Newhall Junior School

Science

Intent

At Newhall Junior School, our Science curriculum is designed to develop curious, knowledgeable and confident scientists who are equipped to understand and explore the world around them. We recognise that children arrive with different experiences and levels of prior knowledge, so our curriculum is carefully planned to broaden cultural capital, develop scientific vocabulary and provide rich opportunities for all pupils to succeed.

We aim to:

- Develop secure scientific knowledge and understanding across biology, chemistry and physics.
- Build scientific vocabulary and language so pupils can communicate their thinking confidently.
- Broaden pupils' experiences and understanding of the world through practical, engaging and meaningful learning.
- Foster curiosity, questioning and a lifelong interest in science.
- Ensure all pupils, including those with SEND and disadvantaged pupils, can access, participate in and succeed within the curriculum.

Our curriculum provides opportunities for pupils to make connections between new learning and prior knowledge, helping them to develop increasingly sophisticated scientific understanding. Through practical investigation and exploration, pupils learn that science is not only about acquiring knowledge but also about asking questions, solving problems and making sense of the world around them.

Scientific enquiry is at the heart of our curriculum. Pupils are taught to think and work like scientists by:

- Observing over time.
- Seeking patterns.
- Identifying, classifying and grouping.
- Carrying out comparative and fair tests.
- Researching using secondary sources.

These enquiry skills are embedded throughout science learning rather than taught in isolation, enabling pupils to apply their knowledge in meaningful contexts. Through collecting, analysing and presenting evidence, pupils develop critical thinking, reasoning and problem-solving skills whilst learning how scientific knowledge is developed and applied.

Ultimately, we want pupils to leave Newhall Junior School with the knowledge, skills and confidence to understand the world around them, ask thoughtful questions and approach scientific ideas with curiosity, independence and enthusiasm.

Implementation

Newhall Junior School whole school curriculum map

Science Long-Term Plan

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 3	Rocks and soils	Movement and feeding	Magnets and forces	Light and shadow	What plants need	Parts of a plant
Year 4	Grouping living things	Human nutrition	Dangers to living things	Sound	Changes of State	Electricity
Year 5	Life cycles	Earth and Space	Separating mixtures	Types of change	Materials	Forces
Year 6	Evolution and Inheritance	Light and Sight	Our Bodies	Changing Circuits	Classifying Living Things	Working Scientifically

Science is taught throughout Key Stage 2 through a carefully sequenced curriculum that develops both scientific knowledge and enquiry skills. Learning is planned to ensure progression across biology, chemistry and physics, whilst providing regular opportunities for pupils to revisit and build upon prior learning.

Key features of our curriculum include:

- Explicit teaching of scientific knowledge, vocabulary and concepts.
- Regular retrieval practice to strengthen retention and long-term understanding.

- Practical investigations that encourage curiosity, questioning and exploration.
- Opportunities to develop and apply a range of scientific enquiry skills.
- Real-life contexts that help pupils understand the relevance of science in the wider world.
- Adaptive teaching to ensure all pupils, including those with SEND and disadvantaged pupils, can access and succeed within the curriculum.

Scientific enquiry is embedded throughout learning and pupils are taught to work scientifically through observing over time, pattern seeking, identifying, classifying and grouping, comparative and fair testing, and researching using secondary sources.

Lessons encourage pupils to ask questions, make predictions, observe carefully, collect and analyse data, draw conclusions and evaluate findings. Scientific vocabulary is explicitly taught and regularly revisited to support language development and deepen understanding.

Assessment is ongoing and informs future learning through questioning, discussion, observations, practical outcomes and retrieval activities. Teachers identify misconceptions and adapt learning to ensure pupils develop secure scientific understanding and increasing independence.

Through carefully planned experiences, investigations and discussion, pupils are encouraged to think critically, solve problems and develop an appreciation of how science helps us understand and improve the world around us.

Impact

The impact of our Science curriculum is reflected in pupils' knowledge, understanding and enthusiasm for scientific learning. Through a carefully sequenced curriculum and regular assessment opportunities, pupils develop secure scientific knowledge, apply scientific vocabulary accurately and confidently, and demonstrate increasing independence when working scientifically.

Pupils develop enriched cultural capital through exposure to a wide range of scientific concepts, real-world applications and meaningful learning experiences. Their books showcase progression in scientific knowledge, enquiry skills and vocabulary, whilst pupil voice demonstrates curiosity, engagement and a growing understanding of the importance of science in everyday life.

Children recognise links between Science and other areas of the curriculum, applying their knowledge and skills across a range of contexts. Scientific enquiry is embedded throughout teaching and learning, enabling pupils to ask questions, make predictions, carry out investigations, analyse evidence and draw informed conclusions with increasing confidence.

Assessment is ongoing and informed by pupil work, teacher observations, questioning, discussion and practical investigations. Teachers provide timely verbal and written feedback to address misconceptions and move learning forward. Monitoring shows that all groups of learners, including disadvantaged pupils and pupils with SEND, achieve well and are supported to access both the curriculum and appropriate challenge.

By the end of Key Stage 2, pupils leave Newhall Junior School as curious, knowledgeable and confident scientists who know more, remember more and are well prepared for the next stage of their scientific learning.