



Year One – 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.
- Identify and name the roots, trunk, branches and leaves of a tree.

Non statutory: Pupils should use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Where possible, they should observe the growth of flowers and vegetables that they have planted. They should become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem). Pupils might work scientifically by: observing closely, perhaps using magnifying glasses, and comparing and contrasting familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees. Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast what they have found out about different plants.

Inspiring science key ideas:

- **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.**

Working scientifically

- *Observing closely*, perhaps using magnifying glasses.
- *Comparing and contrasting* familiar plants: describing how they were able to *identify and group* them.
- *Drawing diagrams* showing the parts of different plants including trees.
- *Keeping records* of how plants have *changed over time*, for example the leaves falling off trees and buds opening; and *comparing and contrasting* what they have found out about different plants.

<u>Prior learning</u>	<u>Key Learning – What the pupils need to know</u>	<u>Vocabulary</u>
<p>In Early Years:</p> <ul style="list-style-type: none"> • Develop an understanding of growth. • Shows care and concern for living things and the environment. • Make observations of plants and explain why some things occur, and talk about changes. • • Can talk about some of the things they have observed, such as plants. 	<ul style="list-style-type: none"> ▫ Where plants come from. Most plants start growing from a seed or bulb. ▫ Plant survival. All plants need water, light and warmth to grow and survive ▫ How plants get what they need to survive. A seed produces roots to allow water to get into the plant and shoots to produce leaves to collect the sunlight. 	<p>Labelling features: plant, seedling, tree, leaf, flower, blossom, petals, fruit, root, bulb, seed, stem, branch, twig, trunk.</p> <p>Common names for plants: e.g. daisy, dandelion, oak tree, etc</p> <p>Categories of plants: e.g. deciduous, evergreen, wild plant, indoor plant, herb, weed, vegetable/fruit/salad crop, etc.</p> <p>Words related to working scientifically: Compare (same, different), observe, describe, record, group, name/identify, change</p>
<p>In Year 2:</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. 		



Year Two– Plants

National Curriculum Objectives:

- 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.

Non Statutory: Pupils should use the local environment throughout the year to observe how different plants grow. Pupils should be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.

Note: Seeds and bulbs need water to grow but most do not need light; seeds and bulbs have a store of food inside them.

Pupils might work scientifically by: observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy

Inspiring science key ideas:

- 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.

Working scientifically

- *Observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth.*
- *Setting up a comparative test to show that plants need light and water to stay healthy.*

<u>Prior learning</u>	<u>Key Learning – What the pupils need to know</u>	<u>Vocabulary</u>
<p>In Year One:</p> <ul style="list-style-type: none"> • 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. • Identify and name the roots, trunk, branches and leaves of a tree. 	<ul style="list-style-type: none"> ○ Plants usually grow from seeds and bulbs. ○ Plants need warmth, light and water to grow and survive. ○ Flowering plants make seeds to reproduce and make more plants. Some plants die after producing seeds and others live for many generations. ○ Plants are living and eventually die. <p>It is important to note that some plants reproduce without seeds but this more abstract concept will be introduced in UKS2.</p> <p>Knowledge from Year one will be recapped and built on pupils are expected to identify in Year One. In Year Two pupils are expected to describe using key vocabulary.</p>	
<p>In Year 3:</p> <ul style="list-style-type: none"> • Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. • Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. • Explain the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary from plant to plant. • Know the way in which water is transported within plants. 		



Year Three – Plants

National Curriculum Objectives:

- Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
- Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
- Explain the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary from plant to plant.
- Know the way in which water is transported within plants.

Pupils should be introduced to the relationship between structure and function: the idea that every part has a job to do. They should explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction. Note: Pupils can be introduced to the idea that plants can make their own food, but at this stage they do not need to understand how this happens. Pupils might work scientifically by: comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; discovering how seeds are formed by observing the different stages of plant life cycles over a period of time; looking for patterns in the structure of fruits that relate to how the seeds are dispersed. They might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers

Inspiring science key ideas:

- **Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.**
- **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.**
- **Investigate the way in which water is transported within plants.**
- **Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.**
- (Fertilisation occurs in the ovary of the flower – is covered in Y5 life cycles).
- (Seeds are formed as a result of fertilisation – is covered in Y5 life cycles).

Working scientifically

- *Observing closely, perhaps using magnifying glasses.*
- *Comparing and contrasting familiar plants: describing how they were able to identify and group them.*
- *Drawing diagrams showing the parts of different plants including trees.*
- *Keeping records of how plants have changed over time, for example the leaves falling off trees and buds opening; and comparing and contrasting what they have found out about different plants.*

Prior learning	Key Learning – What the pupils need to know				Vocabulary	
<p>In Year Two:</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 	How plants reproduce				How Plants make food	
	<p><u>Reproductive parts of a flowering plant</u> Flowering plants have evolved specific parts to carry out pollination, fertilisation and seed growth. Coloured and scented petals and attract insects Stamen hold pollen Stigma collect pollen Ovaries contain eggs that grow into seeds when pollen from the male moves down the stigma.</p>	<p><u>All flowers are similar but different</u> All flowering plants reproduce by pollen from the male reaching the stigma of the female. However all plants look slightly different because they pollinate in different ways. Most plants use insects to pollinate and so have colourful petals and strong scents, a few plants use the wind, these often have less colourful petals and little scent</p>	<p><u>Seed dispersal</u> Plants have evolved many different ways to disperse their seeds. Seed dispersal increase the chances of the seeds germinating and growing into mature plants Wind dispersal. Water dispersal. Animal dispersal. Explosion.</p>	<p><u>What does a seed do?</u> Seeds and bulbs need the right conditions to germinate. They contain a food store for the first stages of growth (i.e. until the plant is able to produce its own food through its leaves)</p>	<p>Plants make their own food to provide them with energy and material to grow.</p>	<p>Flowering plant, root/roots, leaf/leaves, stem/trunk, flowers, pollen, transfer, pollination, seed formation, seed, fruit, seed dispersal (explosion, wind, water, animal), transported, insects/birds/animals</p> <p>Life cycle, growth, reproduce, air, light, water, nutrients, soil, room to grow, fertiliser</p> <p>Words to describe physical characteristics of plants e.g. yellow, pale, thin, spindly, features representing good growth</p> <p>Volume (liquids)</p>
<p>In Year Five UKS2: Living Things and their Habitats – see Environment unit - Observing life cycles of plants in the environment. UKS2: Year 5 - Living things and their habitats Observing life cycles, Describe the life process of reproduction in some plants and animals, plants produce pollen from the stamen (male part of a plant) which is transferred to the stigma and then the ovary (female parts of the plant), fertilisation occurs in the ovary of the flower, seeds are formed as a result of fertilisation.</p>						
<p>In Year Six UKS2: Living Things and their Habitats see Environment unit – Classification - Plants can be grouped as flowering plants (incl. trees and grasses) and non-flowering plants (such as ferns and mosses).</p>						



The Cathedral School Of St Peter and St John R.C Primary Plants

