



NEWHALL
JUNIOR SCHOOL
Lionheart Educational Trust

N.J.S Science

Our
Intent
Implementation
Impact



Intent

Our intent is to give children at Newhall Junior School a broad and ambitious science education that provides children with the foundations they need to recognise the importance of science in every aspect of daily life. We want our children to appreciate how science has changed the lives of human beings and know that it is vital to the world's future success. Therefore, all pupils will be taught essential aspects of the knowledge, methods, processes and uses of science.

Our curriculum is carefully mapped out, building on prior knowledge, so that children know more and remember more. Cross-curricular links are made to build up a body of key foundational knowledge and concepts. The curriculum is successfully adapted to be ambitious and meet the needs of all pupils to enable all learners to access the curriculum, develop their knowledge, skills and abilities and apply what they know with increasing fluency and independence.

Teachers will ensure that all children are exposed to high quality teaching and learning experiences. These will hook the children's interest, enabling them to develop a sense of excitement and curiosity about natural phenomena. They will be encouraged to ask questions about the world around them and work scientifically to further their conceptual understanding and scientific knowledge.

Our curriculum encourages children to become enquiry-based learners, collaborating through researching, investigating and evaluating experiences. In order to be successful scientists, children will be given the opportunity to explore scientific concepts through a range of enquiry types which are woven throughout our curriculum. These are Problem Solving, Pattern Seeking, Comparative/Fair Testing, Research, Observation Over Time and Identifying, Grouping and Classifying. The underpinning working scientifically skills are interwoven throughout the curriculum to enable pupils to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. It provides opportunities for critical evaluation of evidence and rational explanation of scientific phenomena as well as opportunities to apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. Children will be immersed in key scientific vocabulary, which supports in the acquisition of scientific knowledge and understanding.

Implementation



Science Curriculum Map

	Chemistry	Biology	Physics					
	Autumn 1	Space week 4-10 th Oct	Autumn 2	Spring 1	Science week March	Spring 2	Summer 1	Summer 2
Yr 3	Rocks and soils		Movement and feeding <small>(previously animals incl humans)</small>	Magnets and forces Astro camp		Light and shadow	What plants need	Parts of a plant
Yr 4	Changes of state		Dangers to living things	Human nutrition <small>(previously animals incl humans)</small>		Sound	Grouping living things	Electricity
Yr 5	Earth and Space		Life cycles Astro camp	Separating mixtures		Types of change	Materials	Forces
Yr 6	Evolution and inheritance		Light and sight	Our bodies		Revision topic	Classifying living things	Changing circuits

At Newhall Juniors the science curriculum is carefully mapped out to create coherence across KS2, so that knowledge and skills are developed during their time here. The five enquiry types and the appropriate working scientifically skills are covered during each year. Each topic is carefully planned and adapted, building on previous knowledge and skills, to ensure progression. This enables children to connect the dots and deepen their understanding. Science is taught once a week. Teachers activate prior knowledge using a range of tasks so that children are able to make links to prior learning and link ideas together. Opportunities to enrich children's science learning through further cultural capital opportunities include: Space Week, Science Week, STEM ambassadors and science trips.

Impact

The successful approach to the teaching of science at Newhall Juniors will result in a fun, engaging, high quality science education, that provides children with the foundations for understanding the world that they can take with them once they complete their primary education and move onto secondary level.

Science assessment at Newhall Junior School is teacher based. Formative assessment is used as the main tool for assessing the impact of Science at

Newhall Junior School as it allows for misconceptions and gaps to be addressed more immediately rather than building on insecure scientific foundations. Formal strategies (e.g. year group/class assessment tasks, quizzes, pre/post learning grids and informal strategies (Use of concept maps, verbal/written outcomes, reflection tasks/presentations) are used to gain a clear understanding of where each child is working.

Children are assessed at 'working towards', 'achieved' or 'mastered' at the end of the unit on the assessment tracker. Judgements take in to account evidence in books, teacher observations and questioning, classroom discussions and explanations.

Children at Newhall Junior School will:

- Demonstrate a love of science work and an interest in further study and work in this field
- Retain knowledge that is pertinent to Science with a real life context.
- Be able to question ideas and reflect on knowledge.
- Be able to articulate their understanding of scientific concepts and be able to reason scientifically using rich language linked to science.
- Demonstrate a high level of mathematical skills through their work, organising, recording and interpreting results.
- Work collaboratively and practically to investigate and experiment.

Impact of learning will be assessed through: pupil interviews, deep dives, book looks, assessing whether or not children can answer questions about BIG IDEAS and make links to prior learning etc.

Science Leader, Jo Morgan