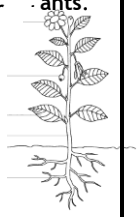
# Weston Turville CE School - Science

| Topic: Plants | Year: 3 | Strand: Biology |
|---|---|---|

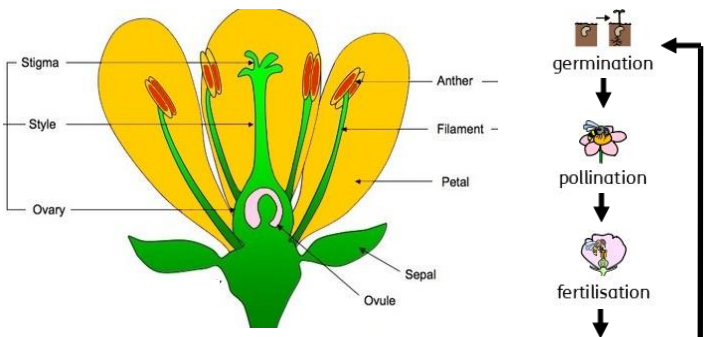
## What should I already know?

- 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 **flower** ants. **seed** **leaf** **stem** **roots**  | • 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.**<br>• The **seeds** are then able to grow to make new **plants**. This is called **germination.**<br>• **Leaves** use **carbon dioxide** and sunlight to make food for the **plant.**<br>• The **stem** carries water and other **nutrients** from the **roots** to the rest of the **plant. Leaves** use this water to make food.<br>• The **stem** also helps to keep the **plant** upright so that the sunlight can reach it easier.<br>• 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<br>• water<br>• sunlight<br>• **nutrients** from the **soil**<br>• room to grow<br>• suitable **temperature**<br>  <br>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.**<br>• 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.<br>• **Pollination** occurs when **pollen** from the **anther** is transferred to the **stigma** by bees and other insects.<br>• The **pollen** then travels down and meets the **ovule.** When this happens, **seeds** are formed - this is called **fertilisation.**<br>• **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 **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. |
| common | something that is found in large numbers or it happens often |
| 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** |
| | |
| 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 |
| | |
| 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 | Moved or taken 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 what would 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 | | |

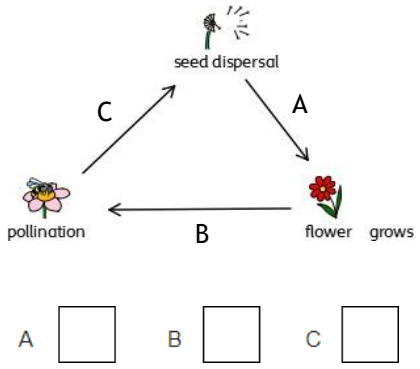
| Question 2: Which of these best describe the function of roots (tick two)? | Start of unit: | End of unit: |
|---|---|---|
| to make seeds | | |
| to absorb water and nutrients | | |
| to anchor the plant in the ground | | |
| to attract bees and insects | | |

| 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 next stage 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 will happen 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 each part of the plant to its function: | Start of unit: | End of unit: |
|---|---|---|
| roots<br>leaves<br>stems<br>flowers<br><br>create seeds<br>absorb water and minerals and keep plants 'anchored'<br>make new food for the plant<br>carry water and minerals to the plant and keep it upright | | |