



Year One Science: Plants



Scientific enquiry types covered in this topic

	Classifying, identifying and grouping
	Comparing and Fair Testing
	Pattern Seeking
	Research
	Observing over time

Knowledge of working scientifically covered in this topic

	Making predictions	Children consider in advance what might happen or what they might find and know this is called a prediction
	Ask and answer questions	Ask questions that include scientific language, recognising they can be answered in different ways. Use secondary sources to answer questions
	Observing	Use simple equipment to observe closely including changes over time
	Measuring	Begin to measure in standard units using equipment with simple scales
	Recording data	Gather data to help answer questions including secondary sources
	Performing simple tests	Perform simple tests
	Presenting results	Communicate ideas and findings in a variety of ways
	Drawing conclusions	Explain what happened, what was found out and why

Lesson Structure

- Build on **prior learning**
- Encourage students to **recall** that prior learning
- **Make** the new **learning** in each lesson succinct, **clear** and meaningful
- **Share/model/instruct** the new knowledge to students in small manageable steps
- **Check** they are with you throughout and are grasping the knowledge
- Provide opportunity to recall and **practise** the knowledge
- Provide live **feedback** during practise
- Provide opportunity to **apply** that new knowledge in a slightly different context
- Encourage students to **deepen** their understanding with challenging tasks that requires thinking, reasoning and explaining.
- **Check** students have secured the new knowledge with a quiz





Prior learning: In Reception, children will have explored their immediate environment and some of the plants found within it; how they are similar and different and can change over time

Meet some brilliant scientists ...



David Bellamy was a famous botanist and television presenter and wrote many books about plants and nature.



Jane Colden was born in 1720 and was the first woman botanist in America. She discovered more about plants and she and her father wrote and illustrated a book about them. The book was so good that it won an award.

What different plants are in our local environment?

We will learn about the variety of plants and trees around our school. We will record and photograph what we see and draw and label some of the plants we encounter and learn about the variety of plants to be found around the world. We will plant a seed and keep a diary over the coming weeks.



I can name some common wild and garden plants

How are plants similar and different?

We will learn that plants have similarities and differences. We will closely observe a variety of real plants and photographs to explore the colours, leaf shapes and sizes.



I can identify some common wild and garden plants

What is the structure of flowering plants?

We will learn about the structure of flowering plants by observing a number of different plants closely, including those we planted in the first session, using magnifying glasses. We will learn about the leaves, stem, flowers and roots and draw and label plants

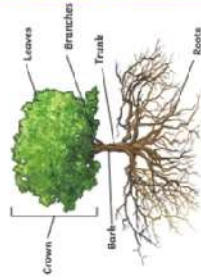


I can describe the structure of some common flowering plants

What is the structure of trees?

We will go for a walk to look at the trees in our local environment. We will photograph them and look at them back at class.

We will look at trees closely and learn about the main parts of the trees, drawing the structure of trees (trunk / leaves / branches / roots / flowers / fruits).



I can describe the structure of some common trees

What different trees are in our local environment?



We will learn about the different trees in our local environment, together with other trees, using magnifying glasses to examine and draw leaves from deciduous and evergreen trees. We will learn what deciduous and evergreen means.



I know what deciduous and evergreen trees are and can name some

How can we sort plants into different groups?

We will try different ways of sorting plants into groups. We will learn that there are different groups of plants: fruit plants, wild plants, garden plants, vegetable plants, deciduous trees and evergreen trees.

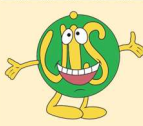


I can name some common plants and trees, including fruit plants, wild plants, deciduous trees, flowers, evergreen and deciduous

Key vocabulary: Glossary

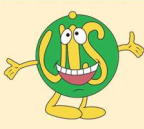
evergreen	Trees which keep their leaves all year round	roots	The part of a plant which is underground. It holds the plant in the ground
deciduous	Trees which lose their leaves in the Autumn	flowers	The blossom: part of the plant which produces seeds
leaves	The part of the plant attached to the stem which collect sunshine	trunk	The woody stem of a tree
stem	The part of the plant which grows above ground	vegetable	The edible part of the plant, which could be the stem, roots or leaves or flowers
fruit	The fleshy part of the plant which contains the seeds	wild	Plants which grow in the wider environment rather than in gardens

	Year One Science: Plants	Session 1: What different plants are in the local environment?	
	'Sticky' Substantive Knowledge	I can name and identify some common wild and garden plants	
	'Sticky' Disciplinary Knowledge	I can take photographs to gather data	
	Scientific Enquiry Type	Research	
Recap / Retrieval		Introduce key botanists – David Bellamy and Jane Colden. Describe what they are famous for and add pictures to working wall. Introduce term 'botanists' as plant scientists, and explain that over the next few weeks that the children are going to be botanists and learn about plants.	
Share knowledge and vocabulary	Explain that today we are going to <i>research</i> the plants that live around our school by taking a walk around to see what we can find. Introduce vocabulary plant, flower, tree, wild.		
Model	Model showing a selection of plant pictures. Describe what the plant looks like, for example if it's a tree, flower, the shape of the leaves, the flowers etc. Give the name of the plant.		
Do and Check	Give children their own collection of the pictures of common plants, including those to be found around school. Children to talk about pictures of the plants, adding name labels where possible. Provide a word bank of the names of the pants		
Including scaffolding	Scaffolding: Provide a word bank of plants for most children Provide name labels to stick under pictures where needed Where necessary, use sound buttons containing the names of the common plants. Children to place photo next to appropriate sound button. Include plants: dandelions, grass, clover, daisies, bluebells, holly, ivy, bramble, lavender, oak, pine, daffodil, rose, silver birch,		
Apply in context	Use a spotter guide to support, walk around the school to spot and identify common plants and trees. Children to have a camera in groups to photograph the plants that they see, ticking off the plants that they see.		
Including scaffolding	Back at class, print off the photographs taken (you may want to photograph some beforehand to be prepared!) Children to each have (small) copies of the photographs and glue in books, adding name labels Print photos and add labels (either writing from word bank, adding labels Scaffolding: Provide a word bank of plants for most children Provide name labels to stick under pictures where needed		
Reflect and review	Discuss which plants have been seen. What did they look like? What were they called? Check that all children can name some common plants.		

	Year One Science: Plants	Session 2: How are plants similar and different?	
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	'Sticky' Substantive Knowledge	I can describe some common wild and garden plants
	'Sticky' Disciplinary Knowledge	I can observe carefully
	Scientific Enquiry Type	Classifying, identifying and grouping

Recap / Retrieval	Recap last lesson – e.g. quiz / quick check
Share knowledge and vocabulary	Introduce key vocab
Model	Model looking at some different plants describe e.g. leaf size and shape, flower colour
Do and Check Including scaffolding	Group task: Have a variety of vocabulary Match vocabulary to plants
Apply in context Including scaffolding	Sort into groups Use pictures Discuss groups Sort by e.g. Which word best describes the leaves? leaf shape (round, spiky, long, smooth) Sort plants by the colour of their flowers
Reflect and review	Describe a dandelion, a daisy and a strawberry using key vocab

	Year One Science: Plants	Session 3: What is the structure of plants?	
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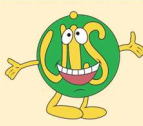
	'Sticky' Substantive Knowledge	I can describe the structure of some common flowering plants
	'Sticky' Disciplinary Knowledge	I can observe carefully
	Scientific Enquiry Type	Classifying, identifying and grouping

Recap / Retrieval	 Recap previous learning – provide children with a sheet of the animal types to 'talk like an expert' by talking about each animal type. Complete Quick Check		
Share knowledge and vocabulary	Introduce key vocab Flowers, stem, leaves, roots (and ideally fruit)		
Model	Model looking at plants and adding labels		
Do and Check	In groups Look at pictures of different plants		
Including scaffolding	Match printed labels Flowers, stem, leaves, roots (and ideally fruit),		
Apply in context	Look at plants, e.g. a strawberry plants Draw and label plants including Flowers, stem, leaves, roots (and ideally fruit),		
Including scaffolding	Word banks where needed Printed labels where needed		
Reflect and review			

	Year One Science: Plants	Session 4: What is the structure of trees?	
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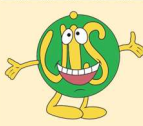
	'Sticky' Substantive Knowledge	I can describe the structure of some common trees
	'Sticky' Disciplinary Knowledge	I can ask questions that include scientific language
	Scientific Enquiry Type	Research

Recap / Retrieval	Recap previous learning on parts of plants
Share knowledge and vocabulary	Introduce key vocab Trunk, leaves, roots, branches (fruit)
Model	Model looking at trees and adding labels
Do and Check	In groups Look at pictures of different trees Match printed labels Trunk, leaves, roots, branches, (possibly fruit)
Including scaffolding	
Apply in context	Look at trees, e.g. oak tree in front of school Draw and label tree including Trunk, leaves, roots, branches, (possibly fruit)
Including scaffolding	Word banks where needed Printed labels where needed
Reflect and review	

	Year One Science: Plants	Session 5: What different trees are in the local environment?	
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	'Sticky' Substantive Knowledge	I know what deciduous and evergreen trees are and can name some
	'Sticky' Disciplinary Knowledge	I can observe carefully
	Scientific Enquiry Type	Research

Recap / Retrieval	
Share knowledge and vocabulary	Deciduous Evergreen
Model	Show some pictures of common trees. Talk about names, looking at leaves. Are they deciduous or evergreen?
Do and Check	Look at trees around school
Including scaffolding	We are putting together a spotter guided to help with this of the trees around school. Focus on the names of trees and whether they are deciduous or evergreen.
Apply in context	Draw and label a deciduous tree leaf (e.g. oak tree in front of school), next to a photo of the tree
Including scaffolding	Draw and label an evergreen tree leaf (e.g. pine tree in front of school), next to a photo of the tree
Reflect and review	What is a deciduous tree? Can you name one? What is an evergreen tree? Can you name one?

	Year One Science: Plants	Session 6: How can we sort plants into different groups?	
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	'Sticky' Substantive Knowledge	I can name some common plants and trees, including fruit plants, wild plants, vegetable plants, flowers, evergreen and deciduous trees
	'Sticky' Disciplinary Knowledge	I can observe carefully
	Scientific Enquiry Type	Classifying, identifying and grouping

Recap / Retrieval	Quiz to recap on all prior knowledge
Share knowledge and vocabulary	Introduce key vocab of different plant types. Fruit plants / wild plants / vegetable plants / evergreen trees / deciduous trees, garden plants
Model	Model putting pictures of plants into groups based on labels by talking about each plant
Do and Check	In groups, children to place pictures of plants into groups
Including scaffolding	
Apply in context	Divide page into 4. Place labels on each section. Individually, Children to draw a picture of a fruit plant, wild plant, evergreen tree and deciduous tree
Including scaffolding	Use word banks and labels as appropriate
Reflect and review	Recap all prior knowledge

observation



prediction



research



fair test



grouping



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