers in science as a result of our community links. Pupil voice responses are key to developing our teaching and learning of science. As a result of pupil voices, children are confident that school listens to their views about science and they have developed confidence in speaking about their learning.