

## Chapter 15 - Plant Reproduction



## Types of Plant Reproduction

**Asexual** - no sex cells involved, e.g. Strawberry runners

**Sexual** - sex cells involved (pollen and egg)

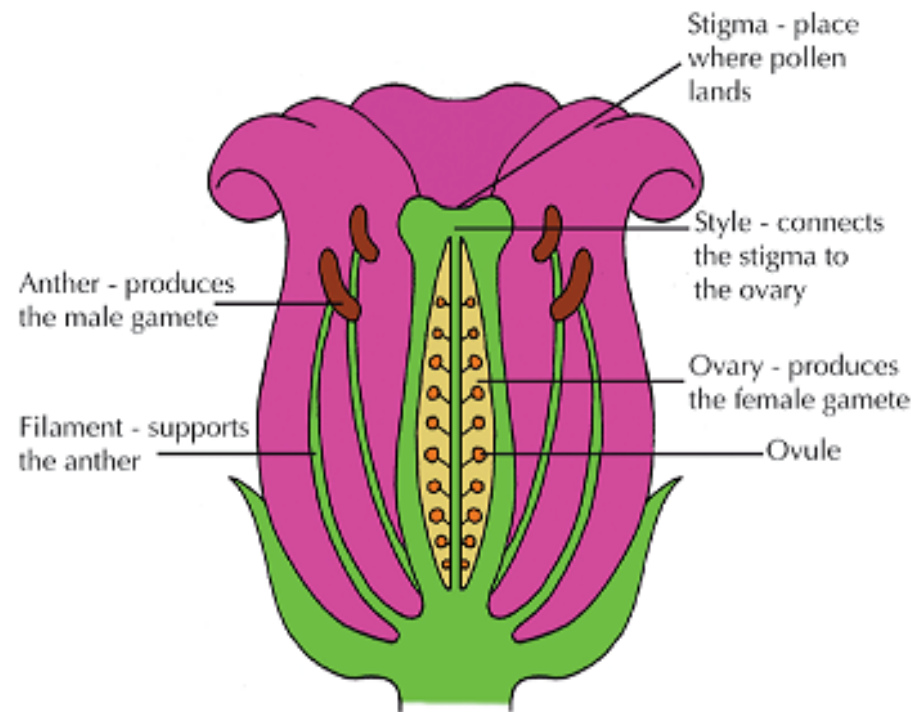
Bees, insects and birds carry out **pollination** for many flowering plants.



Insects see Ultra Violet light and flowers look very different for them. They are attracted by the smell and taste of nectar and markings on the flower helps guide them.

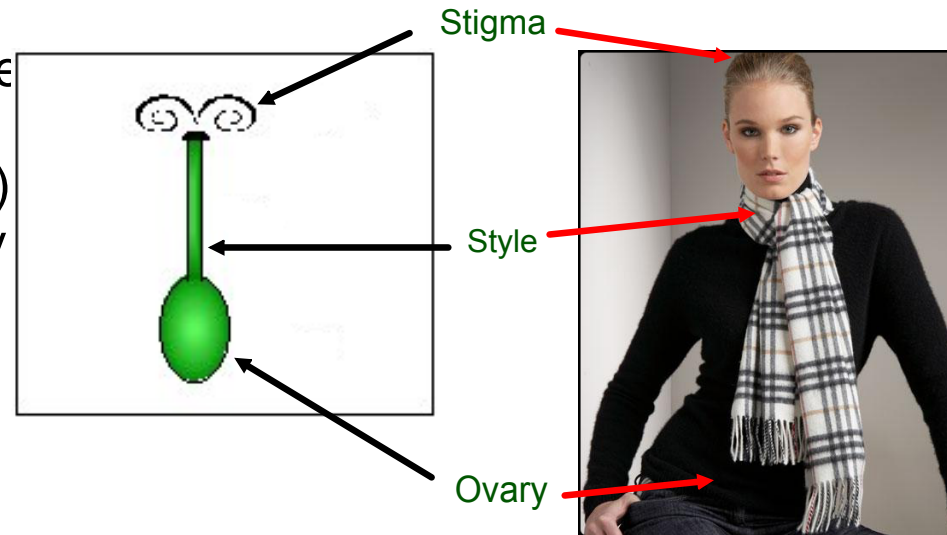


# Parts of a Flower



# Plant Parts

The **female part** is in the centre and called the **Carpel**. It has 3 main parts, the (sticky) stigma, the style and the ovary



The **male part** is on the outside and called the **Stamen**. It has 2 main parts, the filament and the anther. (Produces pollen)



A lily showing stamen and anthers all covered with pollen.

# Plant Reproduction

## 1. **Pollination -**

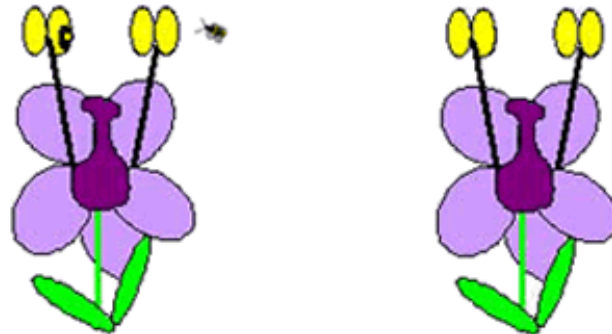
**This is the transfer of pollen from the stamen to the carpel.**

Pollination is done by wind or insects.

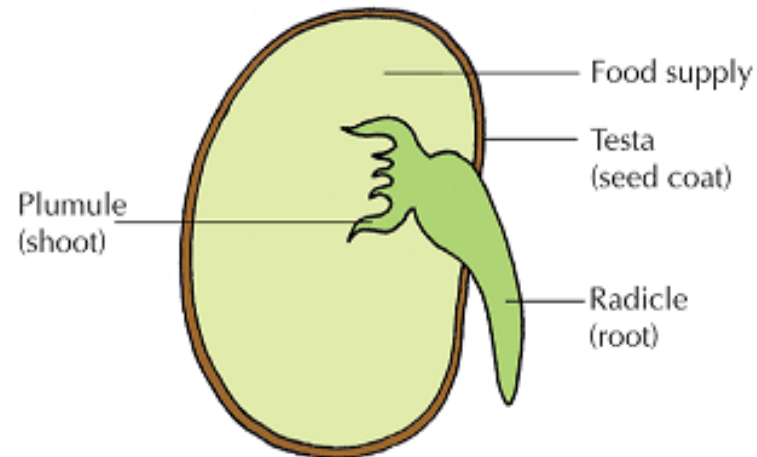
Plants that rely on insects have colourful flowers with attractive smells and nectar.

## 2. **Fertilisation - is the fusion between male and female gametes to produce a zygote.**

The male sex cell is in the pollen grain and the female sex cell, the egg is in the carpel. The pollen makes a **pollen tube** so it can travel to the ovary and fertilise the egg to make a zygote.



3. **Seed and Fruit Formation**- the fertilised egg becomes a seed.  
The ovary around the seed grows into a fruit  
This protects the seed and helps with seed dispersal.

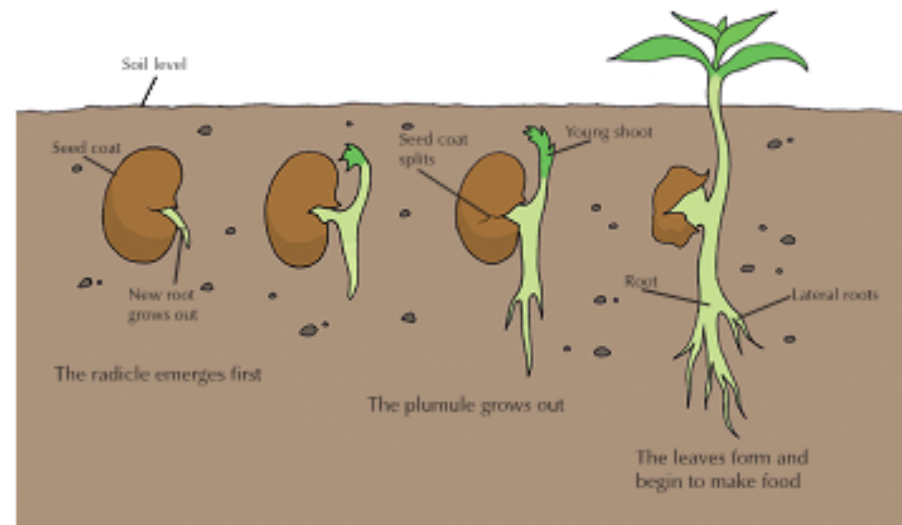


4. **Seed and Fruit Dispersal**- the dispersal of seeds and fruit  
helps prevent competition with the parent plant  
The seeds have a better chance of germinating if they grow  
away from the parent.

5. **Germination**- the growth of a seed after being dormant

The seeds in the soil need to be able to grow without light.  
The seeds begin to grow when they have,

- (i) **Heat** - to avoid growing in the winter
- (ii) **Oxygen** - needed for Respiration
- (iii) **Water** - releases enzymes for growth



**Sunlight is NOT required for germination**

## Seed/Wind Dispersal

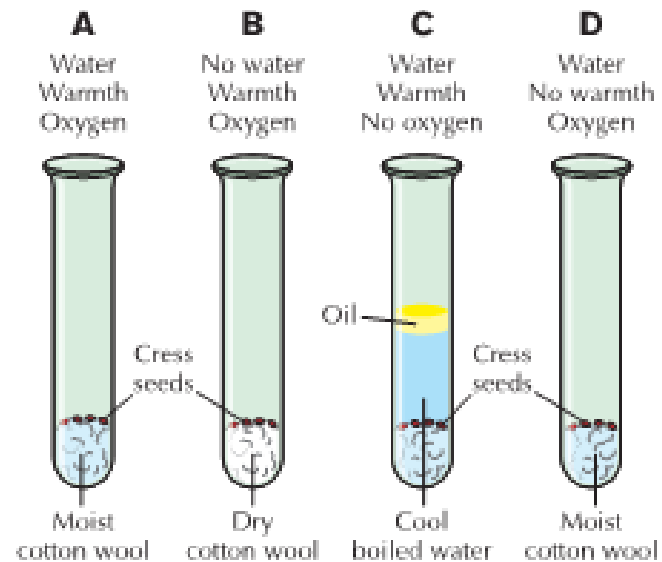
Method	Example	Feature
Wind	Dandelion	Light seeds
Animal	Goose Grass	Hooks
Water	Water Lily	Floats
Self	Peas	Explode





## Mandatory Experiment

### Test for the 3 conditions of Germination



Which one will germinate and why?