



A Journey of a Little Sutton Scientist

The Scientific Journey Starts- Reception and Key Stage 1

All children to achieve a GLD by end of Reception

Year R

Ourselves
(comparison, growth over life)

Seasons
(explore natural world, changes)

Forces, materials and magnets (toys, push, pull, materials)

Key Stage 1

Growing and lifecycles
(plants, hen, butterfly lifecycle)

Year 1

Seasonal changes
(observation, weather, day length)

Plants (identify, name common plants and trees, basic structure)

Animals including humans (identify/name, describe/compare structure of variety of animals, draw/label basic parts of human body/ senses)

Everyday materials (identify/ name variety, describe simple properties, compare and group)

Year 2

Living things and their habitats (identify/ name plants/ animals and their habitats, simple food chains)

Animals including humans (basic needs for survival, importance of exercise, food and hygiene)

End of KS1/ Start KS2

Plants (observe/describe how seeds/ bulbs grow, basic needs)

Uses of everyday materials (compare suitability, solid objects can be changed)

Substantive knowledge



Powerful knowledge

Each year group will explore the key essentials as based on the National Curriculum guidelines.



Substantive concepts

Through their time at Little Sutton children will learn about the following **Golden threads**:
Biology (changes, growth, animals, plants, life cycles, food chains)
Chemistry (materials-properties, suitability)
Physics (seasons, forces)



Sequence of learning

Each unit of work in each year group will follow a sequence of learning and build on prior knowledge. This will prepare them for the next stage of learning.



Disciplinary Knowledge

As children progress through the school they will develop a greater understanding of: scientific enquiry method, apparatus and techniques, data analysis, presentation and evaluation.



British Values/SMCS

Children will have the opportunity to develop their understanding of British Values through reflecting on the wonders of the natural world, respecting and valuing different opinions and collaborative working (mutual respect and tolerance, democracy), following safety rules (rule of law).



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The Scientific Journey Continues- Key Stage 2

Key Stage 2

Disciplinary Knowledge

As children progress through the school they will develop a greater understanding of: scientific enquiry method, apparatus and techniques, data analysis, presentation and evaluation and scientific knowledge over time and implications.

British Values/SMCS

Children will have the opportunity to develop their understanding of British Values through reflecting on the wonders of the natural world, respecting and valuing different opinions and collaborative working (mutual respect and tolerance, democracy), following safety rules (rule of law), discussing moral and ethical issues about the environment and humans, studying scientists and their impact globally from a range of cultures and exploring how science is important to the economy and culture of the UK.

Substantive knowledge

Powerful knowledge
Each year group will explore the key essentials as based on the National Curriculum guidelines.

Substantive concepts
Through their time at Little Sutton children will learn about the following **Golden threads**:
Biology (changes, growth, animals, plants, life cycles, reproduction, food chains, health, skeletons, classification, digestive system, teeth, habitats, environment, circulatory system, evolution and inheritance)
Chemistry (materials- properties, suitability, mixing, separating, reversible and irreversible changes, fossils, soil, states of matter)
Physics (seasons, forces, friction, resistance, light, sound, electricity, Earth and space)

Sequence of learning
Each unit of work in each year group will follow a sequence of learning and build on prior knowledge. This will prepare them for the next stage of learning.

Year 3

Plants (part functions, growth requirements, water transport, lifecycle)

Forces and magnets (friction, surfaces, attract/repel)

Animals including humans (nutrition, skeletons, muscles)

Year 4

Light (reflection from surfaces, shadow formation, sun light dangers)

Rocks (compare/group by appearance/ properties, fossil formation, soil)

States of Matter (solids/liquids/gases, changes, water cycle)

Animals including humans (digestive system, teeth, construct/ interpret food chains)

Sound (vibrations, patterns pitch/ volume, distance from source)

Year 5

Electricity (simple series circuits, switches, conductor/ insulator)

Living things and their habitats (group/ identify/ name, classification keys, environment)

Earth and Space (relative movement, spherical bodies, day/night rotation)

Properties and changes of materials (compare/group reversible/ irreversible changes, mixture separation, uses)

Forces (gravity, air/water resistance, friction, mechanisms)

Year 6

Animals including humans (human changes inc. puberty)

Living things and their habitats (lifecycle differences, reproduction)

Living things and their habitats (classification and reasoning)

Electricity (variation component functions, symbols)

Evolution and inheritance (fossil information, inheritance, adaptation)

End of KS2

Animals including humans (circulatory system, impact of diet, exercise, drugs and lifestyle, nutrient/water transportation)

Light (travels in straight lines)

