

# NCERT Class 7 Science Chapter 12 Reproduction in Plants: Notes

## Reproduction

The process of creating a new organism from an existing organism (or the parent) within the same species is called reproduction. In plants, flowers are the reproductive parts whereas the roots, stems and leaves of the plants are considered as vegetative parts of a plant.

There are two modes of reproduction: **Asexual reproduction and Sexual reproduction.**

### Asexual Reproduction

Asexual reproduction is a type of reproduction in which only one parent produces a child. The offspring is physically and genetically identical to its parent.

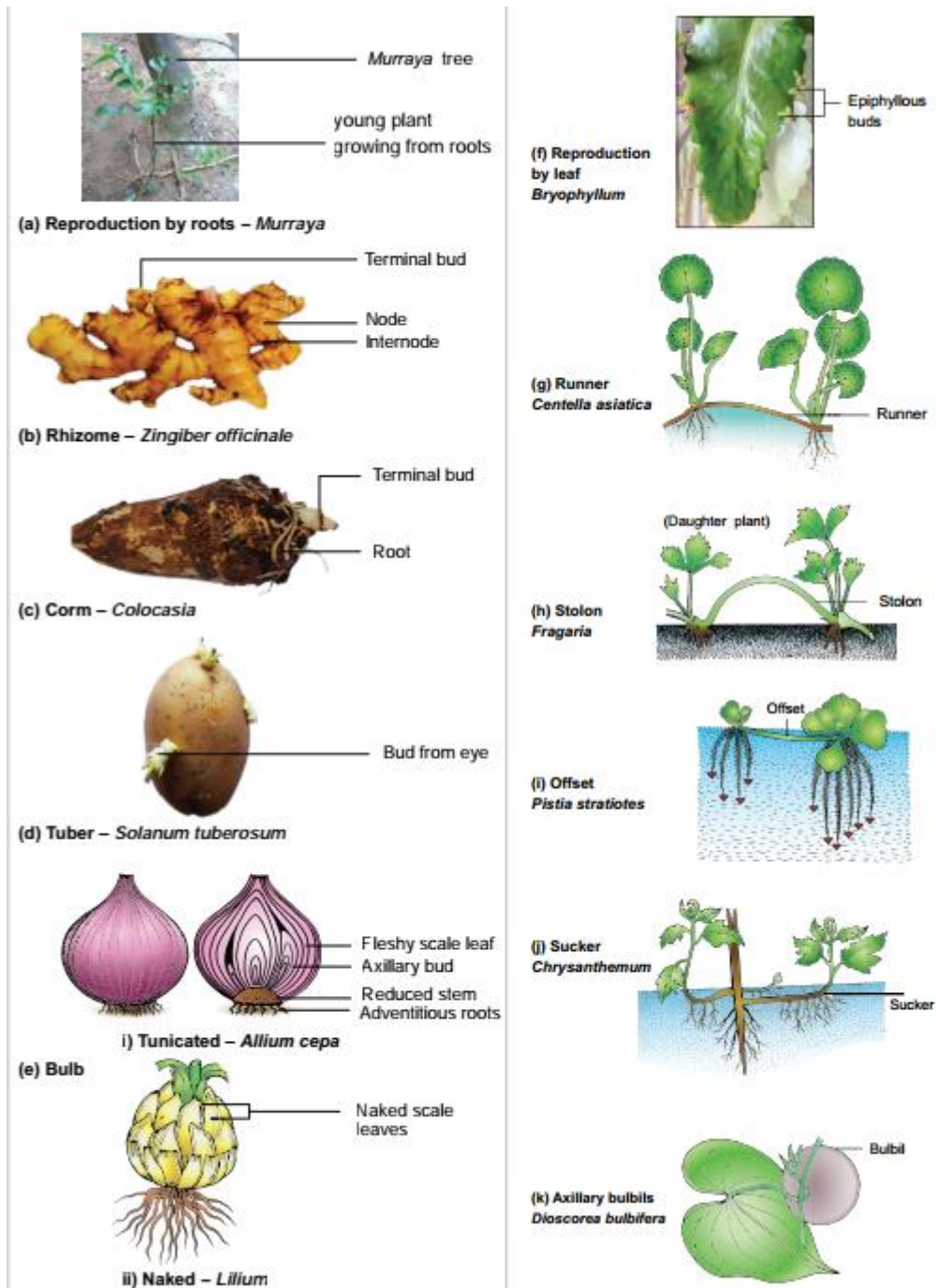
There are four types of asexual reproduction:

1. Vegetative propagation
2. Budding
3. Fragmentation
4. Spore formation

These are discussed below.

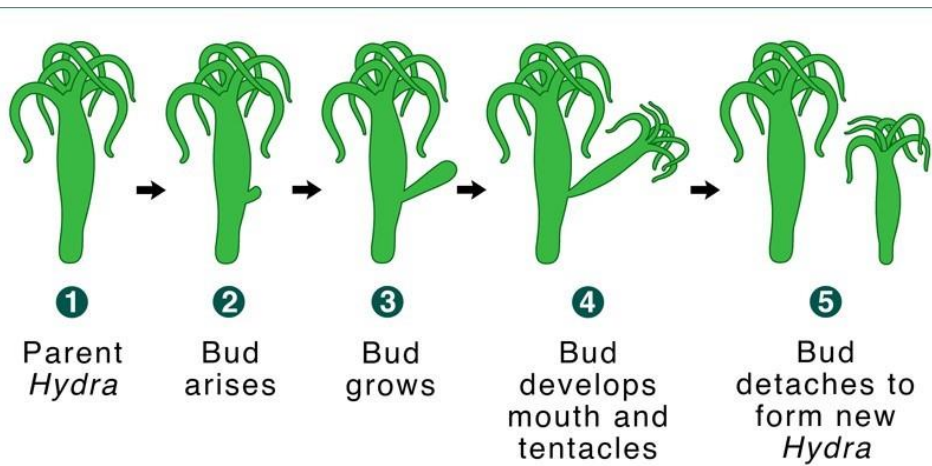
#### (1) Vegetative Propagation

It is a type of asexual reproduction in which new plants are produced from roots, stems, leaves and buds. Since reproduction is done here through the vegetative parts of the plant, it is known as **vegetative propagation**. Eg: Bryophyllum



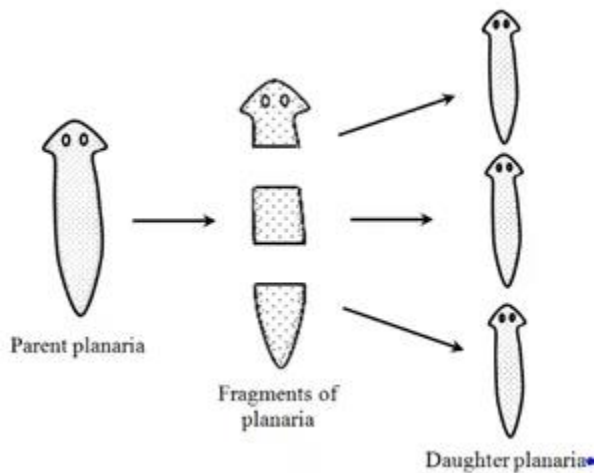
## (2) Budding

The act of developing an individual from the buds that form on the parent body is known as **budding**. The parent organism provides the bud with food and protection. The bud separates from the parent when it is completely formed. Eg: Hydra



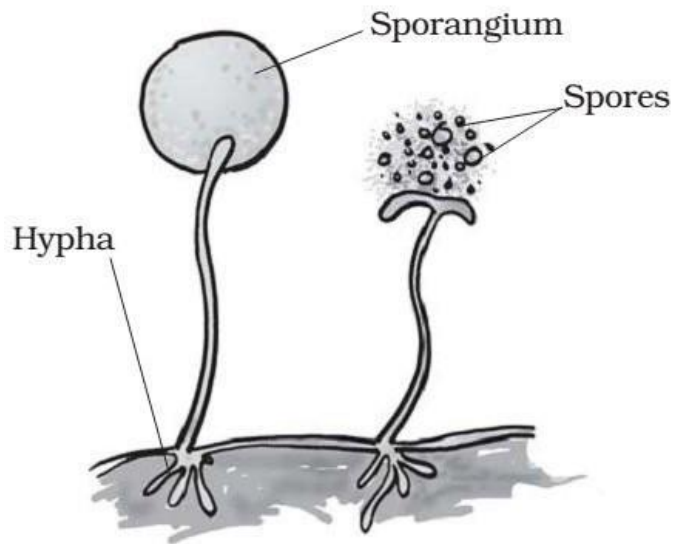
### (3) Fragmentation

In this type of reproduction, **each fragment that separates from the parent body grows into a new individual**. Eg: Planaria



### (4) Spore Formation

Some organism tends to form a **sac-like structure known as spore** for reproduction. Each spore has a tough protective coating to withstand unfavorable environmental conditions like high temperatures and low humidity. In the right circumstances, a spore germinates and grows into a new individual. Eg: Fungus



## Sexual Reproduction

The flower is the reproductive part of the plant. The gametes that are responsible for reproduction are produced by flowers. Gametes fuse together during sexual reproduction in plants, creating seeds that eventually grow into new plants.

**Pollen grains** are the male gamete while **ovule** is the female gamete. Pollen grains are produced by anthers while ovule is produced by pistils.

When the pollen grains are transferred from the male reproductive part to the female part of the flower, it is called **pollination**.

There are two types of flowers:

- (1) **Uni-sexual**- A uni-sexual flower has either the male or the female reproductive part.
- (2) **Bisexual**- A bisexual flower has both male and female reproductive parts.

In sexual reproduction, both the male (pollen grains) and female (ovule) gametes fuse together to form a **zygote**. This fusion is known as **fertilization** and the new cell formed out of the fusion is called zygote. The zygote then transforms into an **embryo**.