

Reproduction in Lower and Higher Animals

from a bud on a Hydra to a cycle that rebuilds a lining every month



Asexual Reproduction in animals

- common in lower animals: no meiosis, no gametes, one parent; progeny are identical clones
- budding: an outgrowth grows tentacles, detaches as an individual, e.g. Hydra, colonial ascidians
- gemmule formation: internal buds seen only in sponges; archaeocytes (dormant cells) get a resistant secreted coat
- on favourable conditions the gemmule hatches into a new sponge, e.g. Spongilla

Regeneration is not reproduction

- regeneration: an organism regrows a lost or damaged part, e.g. a wounded Planaria regrowing tissue
- it can shade into asexual reproduction if the split is deliberate: **fragmentation**
- e.g. Planaria's anterior end pulls until the body constricts, separates into **two clones**
- the distinction is whether a whole new individual is produced, not just a part restored

Sexual maturity, two phases *

Juvenile phase

physical growth from birth, sex organs not yet active

Reproductive phase

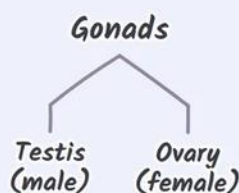
puberty

sex organs mature, gametogenesis begins

duration of each phase varies by species; humans and apes breed continuously through the reproductive phase, goats and sheep are seasonal breeders

Male and Female Reproductive Systems

- primary sex organs (gonads): testis (male), ovary (female); everything else is secondary
- secondary sexual characters: beard, moustache, chest hair, deep voice (male); breasts, broader pelvis, higher voice (female)
- labia majora are homologous to the scrotum, clitoris to the penis



the only two primary sex organs; every duct and gland downstream is secondary to one of these two

sexual reproduction adds meiosis and gamete fusion on top of what asexual reproduction already does: make more of the species

