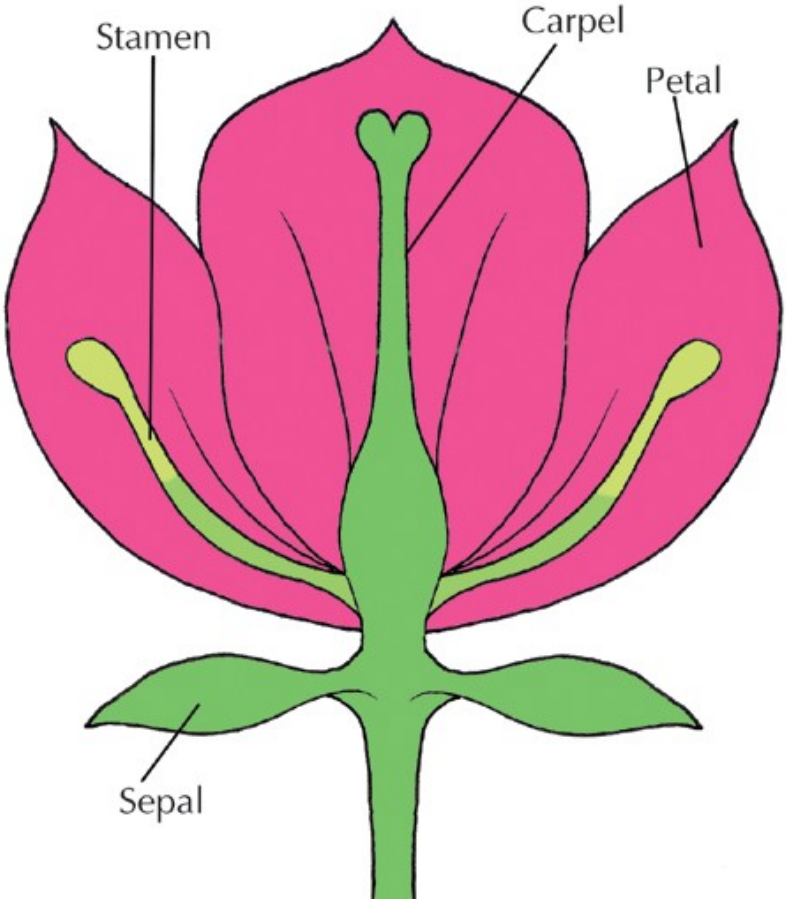
Chapter 16. Plant Reproduction

Plants reproduce by using their flowers. The male cell of one flower gets carried to the female cell of another, they fuse and produce a new cell, (a seed).



Stamen: male part of the flower, consists of anther and filament

Anther: produces the pollen (male cell)

Filament: Supports the anther.

Carpel: female part of the flower, consists of stigma, style and ovary

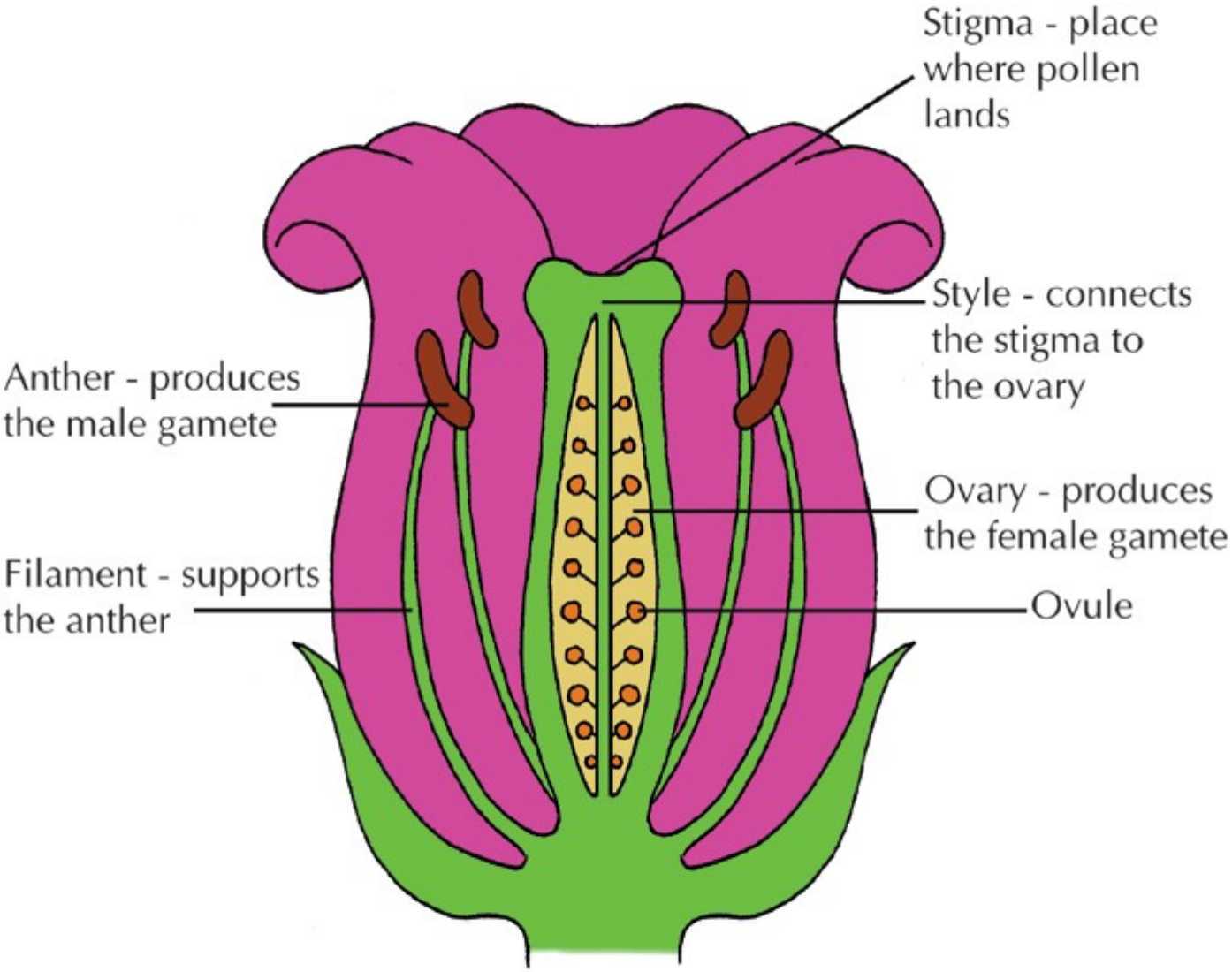
Stigma: place where the pollen lands

Style: connect the stigma to the ovary

Ovary: produces the female egg.

Sepal: Protects the flower before it blooms

Nectary: Attracts insects to the flower.


Stigma - place where pollen lands
Style - connects the stigma to the ovary
Anther - produces the male gamete
Ovary - produces the female gamete
Filament - supports the anther
Ovule

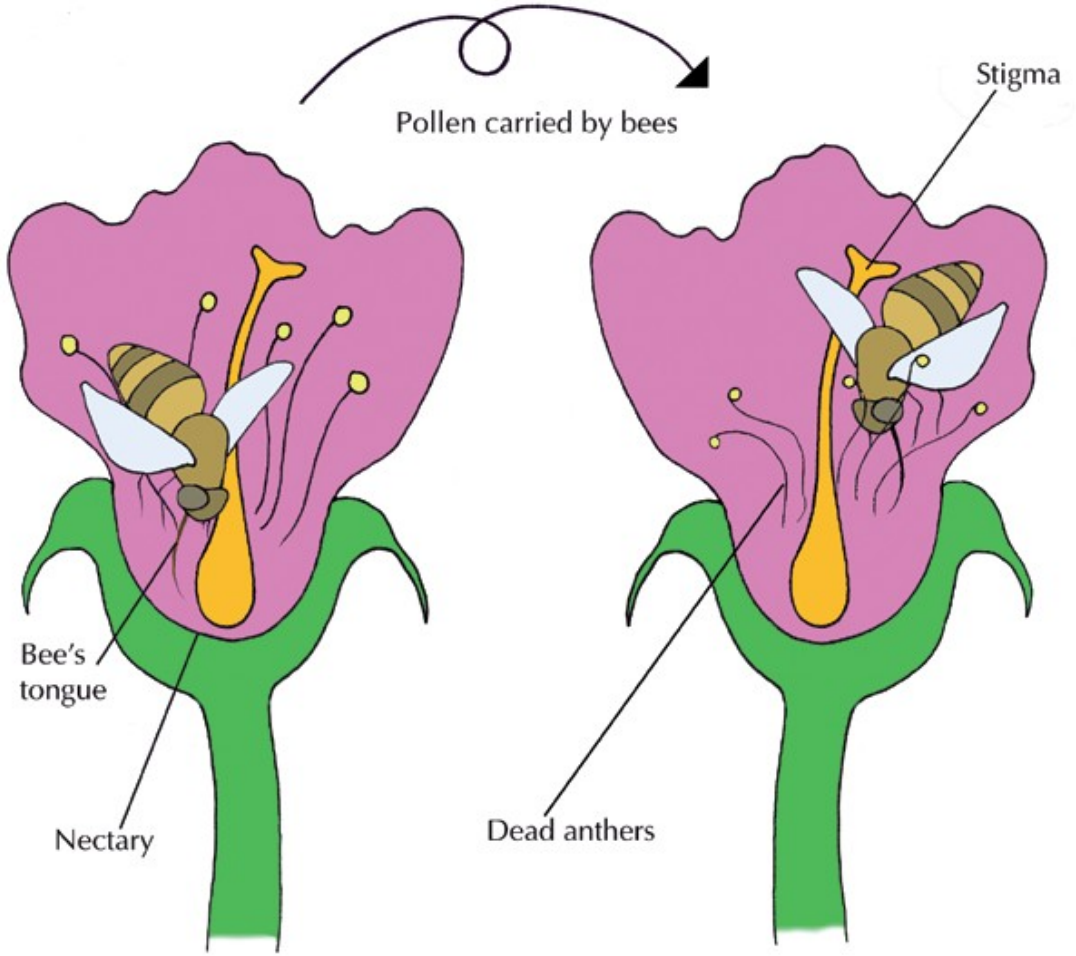
5 stages of reproduction in a flowering plant.

- Pollination
- Fertilisation
- Seed and fruit formation
- Seed dispersal
- Germination

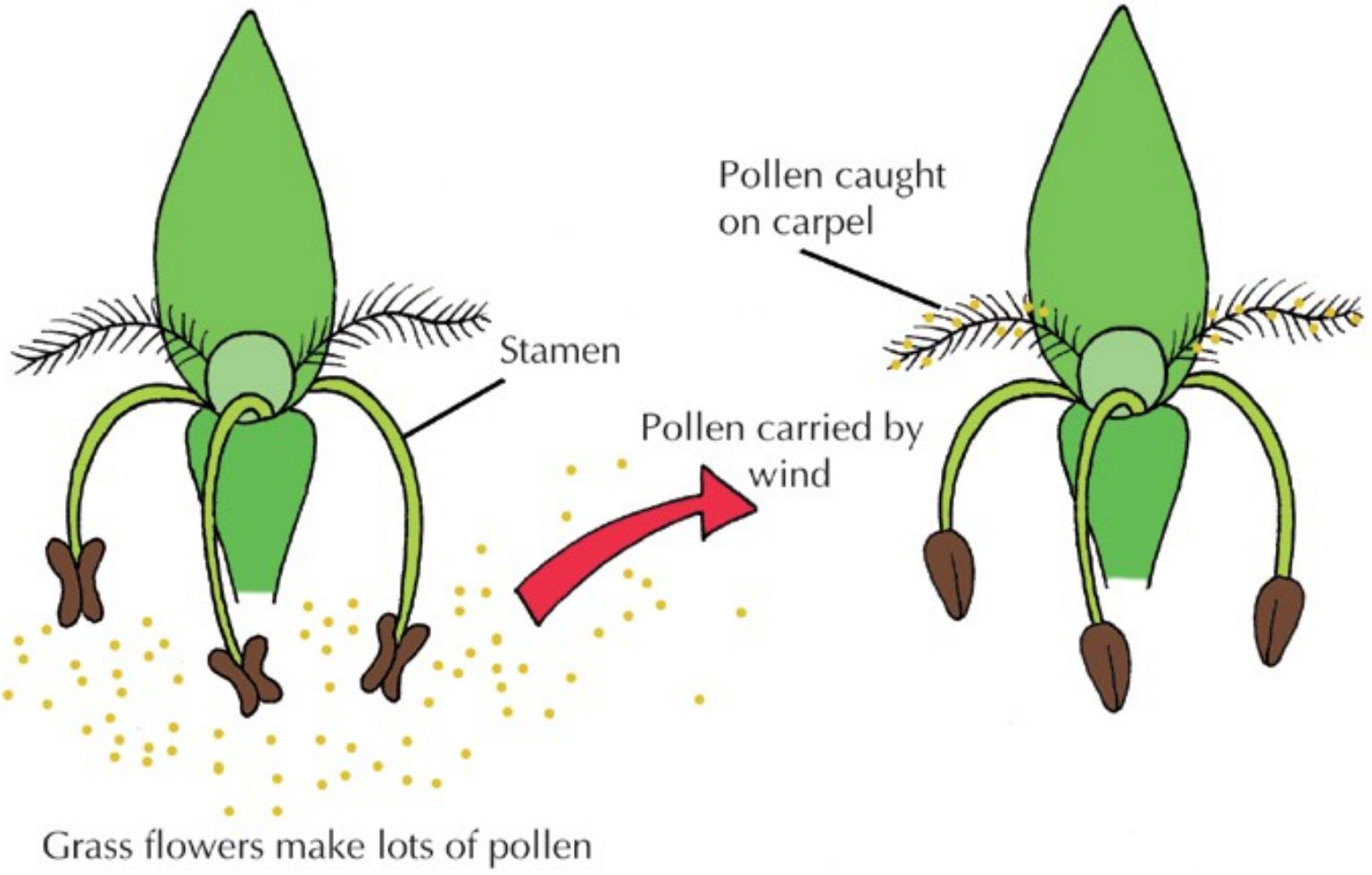
1. Pollination

Definition: Pollination is the transfer of pollen from the stamen (anther) of one plant to the carpel (stigma) of another.

Pollen is carried in 2 ways, insects and wind. Some flowers attract insects to them through their scent and colour. When insects land on the flower, pollen sticks to them and the insects carry the pollen off to another flower.



In other cases, the stamen of some flowers hang out and the wind blows the pollen of them. This pollen flies through the air and lands on other flowers.

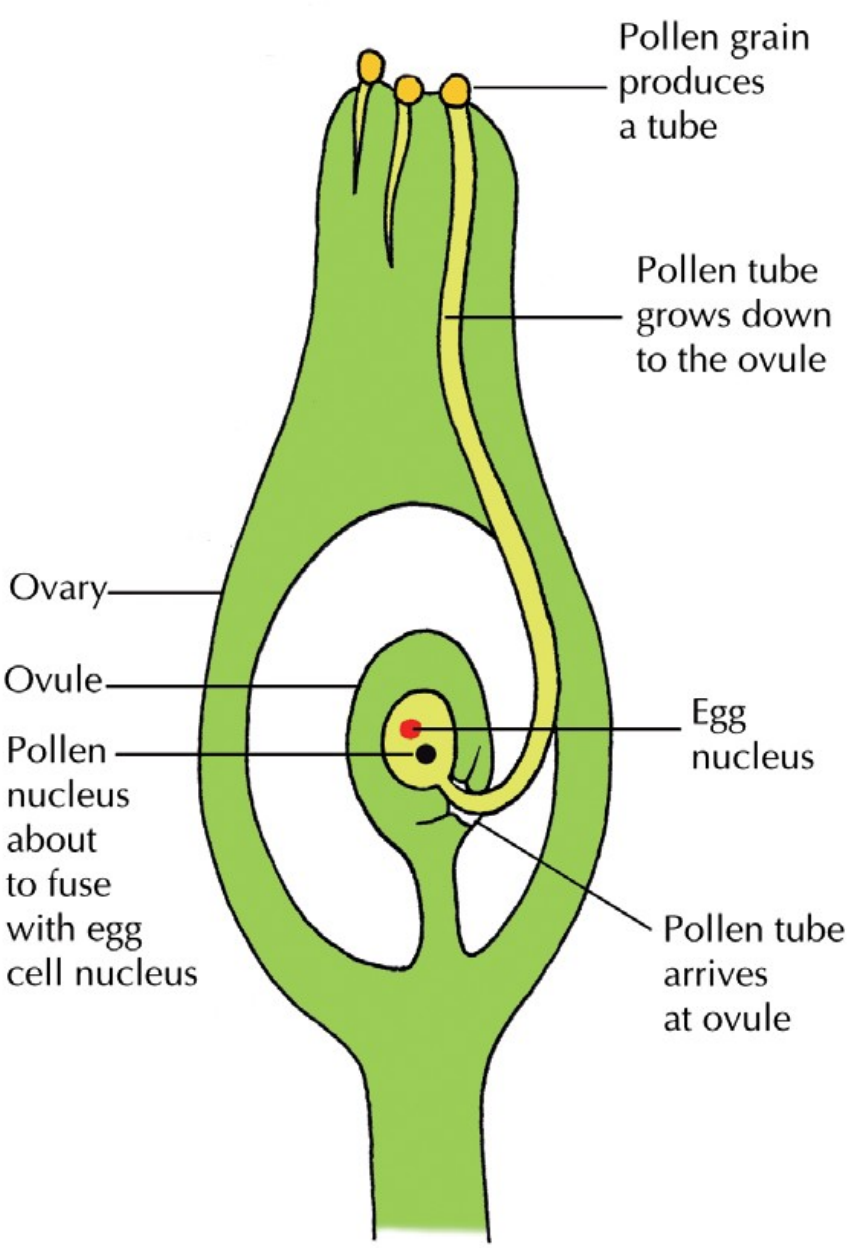


2. Fertilisation

Definition: Fertilisation is the fusion of the male gamete with the female gamete to form a zygote.

When pollen lands on the stigma, a pollen tube grows.

The male gamete of the pollen travels into the ovary and fuses with the female gamete (egg cell or Ovule) to form a seed.



3. Seed and Fruit Formation.

The fertilised egg cell grows into a seed and the ovary swells to become the fruit. Seeds have a hard outer coat for protection but the fruit helps to protect them too. The fruit also helps the seeds to get carried away.

4. Seed Dispersal.

Seeds have to get carried away from their parent plant to avoid competition for space. There are 4 ways seeds can be dispersed.

a. Wind dispersal:- Dandelions and sycamores depend on wind to carry their seeds away.

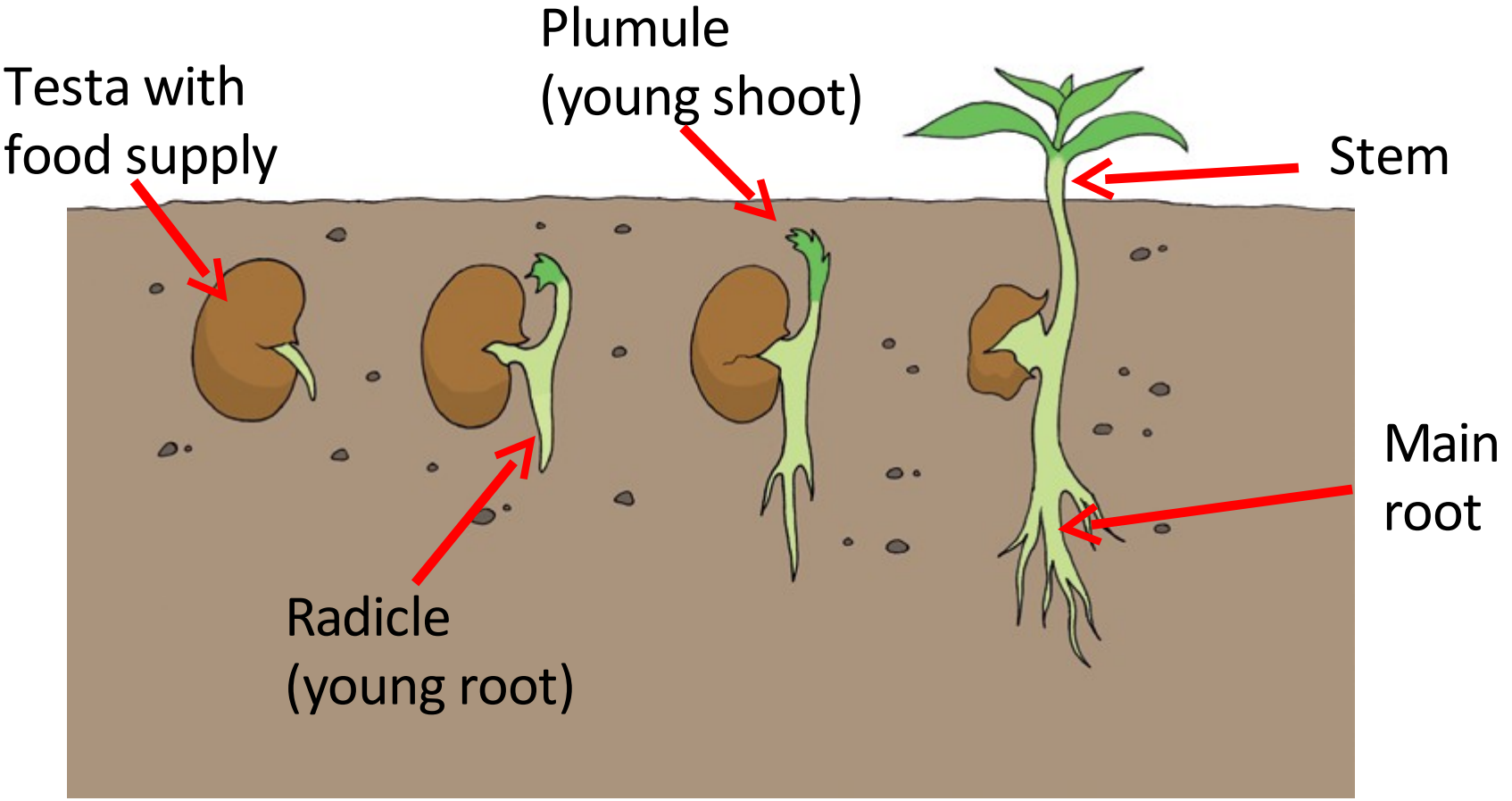
b. Animal:- Animals eat the fruit (e.g. Berries) and excrete the unharmed seed.

c. Water:- some seeds float on water to a new destination.

d. Self-dispersal:- pea-pods explode and scatter their own seeds

5. Germination

Definition: Germination is the growth of a seed into a new plant.



Seeds need **water, oxygen** and **heat** to germinate.