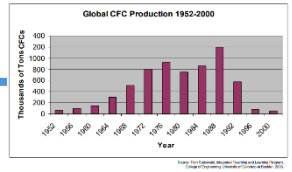
LOTHERSDALE Primary School

Science Subject on a Page

At Lothersdale Primary School, science promotes children to seek answers to ambitious questions and wonder about how things work. Science plays an important and progressive role within the school's curriculum, and it is essential that children build knowledge about how science has changed our lives and is vital to the world's future prosperity. A fundamental role of science at Lothersdale Primary School is to allow children to discover, explain and develop their knowledge and skills through exploring collaboratively in investigations and working scientifically.

Science and cross curricular links

Sometimes, when a core text isn't matched with humanities, it is linked with a science unit i.e Orion and The Dark in LKS2. Through working scientifically, maths and science are interwoven through writing scientific reports. The long-term plan for Maths has enabled a progression of when and how children will support their reports with visual representations such as bar charts or line graphs.



STEM LEARNING

Through a carefully planned and dynamic Science curriculum, Lothersdale Primary School aims to foster a generation of scientifically literate individuals who approach the world with curiosity, critical thinking, and a deep appreciation for the wonders of science.

Scientific Knowledge: Assessments and projects will demonstrate a progression in scientific knowledge, reflecting a deepening understanding of key concepts.

Working Scientifically Skills: Students will exhibit proficiency in working scientifically, demonstrated through their ability to plan and conduct experiments, analyse results, and draw evidence-based conclusions.

Enthusiasm and Engagement: Increased enthusiasm for science as reflected in students' active participation in lessons, curiosity, and a desire to explore scientific topics beyond the curriculum.

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Assessment: Through low stake quizzes and recalls, prior knowledge will be assessed before a new unit of work.

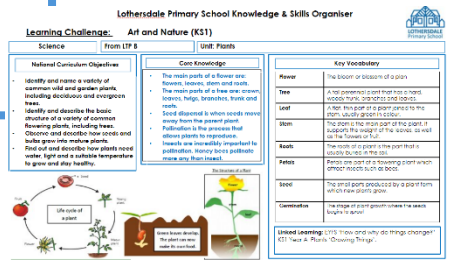
Substantive knowledge:

Using **Memory Monday** with planned recalls throughout the year enables knowledge to embed into long-term memory which is then recorded on a whole school spreadsheet.

Disciplinary knowledge:

Assessment record outlines the working scientifically concepts and is passed onto the next teacher.

Our progression documents allow for progression from EYFS to Year 6 in a range of key components within science. Science Unit Overviews have been designed to allow progression in vocabulary, working scientifically skills and substantive knowledge.


Lothersdale Primary School Knowledge & Skills Organiser

Learning Challenge: Art and Nature (KS1)

Science | From LTP B | Unit: Plants

National Curriculum Objectives

- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- Identify and describe the basic structure of a variety of common flowering plants, including trees.
- Observe and describe how seeds and bulbs grow into mature plants.
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

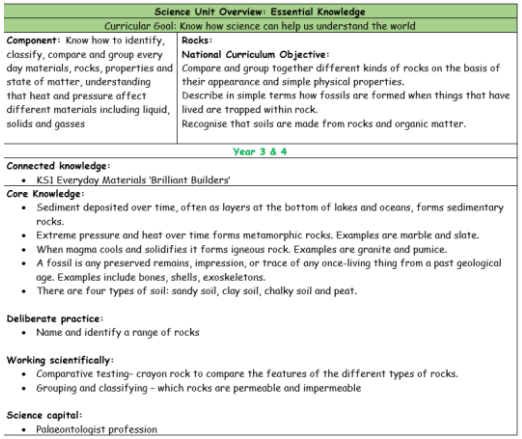
Core Knowledge

- The main parts of a flower are: flowers, leaves, stem and roots.
- The main parts of a tree are: crown, leaves, twigs, branches, trunk and roots.
- Seed dispersal is when seeds move away from the parent plant.
- Pollination is the process that allows plants to reproduce.
- Insects are incredibly important to pollination. Honey bees pollinate more any than insect.

Key Vocabulary

Flower	The bloom or blossom of a plan
Tree	A tall perennial plant that has a hard, woody trunk, branches and leaves.
Leaf	A flat, thin part of a plant joined to the stem, usually green in colour.
Stem	The plant is the main part of the plant. It supports the weight of the leaves, as well as the flowers or fruit.
Roots	The roots of a plant is the part that is usually buried in the soil.
Petals	Petals are part of a flowering plant which attract insects such as bees.
Seed	The small parts produced by a plant form which new plants grow.
Germination	The stage at plant growth where the seeds begins to sprout.

Linked Learning: LKS1 'How and why do things change?' KS1 Year A 'Plants' 'Growing Things'.


Science Unit Overview: Essential Knowledge

Curricular Goal: Know how science can help us understand the world

Component: Know how to identify, classify, compare and group every day materials, rocks, properties and state of matter, understanding that heat and pressure affect different materials including liquid, solids and gasses

Rocks:

National Curriculum Objective:
Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.
Describe in simple terms how fossils are formed when things that have lived are trapped within rock.
Recognise that soils are made from rocks and organic matter.

Year 3 & 4

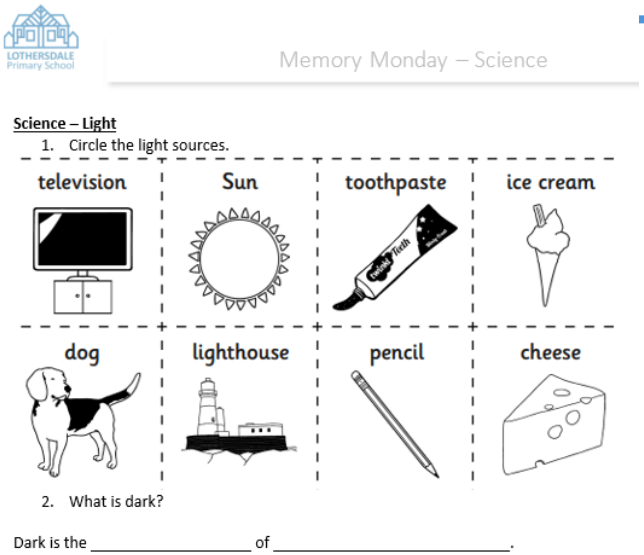
Connected knowledge:
- KS1 Everyday Materials 'Brilliant Builders'

Core Knowledge:
- Sediment deposited over time, often as layers at the bottom of lakes and oceans, forms sedimentary rocks.
- Extreme pressure and heat over time forms metamorphic rocks. Examples are marble and slate.
- When magma cools and solidifies it forms igneous rock. Examples are granite and pumice.
- A fossil is any preserved remains, impression, or trace of any once-living thing from a past geological age. Examples include bones, shells, exoskeletons.
- There are four types of soil: sandy soil, clay soil, chalky soil and peat.

Deliberate practice:
- Name and identify a range of rocks

Working scientifically:
- Comparative testing- crayon rock to compare the features of the different types of rocks.
- Grouping and classifying - which rocks are permeable and impermeable

Science capital:
- Palaeontologist profession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Memory Monday – Science

Science – Light

1. Circle the light sources.

television	Sun	toothpaste	ice cream
dog	lighthouse	pencil	cheese

2. What is dark?

Dark is the _____ of _____.

World Space Week OCTOBER 4-10

International and national projects:

Science has a positive relationship with pupils, parents, governors and teachers who collaborate through homework projects for science fairs and engaging with an eagerness to know more by pupils conducting their own experiments at home. This is communicated with parents through the half termly newsletter and curriculum overviews.

BRITISH SCIENCE WEEK