

Reproduction is a biological process of formation new offsprings from the pre-existing organism. Reproduction becomes a vital process without which species cannot survive for long. It ensures continuity of species generation after generations as older individuals undergo senescence and ultimately they die.

**Life span** - • The period from birth to the natural death of an organism represents its **life span**. Life span of organisms varies from few days (Butterfly 1 to 2 weeks) to thousands of years (Banyan tree).

**Types of Reproduction:**

Based on whether there is one or two organisms taking part in the process of reproduction

- ASEXUAL REPRODUCTION
- SEXUAL REPRODUCTION

When the offspring is produced by single parents with or without the involvement of gamete formation, the reproduction is called **asexual reproduction**.

When two parents (opposite sex) participate in reproduction process and also involve the fusion of male and female gametes, it is called **sexual reproduction**.

1. Usually followed by organisms with relatively simpler organizations.
2. Off springs produced by single parent.
3. With/without involvement of gamete formation.
4. Off springs produced are genetically and morphologically similar to each other and to the parent, i.e. they are **clones**.

• In Protista and Monera, the parent cells divides into two to give rise to new individuals. Thus, in these organisms **cell division** is the mode of reproduction itself.

• **Binary fission**- in this method of asexual reproduction, a cell divides into two halves and rapidly grows into an adult. Ex- amoeba, paramecium.

• **Budding**- small buds are produced that remain attached initially with parents and get separated on maturation. Ex. Yeast.



• Fungi and simple plants like algae reproduce through special reproductive structures like zoospores (motile structure), conidia (penicillium), buds (hydra) and gemmules (sponges).

- In plants, vegetative reproduction occurs by **page 3** vegetative propagules like runner, rhizome, sucker, tuber, offset and bulb.

Vegetative part	Example
Roots	<i>Dahlia, Asparagus, Dalbergia, guava and tapioca</i>
Stems	
• Tubers	Potato and artichoke
• Bulbs	Garlic and onion
• Rhizome	Ginger, turmeric, banana and <i>Dryopteris</i>
• Corms	<i>Colocasia, Crocus and Amorphophallus</i>
• Suckers	Mint and <i>Chrysanthemum</i>
• Runners	<i>Oxalis and Centella</i>
• Stolons	Jasmine
• Offsets	<i>Pistia and Eichhornia</i>
Leaves	<i>Bryophyllum, Begonia, Kalanchoe</i> and walking fern
Bulbils	Agave, lily and <i>Dioscorea</i>
Turions (fleshy buds in aquatic plants)	<i>Potamogeton and Utricularia</i>

## **WATER HYACINTH (Terror of Bengal)**

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- One of the most invasive weeds
- Grows wherever there is standing water
- Drains oxygen from water- leads to death of fishes.
- Introduced in India because of its pretty flowers & shape of leaves
- Vegetative propagation occurs at a phenomenal rate

Class- 12

Biology

Chapter-1 reproduction in organisms.

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Find and write the answers of the following:-

- 1.why reproduction is important on the earth
- 2.How sexual reproduction is different from asexual reproduction.
- 3.The offspring which produce asexually are called clones, why?
- 4.Name the vegetative parts of plant.
- 5.what was the terror of Bengal.