

Foston CE, Terrington CE VA & Stillington Primary Schools Progression Map

'Love, Learn & Grow Together'

Subject: Biology

Understanding Plants

Subject Intent:

Within our Federation of schools, we intend that all our children will develop a deep curiosity about the world around them, and to experience the wonder which comes with gaining a knowledge and understanding about the processes and systems they can and can't see.

Our children will further develop:

- The ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings;
- Confidence and competence in the full range of practical skills;
- Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations;
- Scientific enquiry skills to be embedded in each topic throughout the school to allow the children to build upon prior knowledge;
- The ability to undertake practical work in a variety of contexts;
- Have a clear understanding of the jobs available from science specialisms.

Key Concept	Overview	EYFS	Key Stage 1	Key Stage 2	
Understanding Plants	Topic	Year A -Spring Term 2 -Growing plants	Understanding plants	Understanding Plants	Understanding Plants
	Objectives NC / Milestones	To make simple observations about plants and explain why some things occur. Three and Four-	<ul style="list-style-type: none"> • Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen. • Identify and describe the basic structure of a variety of common 	LKS2 Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers.	UKS2 Relate knowledge of plants to studies of evolution and inheritance. Relate knowledge of plants to studies of all living things.

	<p>-Plant seeds and care for growing plants. -Understand the key features of the life cycle of a plant -Begin to understand the need to respect and care for the natural environment and all living things.</p> <p>Reception -Explore the natural world around them, making observations and drawing pictures of plants.</p>	<p>flowering plants, including roots, stem/trunk, leaves and flowers.</p> <ul style="list-style-type: none"> • 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. 	<p>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>Relate knowledge of plants to studies of evolution and inheritance.</p> <p>Relate knowledge of plants to studies of all living things.</p>	
Knowledge	<p>Three and Four- -To know what is needed to plant seeds and how to care for growing plants. -To know that seeds will germinate into seedlings and grow into mature plants -To know the need to respect and care for the natural environment and all living things, and how they can do so.</p> <p>Reception</p>	<p>To be able to identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.</p> <p>Specific example/s to be taught: Oak, onion, horse chestnut, daffodil, sycamore, rose, tulip, poppy, strawberry, daisy, nettle, buttercup, dandelion.</p>	<p>To be able to identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers.</p> <p>Specific example/s to be taught: Sunflowers (chn to plant their own from seed to recap KS1 knowledge).</p> <p>To know the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</p>	<p>To relate knowledge of plants to studies of evolution and inheritance.</p> <p>Specific example/s to be taught: Rainforest: Buttress roots Emergents Lianas Epiphytes</p> <p>To relate knowledge of plants to studies of all living things.</p>

		<p>- Reception children will be able to draw plants, including details of the key features such as leaves, stems and flowers.</p>	<p>To be able to identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.</p> <p>Specific example/s to be taught: Leaf, roots, flower, stem, trunk, branch, bulb.</p> <p>-</p> <p>To observe and describe how seeds and bulbs grow into mature plants.</p> <p>Specific example/s to be taught: Sunflowers AND broad beans– germination, growth, flowering, seed.</p> <p>-</p> <p>To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Specific example/s to be taught: With reference to their sunflowers and broad beans, children will be able to describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Specific example/s to be taught: Tomato plants and cactus plants</p> <p>-</p> <p>To know how water is transported within plants.</p> <p>Specific example/s to be taught: That water is transported through the xylem cells (example of a carnation)</p> <p>-</p> <p>To describe the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>Specific example/s to be taught: Sunflowers – seeds germinate and grow into mature plants with flowers. The flowers attract pollinating insects which enables reproduction. New seeds are formed and grow once dispersed.</p> <p>-</p> <p>To relate knowledge of plants to studies of evolution and inheritance.</p>	<p>Specific example/s to be taught: Relate sexual reproduction of plants to the sexual reproduction of animals.</p> <p>That plants and other living things need to have their basic needs met to survive, but these basic needs may differ.</p>
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Vocabulary	<p>Seed</p> <p>Plant</p> <p>Grow</p> <p>Fruit</p> <p>Vegetable</p> <p>Roots</p> <p>Shoots</p> <p>Leaves</p> <p>Needs</p>		<p>Soil- organic material that covers much of the earth's surface.</p> <p>Seeds- the name given to the underground bud or stem of a seed plant at resting stage.</p> <p>Water-the liquid that makes life on Earth possible.</p>	<p>Photosynthesis – the process by which green plants make their own food from sunlight.</p> <p>Growth – growth is an increase in size.</p> <p>Seed Dispersal – the way plants make sure the seeds are spread as far as possible from the parent plant.</p>	

		<p>Food Water sunshine</p>	<p>Temperature- the amount of heat in something.</p> <p>Germination – the process by which a plant grows from a seed to a seedling.</p> <p>Parts of a Plant Stem - the main structure that supports leaves and flowers.</p> <p>Trunk- the main stem of a tree apart from branches or roots.</p> <p>Flower/Petal- the main stem of a tree apart from branches or root.</p> <p>Leaf/leaves- a part of a plant attached to a stem resembling a flat structure.</p> <p>Root- part of a plant that is usually hidden underground.</p> <p>Shoot- the above-ground part of the plant that bears the flowering buds, lateral buds and flowering stem.</p> <p>Bulb- the name given to the underground bud or stem of a seed plant at resting stage.</p>	<p>Reproduce/Reproduction - the process by which a living thing makes a likeness of itself.</p> <p>Nutrients – substances in food which our bodies process to enable it to function.</p> <p>Requirements – something which is needed.</p> <p>Germination – the phase of plant growth when a seed begins to sprout.</p> <p>Pollination – how insects help plants to make seeds.</p> <p>Pollen – a fine powder produced by certain plants when they reproduce.</p> <p>Anther – the part of a stamen where pollen is produced.</p> <p>Filament – the part of a flower’s stamen which supports the anther</p> <p>Stigma – the part of the pistil where the pollen germinates.</p> <p>Pistil – the part of a flower which develops into a seed or fruit.</p> <p>Style – the long tube which connects the stigma to the ovary.</p> <p>Ovary- the female part of the flower.</p> <p>Xylem – cells which carry water from the roots to all parts of the plants.</p> <p>Roots – a part of the plant which holds the plant in the ground and keeps it upright.</p> <p>Stems – the main stalk of the plant which develops buds and shoots and usually grows above ground.</p>
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