St. Martin's Primary School - Science

Topic: Plants	Year: 3	Strand: Biology

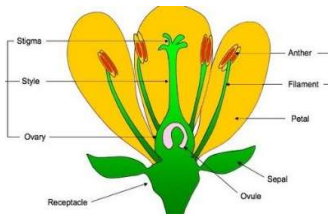
What should I already know?

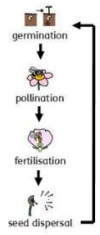
- Which things are living and which are not.
- A variety of **common wild** and **garden plants**, including **deciduous** and **evergreen trees** and how to identify them.
- The **structure** of **common flowering plants**, including **trees** (including **leaves, flowers, fruits, roots, bulbs, seeds, stem, trunks** and **branches**)
- **Seeds** and **bulbs** grow into **mature** plants
- **Plants** need water, light and a suitable **temperature** to grow and stay **healthy**.
- Different **vegetation** belts and **climate zones** around the world
- **Plants** and animals depend on each other to survive.

What will I know by the end of the unit?

The functions of the different parts of flowering plants.	• The **petals** on a **flower** are usually bright - this is to attract bees and other insects so that they can collect **pollen** to make **seeds.** • The **seeds** are then able to grow to make new **plants**. This is called **germination.** • **Leaves** use **carbon dioxide** and sunlight to make food for the **plant**. • The stem carries water and other nutrients from the roots to the rest of the plant. Leaves use this water to make food. • The **stem** also helps to keep the **plant** upright so that the sunlight can reach it easier. • The **roots** help to 'anchor' the **plant** in the **soil**. They also **absorb** water and **nutrients** from the **soil** for the **stem** to carry to the rest of the **plant**.
What do different plants need to grow?	• air • water • sunlight • **nutrients** from the **soil** • room to grow • suitable **temperature** The amount of each of these may vary depending on the type of **plant**. For example, cacti need less water than other **plants**.
How is water transported within plants?	• 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**.
How do flowers help in the life cycle of flowering plants?	• The **flower's** 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. • The **pollen** then travels down and meets the **ovule.** • When this happens, **seeds** are formed - this is called **fertilisation.** • **Seeds** are then **dispersed** so that **germination** can begin again.

Diagrams





Vocabulary

absorb	soak up or take in
anther	the part of a **stamen** that produces and releases the **pollen**
branches	parts that grow out from the tree trunk and have **leaves**, **flowers**, or **fruit** growing on them
bulb	a root shaped like an onion that grows into a **flower** or **plant**
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 three main climate zones; polar, temperate and tropical.
deciduous	a **tree** that loses its 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 scientifically
evergreen	a **tree** or bush which has green **leaves** all the year round
fertilisation	in **plants**, where **pollen** meets the **ovule** to form a **seed**
fertiliser	a substance that is added to soil in order to make **plants** grow more successfully
flower	the part of a **plant** which is often brightly coloured and grows at the end of a **stem**
flowering	**trees** or **plants** which produce **flowers**
fruit	something which grows on a **tree** or bush and which contains **seeds** or a stone covered by a substance that you can eat
function	a useful thing that something does
garden	a piece of land next to a house, with **flowers**, vegetables, other **plants**, and often grass
germination	if a **seed germinates** or if it is **germinated**, it starts to grow
healthy	well and not suffering from any illness
leaf / leaves	the parts of a tree or plant that are flat, thin, and usually green
life cycle	the series of changes that an animal or **plant** passes through from the beginning of its life until its death
mature	When something **matures**, it is fully developed
nutrients	substances that help **plants** and animals to grow
ovule	a small egg
petal	thin coloured or white parts which form part of the **flower**
plant	a living thing that grows in the earth and has a **stem, leaves**, and **roots**
pollen	a fine powder produced by **flowers**. It **fertilises** 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
seed	the small, hard part from which a new **plant** grows
stem	the thin, upright part of a **plant** on which the **flowers** and **leaves** grow
stigma	the top of the centre part of a **flower** which takes in **pollen**
structure	the way in which something is built or made
temperature	a measure of how hot or cold something is
transported	taking something from one place to another
tree	a tall **plant** that has a hard **trunk**, **branches**, and **leaves**
trunk	the large main **stem** from which the **branches** grow
vegetation	**plants**, **trees** and **flowers**
wild	animals or **plants** that live or grow in natural surroundings and are not looked after by people

Investigate!

- Compare the effect of different factors in **plant** growth (e.g. the amount of water, the amount of light and the amount of **fertiliser**). Discuss how to make this a fair test.
- Place white carnations in dyed water to observe how plants **transport** water.
- Discover how **seeds** are formed by observing **plant life cycles**.
- **Dissect fruits** to observe their structure and use this to explain how **seeds** are **dispersed**.
- **Dissect** a **flower** and identify each of the different parts that help with **fertilisation.**

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Question 1: Tick **ONE** thing all the seeds **must** have to **start** to grow.	Start of unit:	End of unit:
light		
water		
salt		
soil		

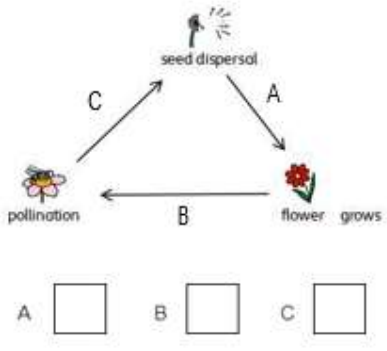
Question 2: Which of these best describe the function of roots (ticktwo)?	Start of unit:	End of unit:
to make seeds		
to absorb water and nutrients		
to anchor the plant in the ground		
to attract bees and insects		

Question 3: Write down the numbers 1-4 to show the order in which parts of a plant grow.	Start of unit:	End of unit:
leaves grow		
the stem grows		
roots grow		
the flower grows		

Question 4: Which part of the plant makes new food?	Start of unit:	End of unit:
leaf		
flower		
roots		
stem		

Question 5: A flower has just grown on a plant. What is the nextstage of the life cycle?	Start of unit:	End of unit:
fertilisation		
pollination		
germination		
seed dispersal		

Question 6: A stick of celery is placed in red water. What willhappen next?	Start of unit:	End of unit:
nothing		
it will grow roots		
the leaves will turn red		

Question 7: This diagram shows the life cycle of a plant. Which box shows where germination happens?	Start of unit:	End of unit:
		

Question 8: Some wild flowers have petals with bright colours because…	Start of unit:	End of unit:
they are pretty		
to attract birds and bees		
they have ALL been placed in dye		
the sun makes them bright		

Question 9: Birds and insects are important for plant growth because they help with….(tick two):	Start of unit:	End of unit:
fertilisation		
pollination		
germination		
seed dispersal		

Question 10: Draw lines to match eachpart of the plant to its function:		Start of unit:	End of unit:
roots	create seeds		
leaves	absorb water and minerals and keep plants 'anchored'		
stems	make new food for the plant		
flowers	carry water and minerals to the plant and keep it upright		