



Knowledge

<p>What are the functions of a flower?</p>	<p>Identifying and classifying</p> <ul style="list-style-type: none"> · Petals - usually bright to attract bees and insects so they can collect pollen to make seeds. · Seeds - able to grow and make new plants. This is called germination. · Leaves - use carbon dioxide and sunlight to make food for the plant. · Stem - carries water and nutrients from the roots to the rest of the plant. Leaves use this water to make food. · Stem - holds the plant upright so the sunlight can reach it easier. · Roots - anchor the plant in the soil. Absorbs water and nutrients from the soil for the stem to carry to the rest of the plant.
<p>What do plants need to grow?</p>	<p>Research</p> <ul style="list-style-type: none"> · Air · Water · Sunlight · Nutrients · Room to grow · Suitable temperature <p>The amount of these may vary you could discuss that cacti needs less water than other plants.</p>
<p>What factors effect the growth of plants?</p>	<p>Comparative</p> <p>Compare the effect of different factors in plant growth (e.g. the amount of water, light and fertiliser) Discuss what would make this a fair test.</p>
<p>How is water transported with in plants</p>	<p>Observing over time</p> <ul style="list-style-type: none"> · Water is absorbed from the soil by the roots. · It is then transported from the roots to the stem and then to the rest of the plant. <p>Place white carnations in dyed water to observe how plants transports water.</p>
<p>How do flowers help in the life cycle of flowering plants?</p>	<p>Observing over time</p> <ul style="list-style-type: none"> · The flowers job is to create seeds so that new plants can grow. · Pollination occurs when pollen from the anther is transferred to the stigma by bees and other insects. · Pollen travels down and meets the ovule when this happens seeds are formed this is called fertilisation. · Seeds are then dispersed so the germination can begin again. <p>Discover how seeds are formed - Observe plant lifecycles</p>
<p>How are seeds dispersed?</p>	<p>Research</p> <p>Dissect fruits / flowers to observe their structure and use this to explain how seeds are dispersed.</p> <ul style="list-style-type: none"> · Wind (helicopter seeds, dandelion) · Explosion (poppy) · Water (coconut) · Animals (black berry / cherry)
<p>How are plants fertilised?</p>	<p>Identifying and classifying</p> <p>Dissect a flower and identify each of the different parts that help with fertilisation.</p>
<p>What colour flowers do pollinating insects prefer?</p>	<p>Pattern seeking</p> <p>Go to an area that has flowers and children to watch / record which flowers are visited.</p>



Vocabulary

Absorb	Soak up or take in.
anther	The part of a stamen that produces and releases the pollen.
Carbon dioxide	A gas produced by animals and people breathing out.
Climate zone	Sections of the earth that are divided according to the climate. There are 3 main climate zones polar, temperate and tropical.
deciduous	Trees that lose their leaves in the autumn every year.
dispersed	Scattered, separated or spread through a large area.
dissect	To carefully cut something up in order to examine it.
Ever green	A tree or bush which has green leaves all year round
Fertilisation	In plants where pollen meets the ovule to form a seed.
flower	The part of plant that is often brightly coloured and grows at the end of the stem .
Fruit	Something that grows on a tree or a bush containing seeds or a stone covered by a substance you can eat.
Germination	If a seed germinates it starts to grow
Healthy	Well and not suffering from illness.
lifecycle	The series of changes that an animal or plant passes through from the beginning of its life until its death.
Nutrients	Substances that help plants and animas to grow.
Ovule	A small egg.
pollen	A fine powder produced by flowers. It fertilisers other flowers of the same species so that they produce seeds.
Pollination	To pollinate a plant or tree means to fertilise it with pollen. This is often done by insects.
roots	The parts of a plant that grow under the ground.
Stigma	The top of the centre part of the flower which takes in pollen.
Vegetation	Plants trees and flowers.
Wild	Animals or plants that live or grow in natural surroundings and not looked after by people.

Hurst Hill Primary School Knowledge Organiser

Science

Plants

Year 3

Autumn 2

Biology

Biology is the science that understands living organisms, including animals and plants.

Plants

Statutory requirements

Pupils should be taught to:

- 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.

