



A message from Mrs Powell , our Science lead:

Science is something which I feel incredibly passionate about as it's all around us and ever changing. As a UN Accredited Climate Change Teacher, I am keen to focus on environmental science at our school and by making our school more eco-friendly.

As part of developing Science I am always keen to hear from parents / carers who are involved in the industry in any way and would be willing to share their knowledge and expertise with the children.

Design and Purpose

The science curriculum is a key thread within the connected curriculum. The curriculum has been shaped through the adoption and adaptation of the Edison curriculum.

Science is taught as part of our Connected Curriculum each half term. Connections are made to Design and Technology, Outdoor Learning, History, Art and Geography.

Environmental science is a thread within the curriculum due to being an Eco –school with distinction.

There are 4 scientific strands: chemistry, biology, physics and working scientifically.

Progression of knowledge and skills is mapped across progression rivers for the 4 strand areas.

We develop key areas of working scientifically: classification and identification; observation over time; research; pattern seeking; fair and comparative testing and exploration.

Our curriculum develops children's 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. Children develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry, and physics.

As children develop their scientific knowledge, they also learn about its uses and significance to society and their own lives, including the impact of climate change, for today and for the future.

Science is carefully mapped and units are taught sequentially building knowledge and skills through a combination of practical tasks and opportunities to apply key concepts and knowledge in different ways.

Each science lesson starts with a key question and follows a series of layers allowing children to show what they know, learn and do. This includes the development and use of scientific vocabulary.

Difference

As scientists, our children demonstrate enquiry skills during practical investigations and reasoning activities. They can ask questions, make predictions, set up tests, observe and measure what happens, record the data, interpret and communicate their results and evaluate their findings.

Across lessons children 'can' show what they know against 'I can statements'. These are introduced at the start of a unit, revisited during the unit and used to review what they know and can do at the end.

Quizzes are used within this process to support children to recall and remember. Over time, children show that they remember more and remember well. They can make connections and show a secure understanding of the world.

Our children demonstrate scientific knowledge and skills at key milestones linked to key National Curriculum concepts for Science, for example, in biology; understanding plants at Milestone 1 they name a variety of common plants and their parts. By Milestone 2 they can explain the function of the parts of a plant and its lifecycle. At the final milestone they can relate the knowledge of plants to evolution and inheritance. An increase in understanding and skills is either at a basic, advancing or deep level. As children progress through the school, more children can demonstrate an advancing and deep knowledge, making connections between different concepts.

Our children become successful learners. They are active citizens with a secure understanding of science and sustainability. They are confident scientists and effective contributors who engage readily in

environmental science, nature and outdoor learning which has led to Darlington Academy flying the Green Flag - with Distinction.

We engage in community projects and further enrich our children through visits and trips, visitors in school and practical workshops. This includes a long-standing connection with a local High School whom teach and demonstrate science learning and prepares them for transition to secondary school. We value networking and sharing practice with other schools and community groups to further embed understanding of science and nature.

'Achieving Excellence Together'