

MODULE 5

HOW DO ORGANISMS REPRODUCE?

SUB: SCIENCE

CLASS 10

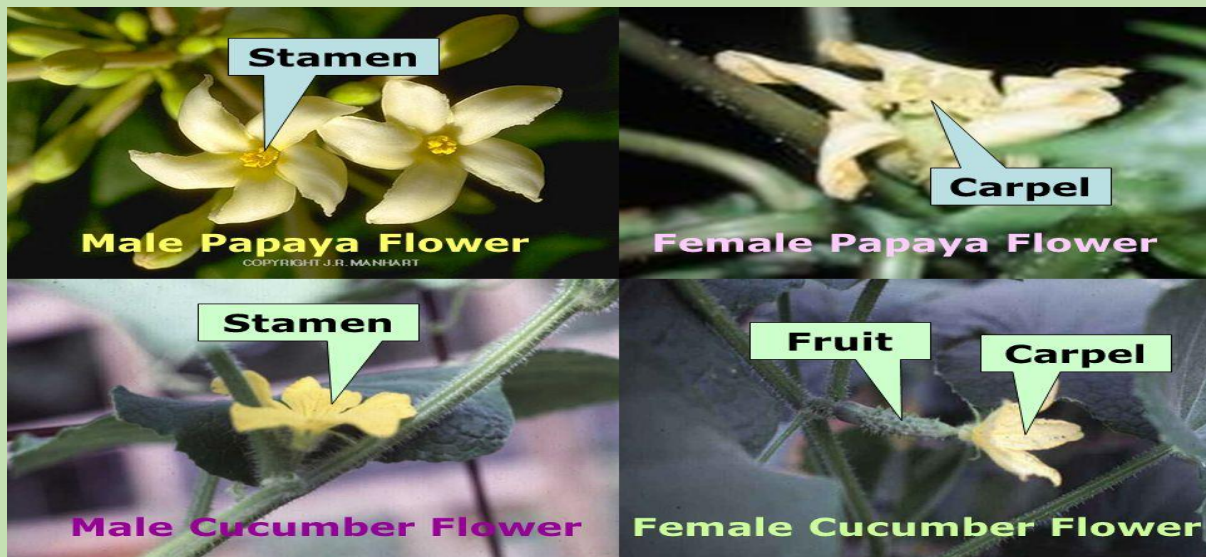
Key points.

1. Types of flowers
2. Pollination
3. Fertilisation
4. Seed

TYPES OF FLOWERS

UNISEXUAL FLOWERS: The flowers which have either stamen or pistil eg: Papaya

BISEXUAL FLOWERS: The flowers which have both stamen and pistil. Eg: Mustard

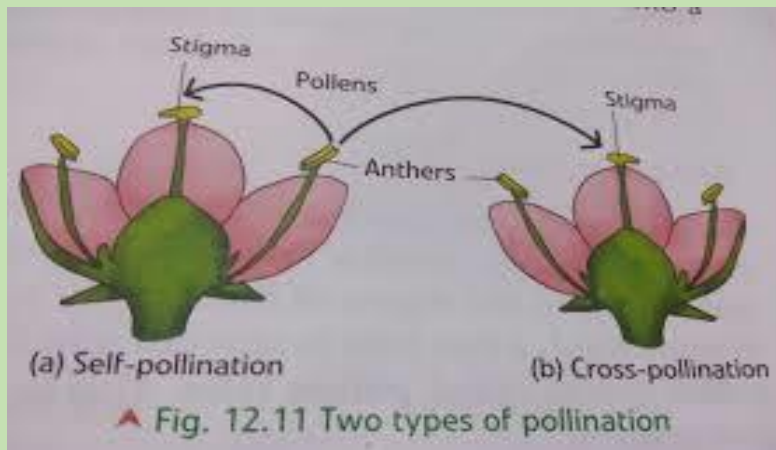


POLLINATION

Transfer of pollen grains from anther to stigma of a flower.

TYPES OF POLLINATION

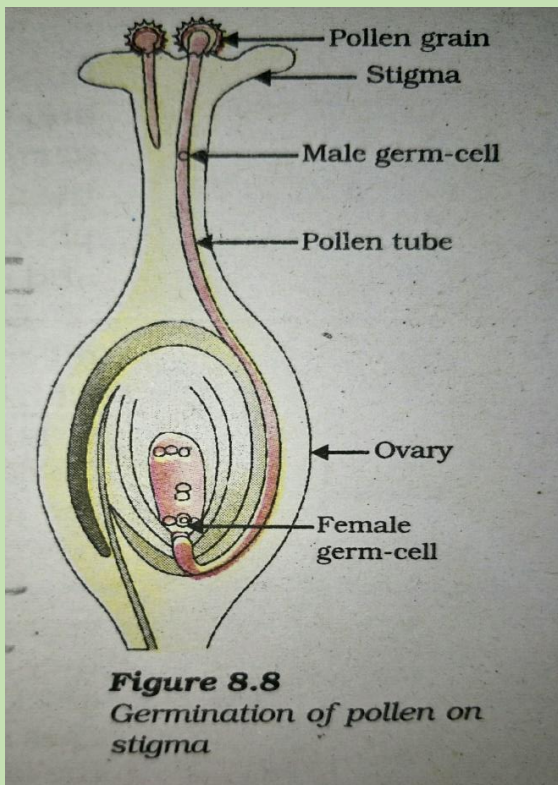
- A) SELF POLLINATION: Transfer of pollen grain from anther to the stigma of same flower.
- B) CROSS POLLINATION: Transfer of pollengrain from anther to stigma of a different flower of the same kind.



AGENTS OF POLLINATION: wind, water, insects. Etc.

FERTILISATION:

1. After pollination pollen grain lands on stigma.
2. Pollen tube germinates from pollen grain and carries male gamete.
3. Pollen tube penetrates through the stigma and travels through the style to reach the germ cells which are in the ovary(inside ovule)
4. Male and female gametes fuse with each other to form zygote.
5. Zygote divides several times to form an embryo within the ovule.
6. Embryo is capable of growing into a new plant.



POST FERTILISATION CHANGES

1. Sepals, petals, stamen style and stigma shrivel and fall off.
2. Ovary grows rapidly and ripens to form a fruit.
3. The ovules develop a tough coat and gradually gets converted into a seed.
4. Zygote divides repeatedly to form an embryo.

SEED

A mature seed is made up of two important parts.

- a) seed coat b) embryo.

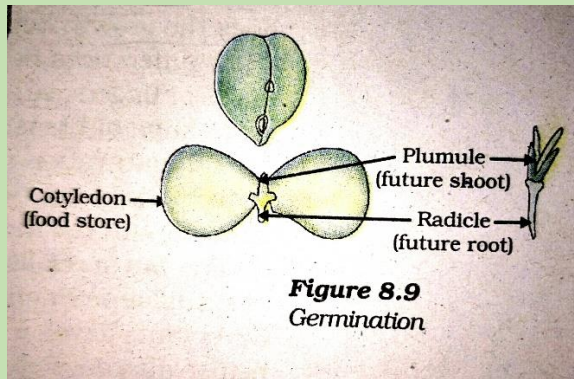
Seed coat is hard layer which protects the internal parts of seed.

Embryo has

- i) radicle- it forms future root
- ii) plumule- it forms future shoot

iii) embryonic axis to which one or two cotyledons are attached. If two cotyledons are attached, seed is known as dicot seed.

Embryo develops into seedling under appropriate conditions. This is known as germination.



Reference: NCERT book class 10 Science

Diagrams: google web page