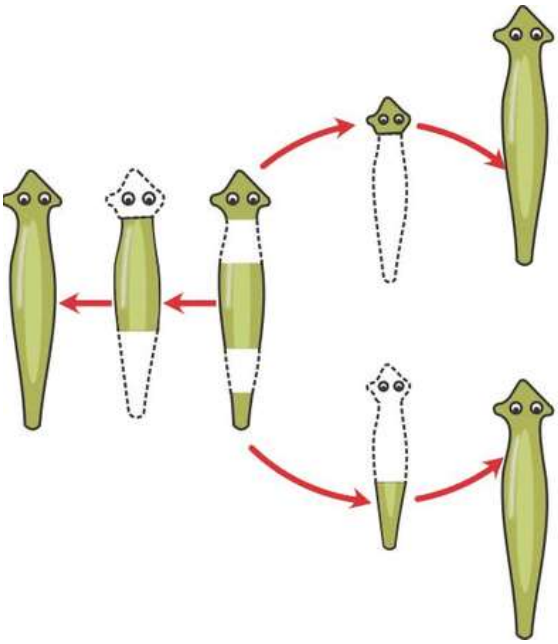
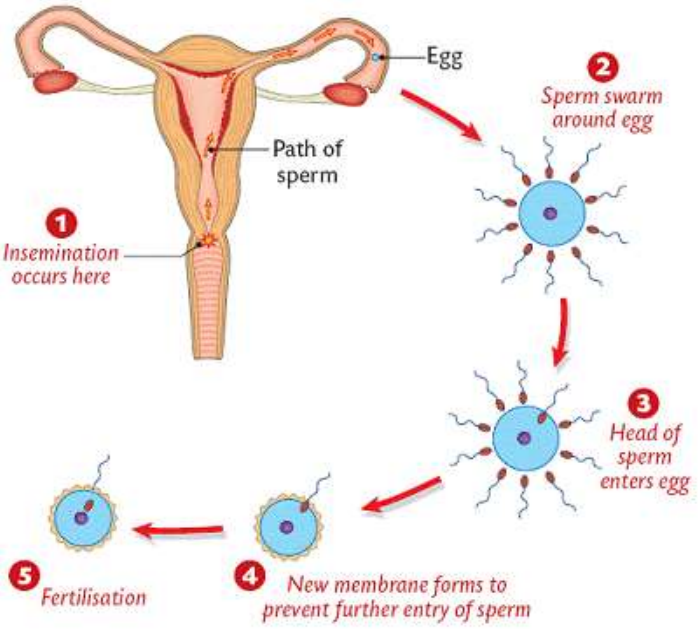
Reproduction in Animals Class 8 GSEB Solutions Science Chapter 6

Exercises

Q1. Explain the importance of reproduction in organisms.
Ans: Reproduction is a **biological process** through which living organisms **produce offspring** similar to themselves. Living organisms reproduce to maintain their number and for the **continuation of their species**. Thus, reproduction ensures the continuation of similar kinds of individuals.

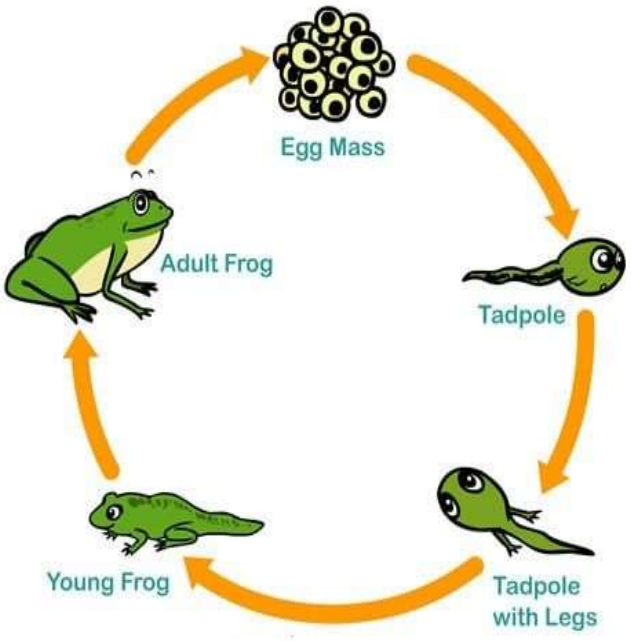


Regeneration Process
Q2. Describe the process of fertilization in human beings.
Ans: Fertilization involves the fusion of the male and the female gamete. The **male and the female gametes** are released from the male and the female reproductive organs.



- **Sperms** or male gametes are released from the male reproductive organ, **i.e., the penis**.
- These sperms then enter the female **body through the vagina.** Then, they travel through the **fallopian tubes,** where they meet the eggs.
- Hence, the process of **fertilization** takes place in the fallopian tubes.
- During fertilization, the **haploid nucleus** of the sperm and that of the ovum fuse with each other to form the zygote.
- This **zygote** divides to form an **embryo,** which in turn develops into a **foetus.**

Q3. Choose the most appropriate answer.
(a) Internal fertilization occurs
(i) in the female body.
(ii) outside the female body.
(iii) in the male body.
(iv) outside the male body.
(b) A tadpole develops into an adult frog by the process of
(i) fertilization
(ii) metamorphosis
(iii) embedding
(iv) budding
(c) The number of nuclei present in a zygote is
(i) none
(ii) one
(iii) two
(iv) four
Ans:
(a) (i) Internal fertilization occurs **in the female body**.
(b) (ii) A tadpole develops into an adult frog through **metamorphosis**.



Metamorphosis in Frog

(c) (ii) There is one number of nuclei present in a zygote.

Q4. Indicate whether the following statements are True (T) or False (F).
(a) Oviparous animals give birth to young ones.
Ans: False
(b) Each sperm is a single cell.
Ans: True
(c) External fertilization takes place in frogs.
Ans: True
(d) A new human individual develops from a cell called a gamete.
Ans: False
(e) Egg laid after fertilization is made up of a single cell.
Ans: True
(f) Amoeba reproduces by budding.
Ans: False
(g) Fertilization is necessary even in asexual reproduction.
Ans: False
(h) Binary fission is a method of asexual reproduction.
Ans: True
(i) A zygote is formed as a result of fertilization.
Ans: True
(j) An embryo is made up of a single cell.
Ans: False

Q5. Give two differences between a zygote and a foetus.
Ans:

Zygote	Foetus
It is a fertilized egg formed after the fusion of the sperm with the egg.	It is a stage of the embryo that shows all the main recognizable body parts of a mature organism.
The zygote divides several times to form ail embryo.	An embryo gradually develops into a foetus.

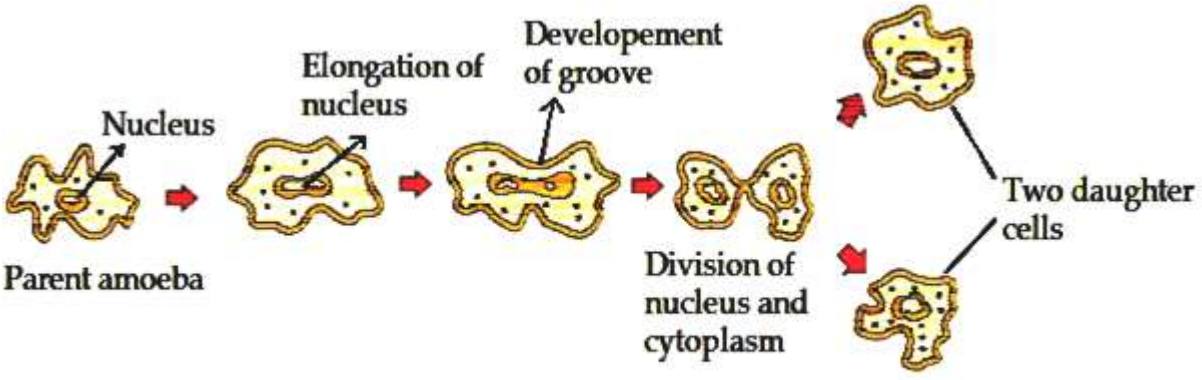
Q6. Define asexual reproduction. Describe two methods of asexual reproduction in animals.

Ans: Asexual reproduction is a mode of reproduction that **does not involve the fusion** of the male and the female gamete. It requires only **one parent**, and the offspring produced are exact copies of their parents.

Two methods of asexual reproduction in animals are:

(i) Binary fission

- It is a type of asexual reproduction in which a **single cell divides** into two halves. Organisms that reproduce through binary fission are **bacteria and Amoeba.**
- In Amoeba, the division of cells can take place in any plane.

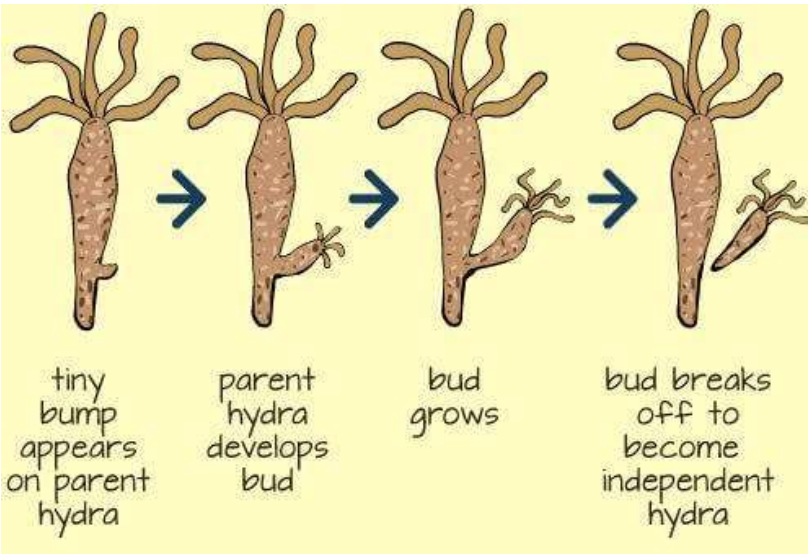


Binary fission in Amoeba

- It involves the division of its **nucleus into two nuclei,** which is followed by the division of its body into two halves. Each half of the body receives a nucleus.

(ii) Budding

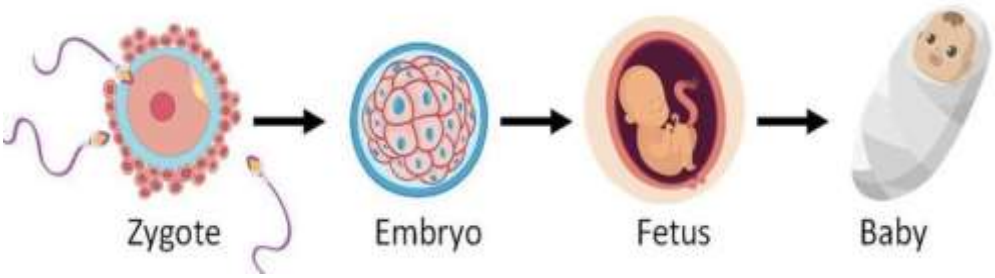
- Budding involves the formation of a new individual from the **bulges**, known as buds, formed on the parent body. This method of reproduction is common in **Hydra.**
- In Hydra, the cells divide rapidly at a specific site and develop as **an outgrowth** called the bud.



Budding in Hydra

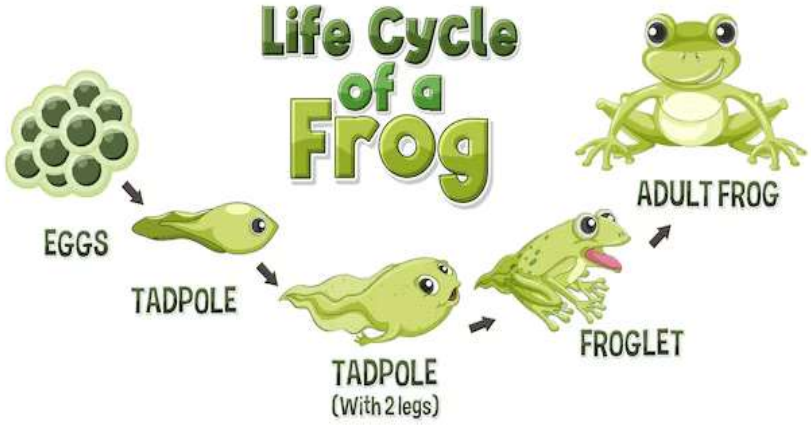
- These buds, while being attached to the parent plant, develop into smaller individuals. When these individuals become **mature** enough, they detach from their parent's body and become **independent individuals**.

Q7. In which female reproductive organ does the embryo get embedded?
Ans: The embryo gets **embedded in the wall of the uterus**. The embryo, while it is still attached to the uterus, gradually develops **various body parts** such as hands, legs, head, eyes, etc. The embryo is then called **a foetus**.



Q8. What is metamorphosis? Give examples.
Ans: Metamorphosis is a biological process of **transforming a larva** into an adult. This involves relatively **sudden** and **abrupt changes** in the animal's structure.
Example: Frogs and insects.
The life cycle of a frog has three distinct stages:
(i) Egg
(ii) Tadpole
(iii) Adult

The life cycle of a frog:

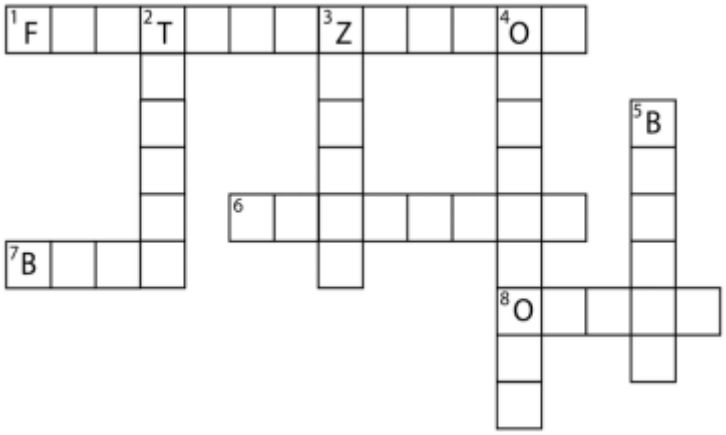


- The **tadpole** that emerges from the egg contains gills, a tail, and a small circular mouth. They can swim freely in the water.
- The tadpole grows and involves abrupt changes in its structure and develops into a **mature frog.**
- A tadpole's metamorphosis begins with the **development of limbs**, **lung development**, and finally, the **absorption of the tail** by the body.

Q9. Differentiate between internal fertilization and external fertilization.
Ans:

Internal fertilization	External fertilization
It involves the fusion of the male and the female gamete inside the female body.	It involves the fusion of the male and the female gamete outside the female body.
Chances of the survival of the offspring are more. Therefore, a small number of eggs are produced.	Chances of survival of the offspring are less. Therefore, a large number of eggs are produced.
Humans, cows, hens are organisms showing internal fertilization.	Fish, Frog, Starfish are organisms showing external fertilization.

Q10. Complete the crossword puzzle using the hints given below.
Across-
1. The process of the fusion of the gametes.
6. The type of fertilization in the hen.
7. The term used for bulges observed on the sides of the body of Hydra.
8. Eggs are produced here.
Down-
2. Sperms are produced in these male reproductive organs.
3. Another term for the fertilized egg.
4. These animals lay eggs.
5. A type of fission in amoeba.



Ans:

Across:

1. Fertilization
6. Internal
7. Buds
8. Ovary

Down:

2. Testis
3. Zygote
4. Oviparous
5. Binary