NCERT SOLUTIONS
CLASS VIII SCIENCE
CHAPTER-9 REPRODUCTION IN ANIMALS

1) What is the importance of reproduction in organisms?

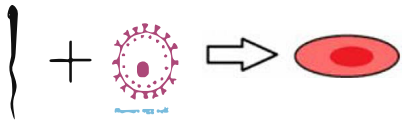
Solution:

Reproduction is termed to be a biological process in which organisms give birth to their off springs.
It helps in maintaining the continuity of particular race and helps in increasing the population of the species.
Reproduction is meant for survival of all living things.

2) Explain the process of fertilization in human beings with a diagram.

Solution:

Fertilization is defined as the process in which there is a fusion of male gamete and female gamete.
The male gametes or sperms are released from the male reproductive organ called penis
The sperms released enter the female body through the vagina.
From vagina, sperms travel through the fallopian tubes where they meet the eggs.
From there on, the process of fertilization takes place in the fallopian tube.
The male gamete cell (sperm) and female gamete cell (egg) fuse together to form a zygote.
The zygote divides rapidly to form a group of cells called morula, which becomes the embryo after approximately five days. The fetus is present about eight weeks after the fertilization takes place.



3) How does internal fertilization occur?

Solution:

Internal fertilization is the process of fusion of sperm and an egg cell during sexual reproduction inside the body.

4) Name an animal, which develops through the process of metamorphosis, and explain the term.

Solution:

It is defined as the process in which animal's body structure abruptly changes through cell growth and differentiation.

Example: Tadpole into an adult frog.

5) How many numbers of nuclei are present in a zygote?

Solution:

The zygote has two nuclei since it is formed by the combination of a sperm and an egg.

6) What is the difference between a zygote and a fetus?

Solution:

Zygote:

It is the earliest stage of development
It is formed by the fusion of male and female gametes

It is a single cell
Zygote divides several times to form an embryo
The zygote normally lasts a week and then develop into its next stage.

Fetus

It is the last developmental stage of an organism
The stage of the embryo that shows all the main recognizable body parts of a mature organism.
The fetus stage occurs after the embryo stage.
Fetus mainly undergoes internal development.

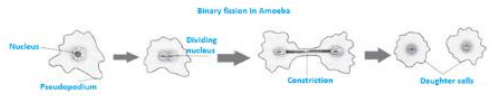
7) Explain the term asexual reproduction and highlight any two methods of asexual reproduction in animals.

Solution:

In this type of reproduction, the offspring arises from a single organism without the fusion of male and female gametes. It never changes the number of chromosomes.

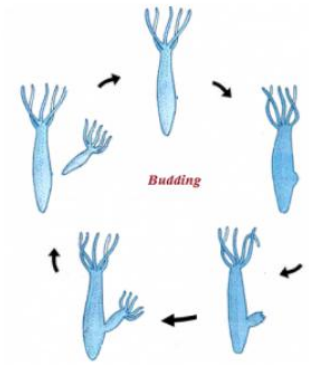
Binary fission in amoeba:

It is a kind of asexual reproduction in which one cell divides into two halves.
It is a unicellular organism that has a cell membrane, cell wall and a cytoplasm.
The division of cell can take place on any plane.
In this process, the nucleus of the amoeba first divides to form two daughter nuclei by the process called as Karyokinesis.
Finally the division of the body into two halves having a nucleus respectively takes place.



Budding in hydra

Organisms such as hydra, use regenerative cells for reproduction in the process of budding.
The first step is the formation of buds, and it develops as a small outgrowth on the parent's body.
As the bud enlarges, it receives the characteristics of the parent organism.
Once it is developed, it may be detached from the parent body and develop into a new individual.
In some rare cases, the buds may not be detached forming interconnected buds.
There are also methods like fragmentation, multiple fission etc.



8) Name a female reproductive organ to which embryo is embedded.

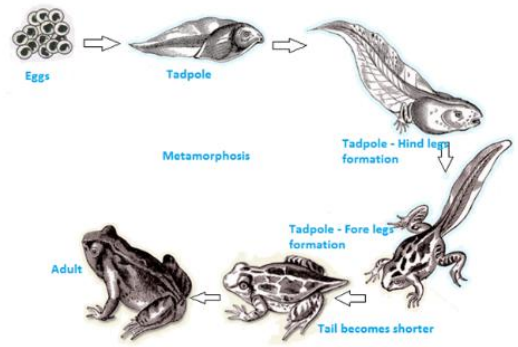
Solution:

In the female reproductive organ, the embryo gets attached to the uterus.
Once it gets attached, there occurs formation of body parts like legs, hands, eyes etc.
The embryo is then called as a fetus.

9) Explain the term metamorphosis. State examples.

Solution:

It is defined as the process in which an animal's body structure abruptly changes through cell growth and differentiation.
It is a biological process.
Examples of this kind are frog and insects.



Life cycle of a frog:

The tadpole emerging from the egg will have gills ,tail etc.

They can swim easily in water.

It undergoes abrupt changes and develops into a mature frog.

10) Explain the difference between internal fertilization and external fertilization.

Solution:

Fertilization, in general, is defined as the fusion of a male and a female gamete.

Internal fertilization

It occurs inside the female body.

There are high chances of survival of the offspring.

Internal fertilization protects the fertilized egg or embryo from harsh environments.

Examples are cow, humans, dogs, monkeys etc.

External fertilization

It occurs outside the female body.

There are low chances of survival of the offspring.

Most aquatic animals use this type of fertilization and the advantage of external fertilization is that it produces a large number of offspring due to external hazards.

Examples are fish, frog, organisms etc.

11) Solve the crossword puzzle using hints given below.

Across

1) Fusion of male and female gametes

6) Fertilization in human

7) The new part developed in the side body of the hydra

8) Female gamete

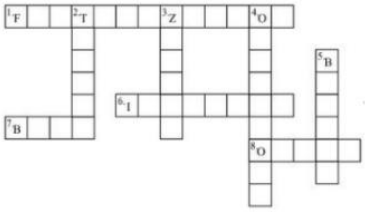
Down

2) Place where sperm and testosterone are produced

3) Fertilized egg is also known as

4) Animals that reproduce by laying eggs

5) What type of process takes place in amoeba?



Answer

Across

1) Fertilization

6) Internal

7) Buds

8) Ovary

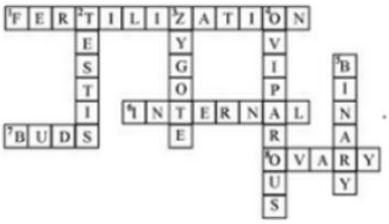
Down

2) Testis

3) Zygote

4) Oviparous

5) Binary



12) Answer the questions with (Yes or No)

1. ***Oviparous animals are animals that reproduce by laying eggs.***
2. ***External fertilization takes place in humans.***
3. ***Each sperm consists of multiple cells.***
4. ***Amoeba reproduces by binary fission.***
5. ***A new human individual does not develop from a cell called gamete.***
6. ***Does fertilization play an important role in sexual reproduction?***
7. ***Fertilized egg is also known as a zygote.***
8. ***Budding is a method of asexual reproduction.***
9. ***The egg laid after the process of fertilization is made of multiple cells.***

An embryo is likely to be made of a single cell.

ANSWERS:

1. Yes
2. No
3. No
4. Yes
5. Yes
6. Yes
7. Yes
8. Yes
9. No
10. No