INTENT – We aim to …

Subject on a Page: **Science**

Nurture pupils' natural curiosity and help develop inquiring minds.

Encourage pupils to ask 'how' and 'why' questions, with the aim of finding out answers.

Motivate pupils to explore the world around them and to change it for the better.

Help pupils to develop the skills to think critically, solve problems and make decisions.

Provide practical experiments and investigations to teach the importance of accuracy and problem-

IMPLEMENTATION – How do we achieve our aims?

Planning/Curriculum: At Newhall Infants, children are taught science through Dimensions Explorers (EYFS) and Pathfinders (KS1) 'Learning Means the World' curriculum thematic units. The Satellite View, maps out which thematic units feature in this subject and clearly show the objectives taught.
Science is taught through working scientifically (involving practical investigation, observation and application skills, enquiry and research) alongside specific taught subject knowledge. Learning takes place both inside and outside the classroom.

Recording: By using a rigorous matrix approach, the objectives of the National Curriculum are cross-referenced to the Dimensions Explorers and Pathfinders 'Learning Means the World' Curriculum and identified gaps are taught through NC specific science units.
Teachers record children's work in relevant work/floor books and mark these as per the school's marking policy.
Subject leaders will then conduct book looks and pupil voice interviews (which are kept in leader's files) to assess.

Assessment: In EYFS, assessment is ongoing and based upon teacher conclusions of whether a child's development is 'on track' or 'not on track'. Evidence is recorded on 'Tapestry' and tracked three times throughout the year.
In KS1, children engage in initial diagnostic assessment through questioning and discussions which include Catalyst Questions and Time Machine clips. Then weekly, informal assessments provide opportunities for recall and review of prior learning. Teachers use this information to inform future planning and adapt teaching appropriately.

Vocabulary: The relevant vocabulary is included in Dimensions Explorers (EYFS) and Pathfinder (KS1) 'Learning Means the World' curriculum Satellite View document.
Staff will ensure this technical vocabulary is used during their teaching and opportunities will be given for children to use this vocabulary regularly.

EYFS: In EYFS, children explore Science under the umbrella of 'Understanding the World' through a mix of play-based continuous provision and adult led-activities. These are taken from Dimensions Explorers 1 and 2 'Learning Means the World' curriculum thematic units - Nursery (Explorers 1) Happy to Be Me and No Place like Home. Reception (Explorers 2) Tell Us a Story, Under the Sea and What on Earth..?

SEND (inclusion and adaptations): In some circumstances where it is apparent that a child's needs would be best met by adapting independent tasks, including coverage of the content from previous years/topics, all and any specific arrangements will be shared with relevant staff and parents. Children who benefit from in-school SEND support will have additional adult-support to ensure that learning is inclusive and works for each child's needs.

Disadvantaged children: At Newhall Infants, all children are provided access to science teaching and learning, irrespective of attainment and social background. Teachers ensure that opportunities to learn both inside and outside of the classroom are accessible to all through adaptive teaching and the use of adult support for those who benefit from this.

Monitoring: By regularly meeting with teaching staff, carrying out learning walks, analysing data and conducting 'open-book' pupil interviews/pupil voice, curriculum leaders are able to listen to and understand children's thoughts and feelings about their learning as well as being able to carefully monitor the quality of the science curriculum. This ensures that teaching and learning is effective and adapted wherever necessary.

CPD: Initial 'Dimensions' Learning means the World training to take place in September 2023, led by Sharon Dicken and Dimensions Team. Half-termly evaluating and training to develop further subject knowledge.

IMPACT – How do we know if we've achieved our aims?

By the end of their time in the Early Years, most children will:

- use all their senses in hands-on exploration of natural materials.
- explore collections of materials with similar and/or different properties.
- talk about what they see, using a wide vocabulary.
- explore how things work.
- plant seeds and care for growing plants.
- understand the key features of the life cycle of a plant and an animal.
- begin to understand the need to respect and care for the natural environment and all living things.
- explore and talk about different forces they can feel.
- talk about the differences between materials and changes they notice.
- explore the natural world around them.
- describe what they see, hear and feel while they are outside.
- recognise some environments that are different to the one in which they live.
- understand the effect of changing seasons on the natural world around them.

Working scientifically
By the end of KS1 most children will be able to:

- use appropriate scientific language from the NC
- ask their own questions about what they notice
- use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions (observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, finding things out using secondary sources of information)
- communicate their ideas, what they do and what they find out in a variety of ways.

Science content:
By the end of KS1 most children will be able to:

- Name and locate parts of the human body, including those related to senses, and describe the importance of exercise, balancde3 diet and hygiene for humans
- Describe the basic needs of animals for survival and the main changes as young animals, including humans, grow into adults.
- Describe basic needs of plants for survival and the impact of changing these and the main changes as seeds and bulbs grow into mature plants.
- Identify whether things are alive, dead or have never lived.
- Describe and compare the observable features of animals from a range of groups.
- Group animals according to what they eat, describe how animals get their food from other animals and/or from plants, and use simple food chains to describe these relationships.
- Describe seasonal changes.
- Name different plans tans animals and describe how they are suited to different habitats.
- Use their knowledge and understanding of the properties of materials, to distinguish objects from materials, identify and group everyday materials, and compare their suitability for different uses.