

## 🧠 6.1 Modes of Reproduction

- **Reproduction:** Process by which living beings produce young ones.
- **Essential** for the continuation of species.

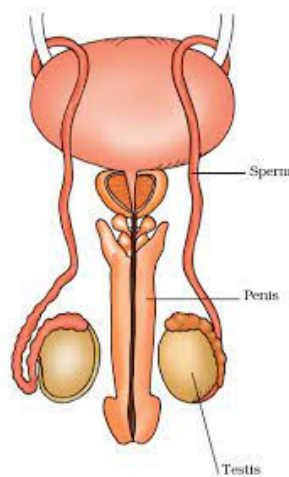
### 🌟 Two Types of Reproduction:

Type	Description
Sexual Reproduction	Involves two parents (male and female).
Asexual Reproduction	Involves only one parent.

## 🧬 6.2 Sexual Reproduction

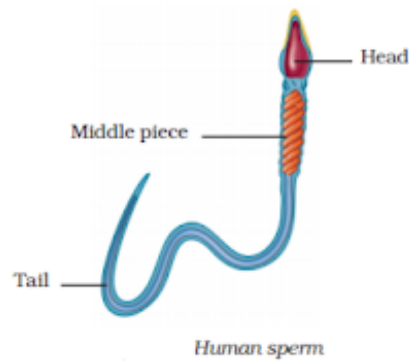
- Involves fusion of male and female gametes (sperm + egg).
- Fusion forms a zygote → develops into new individual.

### 🧠 Male Reproductive Organs

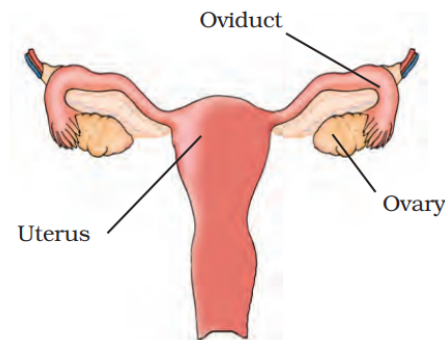


- **Testes:** Produce sperms.
- **Sperm Ducts:** Carry sperms.
- **Penis:** Transfers sperms to female body.

✅ Sperms are tiny, single-celled structures with head, middle piece, and tail.

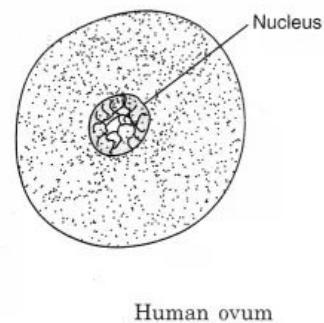


## 👩 Female Reproductive Organs



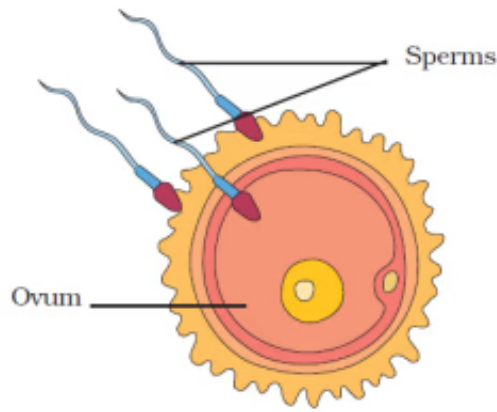
- Ovaries: Produce eggs (ova).
- Oviducts (Fallopian Tubes): Carry egg.
- Uterus: Where baby develops.

✅ Eggs are also single cells.



## ☀ Fertilisation

- Fusion of sperm and egg to form zygote.
- Internal Fertilisation: Happens inside female body (humans, dogs, cats).
- External Fertilisation: Happens outside female body (frogs, fish).



## ☀ Activity 6.1 – Observe Frog Eggs

### Task:

- Visit a pond during rainy season.
- Observe jelly-like clusters of frog eggs floating in water.

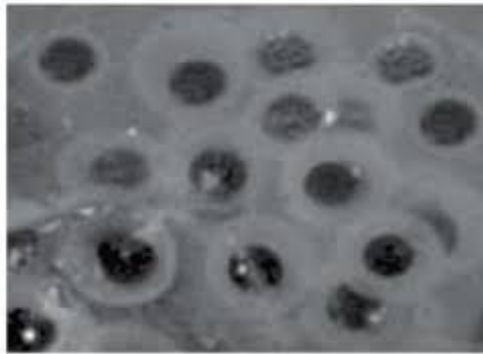


Fig. 9.14 Eggs of a frog.

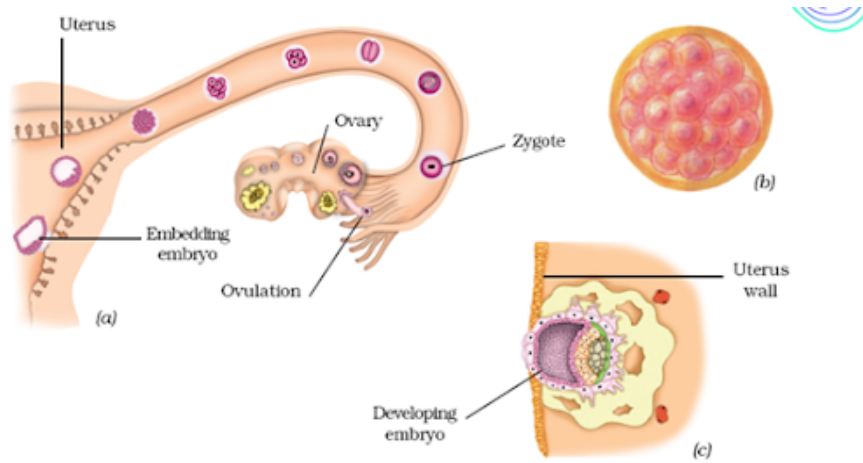
## ☀ IVF (In Vitro Fertilisation)

- Fertilisation done outside body (in lab).
- Zygote implanted back into mother's uterus.

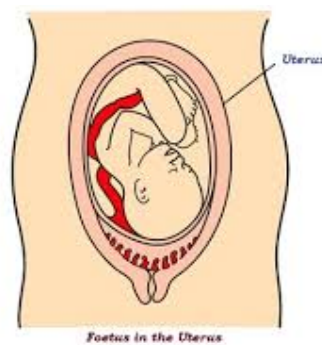
✅ Babies born this way are called Test Tube Babies.

## 😊 Development of Embryo

- Zygote divides repeatedly → forms embryo.
- Embryo embeds in uterus wall for development.
- After development, body parts form → called foetus.
- When foetus is fully developed → baby is born.



**Foetus in female body:-**



✓ In animals with external fertilisation, embryo grows inside eggs.

## ☀ Viviparous and Oviparous Animals

Type	Meaning	Examples
Viviparous	Give birth to young ones	Humans, cows, dogs
Oviparous	Lay eggs	Birds, frogs, insects

## ☀ Activity 6.2 — Study Different Eggs

**Task:**

- Observe eggs of frog, lizard, butterfly, hen, crow.
- Draw their shapes and sizes.

## 🐸 Young Ones to Adults

- Many animals show metamorphosis:

- Example: Frog life cycle:  
Egg → Tadpole → Adult Frog.

✓ Metamorphosis: Major body changes from larva to adult.

## ☀ 6.3 Asexual Reproduction

- Asexual Reproduction: Involves only one parent.

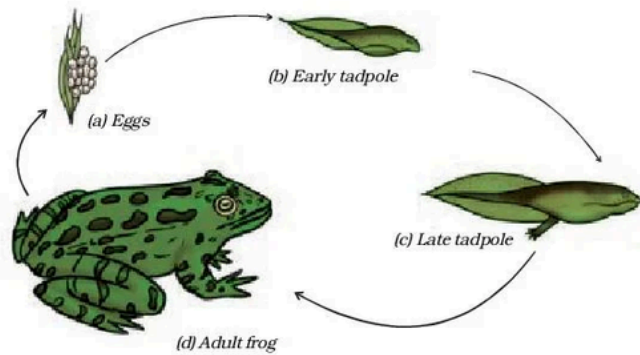
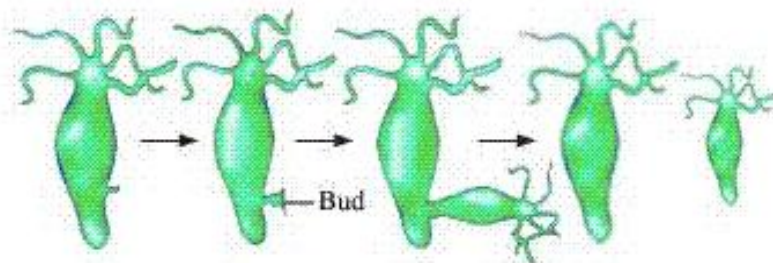


Fig. 6.10 : Life cycle of frog

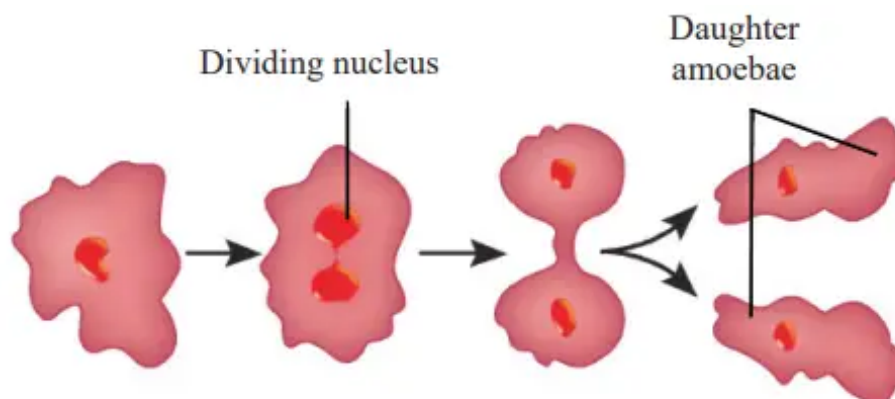
### 🧪 In Hydra – Budding

- Small bulges (buds) grow on parent body.
- Buds develop into new individuals.



### 🦠 In Amoeba – Binary Fission

- Amoeba splits into two daughter cells.
- Each new amoeba is a complete organism.



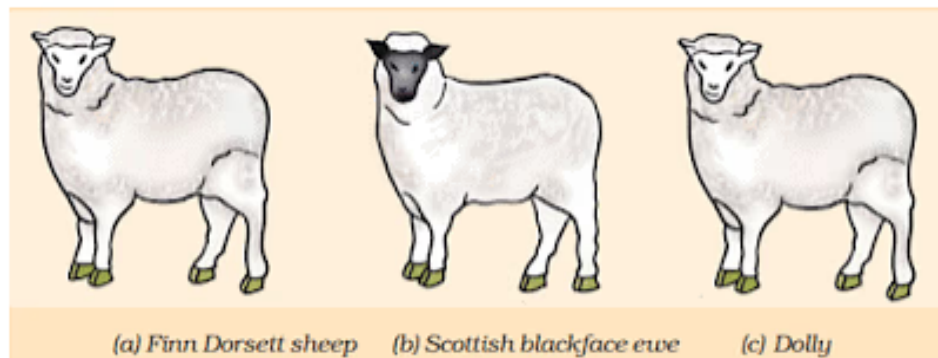
## ☀ Activity 6.3 – Observing Hydra

### Task:

- Observe hydra slides under microscope.
- Count number of buds growing from parent body.

## 🧠 Story of Dolly (Cloning)

- Cloning: Making an exact copy of an organism.
- Dolly, the sheep, was the first cloned mammal (1996).
- Cloned by Ian Wilmut in Scotland.



- ✓ Dolly looked exactly like her genetic mother.