

Reproduction in Humans

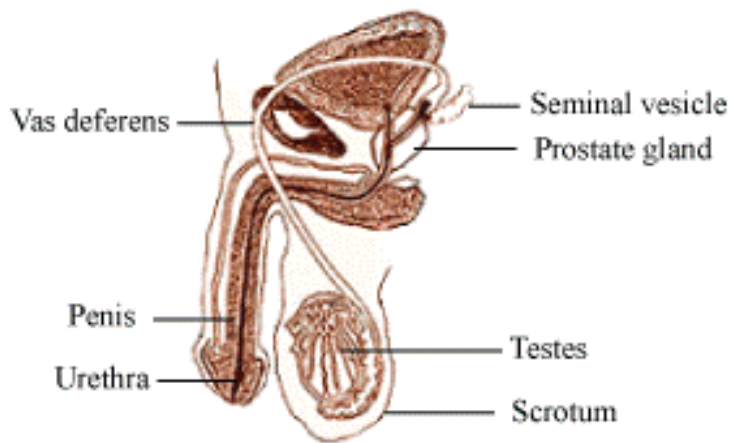
- **Reproduction:** It is a biological process through which living organisms produce offsprings similar to themselves.
- **Modes of reproduction:** Sexual and asexual reproduction.
- **Sexual reproduction**
 - It involves the fusion of male and female gametes.
 - Male gametes are called **sperms** and female gametes are called **ova**.
- The type of reproduction, which involves only a single parent and the new individuals are formed without fusion of gametes, is known as **asexual reproduction**.

Asexual reproduction

- Does not involve the fusion of gametes.
- Requires only one parent.
- Offsprings produced are the exact copies of their parents.

Modes of asexual reproduction

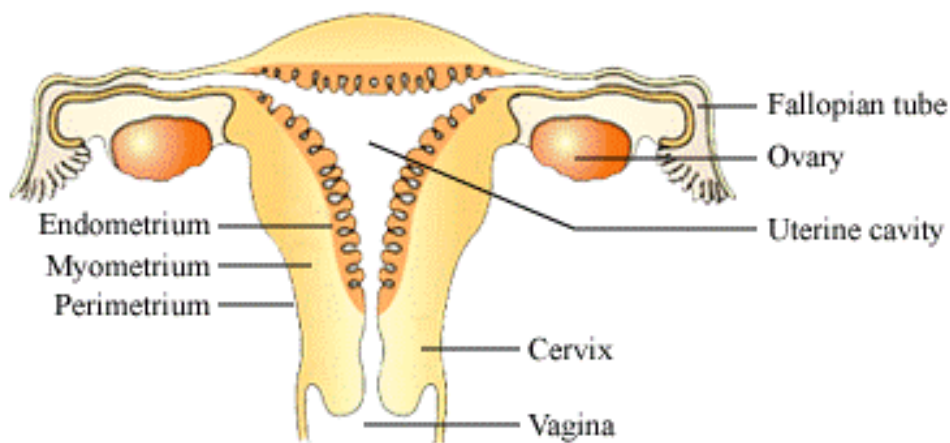
- **Fission-** involves cell division or splitting of cells e.g., *Amoeba*
- **Multiple fission:** In multiple fission, a single cell divides into many daughter cells simultaneously. Examples: *Plasmodium* and *Amoeba*
- **Fragmentation-** new organisms formed from fragments of parents e.g., lichens
- **Regeneration-** new organisms formed from body parts e.g., *Planaria*, *Hydra*
- **Budding-** new individuals from protrusion called buds e.g., *Hydra*
- **Sexual reproduction in humans**
 - Development into an adult or reaching maturity is essential for reproduction. The period of life where changes set in for the development of a young individual into an adult is called **puberty**.
- **Male Reproductive System**
 - Male reproductive organs- pair of testes, vas deferens, prostate gland, seminal vesicles



- Testes- produce sperms, testosterone
- Sperms- male gametes

- **Female reproductive System**

- Female reproductive organs- pair of ovaries, pair of oviducts, uterus, and vagina



- Ovaries contain thousands of eggs
- Sperms enter the female body through the vagina

- **Menstruation-** if the egg is not fertilized, then the uterus lining breaks down and is released in the form of blood and mucous through the vagina. It usually lasts for 2 to 8 days.

- **Development of the embryo**

- The **zygote** repeatedly divides to form a ball of cells.
- The ball of cells then starts differentiating into tissues and organs. At this stage, it is called **embryo**.
- Embryo gets attached to the wall of the uterus and develops various body parts such as hands and legs.

- **Foetus** is a stage of embryo that shows main recognizable feature of mature organism.
- Foetus develops for nine months inside the mother's womb and is finally delivered.
- **Fertilization**- fusion of the nucleus of the sperm with the ovum to form a zygote. It occurs in the fallopian tube of females.
- Zygote divides to form an embryo.
- Embryo is implanted in the uterus.
- Foetus develops inside the mother's body for nine months (gestation period).