Denewood ACADEMY

Science Long Term Plan

Denewood Academy

Science Intent:

Our Science curriculum supports re-engagement, curiosity, and confidence through practical, real-life learning. We build on KS2 foundations and gradually introduce KS3 content in manageable, supported steps.

Pupils move from basic observation and description to more structured scientific enquiry. As they progress, they develop the ability to make predictions, plan fair and safe tests, use scientific equipment accurately, record results in tables and appropriate graphs, identify patterns and draw conclusions from data and use and understand scientific vocabulary with increasing accuracy.

Science also supports numeracy, as pupils practise measuring, estimating, collecting and presenting data using charts and graphs. Through links with technology, learners explore real-world applications such as building circuits, using simulations, or designing simple investigations using digital tools.

Science in our setting also builds wider life skills such as communication, resilience, teamwork, and problem-solving. Lessons are inclusive, structured, and supportive—ensuring all learners, whatever their starting point, can experience success, progress, and a sense of curiosity about the world.

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Key Stage 2

Autumn		Spring		Summer	
Food and Digestive system	Sound	States of matter	Grouping and Classifying	Electrical Circuits and Conductors	Electrical Circuits and Conductors
This project teaches children about the human digestive system. They explore the main parts, starting with the mouth and teeth, identifying types of teeth and their functions. They link this learning to animals' diets and construct food chains to show the flow of energy. Visit to the space centre to celebrate world space week.	This project teaches children about sound, how sound is made and how sound travels as vibrations through a medium to the ear. They learn about pitch and volume and find out how both can be changed. A visit to Magna offers hands-on opportunities to deepen understanding of sound and other key areas of physics through interactive, real-world experiences.	This project teaches children about solids, liquids and gases and their characteristic properties. They observe how materials change state as they are heated and cooled, and learn key terminology associated with these processes.	This project teaches children about grouping living things, known as classification. They study the animal and plant kingdoms and use and create classification keys to identify living things. A visit to Yorkshire Wildlife Park offers a unique opportunity to explore the animal kingdom up close and observe wildlife in a real-world setting	This project teaches children about electrical appliances and safety. They construct simple series circuits and name their parts and functions, including switches, wires and cells. They investigate electrical conductors and insulators and identify common features of conductors. It also teaches children about programmable devices. They combine their learning to design and make a nightlight. On site visit to the Space Centre.	This project teaches children about electrical appliances and safety. They construct simple series circuits and name their parts and functions, including switches, wires and cells. They investigate electrical conductors and insulators and identify common features of conductors. It also teaches children about programmable devices. They combine their learning to design and make a nightlight. A trip to Big Bang Science event in Birmingham to inspire young people in careers in stem subjects.

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Key stage 3

Autumn		Spring		Summer	
Scientific Skills	Cells and organisation	Food and nutrition	States and matter Pure and impure substances	Simple chemical reactions	Urban Nature project Wollaton Park
The pupils will acquire the skills that are needed every day in science to help them with scientific based enquiries. Pupils will acquire practical skills, being able to use different equipment safely. They will acquire maths skills such as graph drawing and interpreting them. Visit to the Space centre to celebrate World Space week.	This topic aims to give pupil an overview of the organisation of living things from single cells through to organ systems. Show the pupils how the structural differences between types of cells allows them to perform specific functions within the organism and explore how the skeletal and muscular systems work together to cause movement. A visit to Think Tank Museum with planetarium session looking at journey into a cell.	This topic aims to give pupils an understanding about different foods and how they can be combined to produce a balanced diet. Understand how food is broken down by digestion so it can be used by the body, for energy, growth and repair. Pupils will explore the different deficiency diseases and how look at preventative and curative measures. Food preparation and dining experience.	This topic aims to give pupils an understanding of the particulate nature of matter, the difference in arrangements of particles in solids, liquids and gases based on the particle model, how matter can change from one state to another and the movement of particles in terms of diffusion. They will also look at how mixtures can be separated using a variety of techniques including filtration, evaporation, distillation and chromatography. A trip to magna to explore different states,	This topic aims to introduce pupils to the idea that chemical change results in new substances that are different from the ones from which they were made. Explore some simple chemical reactions of acids in which a gas is made, explore burning as a chemical reaction involving a gas, air or oxygen. On site visit to the Space Centre.	This term the pupils connect to their local nature, and to global issues. We hope to connect with those identified as having a low connection to nature. The pupils will inspire the next generation to care for the nature that surrounds them. Pupils will participate in hands-on outdoor workshops which include Ecological Fieldwork, Plastics in the Environment, Tree trails, Pond dipping/Water Investigation, Invertebrate (Mini beast) and Safari.

			fire, air, Earth and water. Looking at materials workshop to link in with this unit and Summer 1 unit.		A trip to Big Bang Science event in Birmingham to inspire young people in careers in stem subjects.