

Knowledge Organiser  
**Subject: Science    Unit: Plants**

**Overview:**

During this sequence of learning, pupils will observe and describe how seeds and bulbs grow and their requirements for staying healthy.

**What should I already know?**

- Plants have different parts such as stem, leaves and roots.
- Some trees lose their leaves in winter (deciduous) and some keep their leaves throughout the year (evergreen).
- Different plants and trees by sight such as an oak tree, birch tree, sunflower and a dandelion.

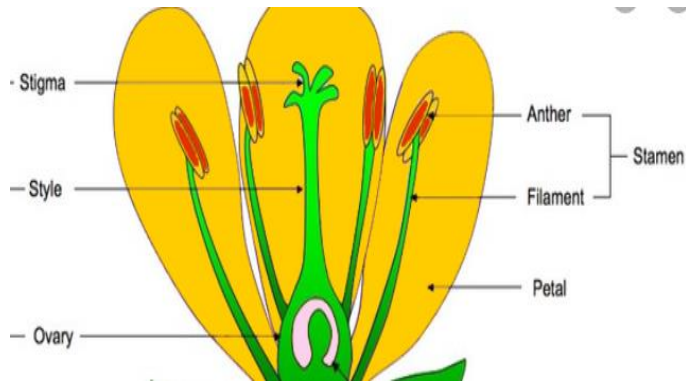
**What will I know by the end of the unit?**

- How to plant a seed and give it the correct conditions for germination and growth.
- Seeds and bulbs need to be buried underground in soil and under the right conditions.
- The process when a seed starts to grow is germination.
- Plants need water and warmth to germinate.
- A plant has a life cycle which normally starts as a seed. This then germinates and begins to grow. At this stage it is called a seedling. The plant then grows until it becomes an adult plant. At this stage it can then reproduce.
- Plants that are deprived of light, food or air will not grow and will die.
- Plants produce offspring that grow into adults.
- All living things reproduce and have offspring.
- Different parts of the plant have more than one function (job).
- The roots collect the water and nutrients from the soil and hold the plant firmly in place.
- The stem transports the water and nutrients to other parts of the plant and holds the plant upright.
- The leaves are where the food is made by a process that requires light, water and carbon dioxide.
- The flower is where pollination occurs - the petals are bright and scented to attract the insects.
- Different plants have different requirements for growth e.g. a cactus will grow in the sand with little water whereas a sunflower plant wouldn't.
- If too many plants are grown in the same area this can affect how well they grow, as they have to compete for water and nutrients.
- Pollination occurs mainly through insects when they are attracted to the flower. Whilst they are trying to get nectar, pollen sticks to their body which is then transported to another plant. Once pollen has been transferred between plants, the plant can then produce seeds which can grow into new plants.
- Seed dispersal happens in a number of ways including by the wind, water and also just falling from the plant (gravity). Animals like birds often eat berries which are then passed through their digestive system and end up back in the ground.

**Vocabulary:**

Temperature	How warm or cold something or somewhere is.
Life cycle	The stages of change that something goes through.
Bulb	A plant bud that begins to grow underground.
Seed	The small part of a flowering plant that grows into a new plant.
Survival	Keeping alive.
Adult	Fully grown up.
Seedling	A young plant that has germinated from a seed.
Predict	Say what you think will happen.
Reproduction	When living things make a new living thing of the same kind.
Nectar	The sweet, sticky liquid given off by plants.
Anther	The part of the flower that produces and holds pollen.
Ovary	The part of the flower where the seeds are stored.
Petal	The outer part of a flower that is brightly coloured and scented to attract insects.
Pollen	Looks like a yellow dust and is needed to fertilise plants.
Stigma	The part right in the middle of the flower that receives the pollen during pollination.





Style

A stalk that connects the stigma and the ovary.

Stamen

A part of the flower that consists of the anther and the filament.

Function

The job that something has.

Exchange

When something is given in return for something else.

Seed dispersal

The movement of seeds from the parent plant to another area.

Pollination

When pollen is transferred from one plant to another meaning it can then produce seeds.