Highcliffe St Mark Primary School

Science Curriculum Overview

Our vision is to give children a Science curriculum which enables them to explore and discover the world around them, confidently, so that they have a deeper understanding of the world we live in. To achieve this, the children will have exciting, practical hands on experiences that encourage curiosity and questioning. Our aim is that these stimulating and challenging experiences help children secure and extend their scientific knowledge and vocabulary. We believe that these opportunities will ensure that our children are confident, life-long learners with a thirst for knowledge about the world we live in.

Working scientifically skills progression

EYFS

- Make observations of plants and animals

-Explain why some things occur and talk about changes

-Know about similarities and differences in relation to places, objects, materials and living things

KS1

-Asking simple questions and recognising that they can be answered in different ways

-Observing closely, using simple equipment

-Performing simple tests

-Identifying and classifying

-Using their observations and ideas --to suggest answers to questions

-Gathering and recording data to help in answering questions

KS2

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary

-Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate

-Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs

-Using test results to make predictions to set up further comparative and fair tests

-Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

-Identifying scientific evidence that has been used to support or refute ideas or arguments

The Curriculum Sequence

KS1

Year 1: Plants, animals including humans, everyday materials, seasonal changes

Year 2: Plants, living things and their habitats, animals including humans, uses of everyday

KS2

Year 3: Plants, animals including humans, rocks, light, forces and magnets

Year 4: Living things and their habitats, animals including humans, states of matter, sound, electricity

Year 5: Living things and their habitats, animals including humans, properties and changes of materials, earth and space, forces

Year 6: Living things and their habitats, animals including humans, evolution, light, electricity

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Subject Enhancements

EYFS In Early Years children are able to explore a range of stimulating indoor and outdoor resources. Regular visits to the wildlife area allow children to begin to ask questions about nature. EYFS also take part in the whole school science week.

KS1 Children continue to use the school wildlife area to provide a wealth of real-life experiences to aid with their animals and living things topics. During STEM week children take part in a whole school investigation, meet people from a range of scientific backgrounds and enjoy a fun, interactive assembly.

KS2

As in KS1, Key Stage 2 children also take part in STEM Week. KS2 children also take part in a Science Fair, with parents invited to see the children's projects. In Year 6, pupils attend fortnightly Science lessons at Highcliffe Secondary school where they get to use a range of exciting apparatus. There is also a children's science quiz, run by the Ogden Trust.

Key Vocabulary

EYFS

Tree, petals, trunk, fruit, branch, roots, leaves, flowers, seed, material, metal, wood, rock, plastic, hard, glass, soft, paper, fabric, material, smooth, shiny, rough, freeze, melt, change, push, pull, summer, spring, dark, autumn, light, winter, night, Season, Moon, Sun, lighter, darker, shadow .

KS1

Habitat, micro habitat, food chain, Seeds, bulbs, grow, healthy, water, light, temperature, soil, nutrients, leaves, flowers, blossom, petals, fruit, roots, trunk, branches, stem, fish, amphibian, reptile, bird, mammal, humans, herbivore, carnivore, omnivore, soft, hard, rough, smooth, stretchy, stiff, shiny, dull, flexible, waterproof, absorbent, opaque, transparent, translucent, field, hedgerow, pond, woodland, seashore, ocean, rainforest, Arctic, desert

KS2

Skeleton, skull, bones, muscles, protection, nutrition, oesophagus, stomach, small intestine, large intestine, nutrients, absorb, canine, incisor, molar producer, consumer, predator, womb, foetus, embryo, gestation, puberty, function, circulatory system, heart, valve, blood vessel, vein, artery, oxygenated, deoxygenated, classification key, circuit, series, parallel voltage, volts, amps, wire, bulb, switch, conductor, insulator, force, contact, surface, magnetic, attract, repel, poles , vibration, wave, volume, pitch, tone, insulation, light source, reflect, transparent, translucent, opaque, sedimentary, igneous, magma, metamorphic, air resistance, water resistance, friction, gravity, adaptation, evolution.

Central Substantive Concepts

Adversity, beauty, care, change, choice, cohesion, compassion, consequence, diversity, failure, fairness, fear, influence, passion, power, reform, responsibility, rights, strength, transformation, truth, value, wealth, well-being, wisdom.

SEND

The prior learning, background and needs of all learners are taken into account during the planning of Science lessons. Teachers encourage independence and offer children a selection of choices for how they demonstrate their learning.

Assessment

Lessons are formatively assessed by the teacher through observation, questioning and analysis of work. End of unit assessments stuck in books and recorded on tracking document. A whole class tracking grid of objectives is used to enable teachers to submit data half-termly, using OTrack..