

# NCERT SOLUTIONS CLASS X SCIENCE CHAPTER 8 - HOW DO ORGANISMS REPRODUCE

**1 – What is the primary importance of DNA copying in reproduction?**

**SOLUTION:**

DNA copying in reproduction is important for maintenance of body designs and features. It is also responsible for bringing variations in the long run which helps in the survival of species.

**2-Why is variation beneficial to species but not necessarily for the individual?**

**SOLUTION:**

Variations are beneficial for the survival of species. The population of a group of organisms reside in well-defined places in the ecosystem, using their ability to reproduce. However, places can change because of reasons beyond the control of organisms, example: climatic change and water level changes. If the population of reproducing organisms are not suited to a particular place or if the place is drastically altered due to environmental changes, the population can be wiped out.

**3-In what way is binary fission different from multiple fission?**

**SOLUTION:**

When two new daughter cells are formed as a result of fission, it is termed as binary fission, example: Amoeba. When many daughter cells are formed as a result of fission, this is called multiple fission, example: Malarial parasite

**4-How will an organism be benefited if it reproduces through spores?**

**SOLUTION:**

Spore formation takes place through asexual mode of reproduction. Spores are usually covered with thick walls that protect them from adverse conditions. In case of a favorable condition, the thick resistant wall breaks down and a new organism grows from it. Spores are usually light weight and they get easily dispersed through winds giving them more variation and thus better chances of survival.

**5-Why do you think more complex organisms cannot give rise to new individuals through regeneration?**

**SOLUTION:**

The term regeneration means the process of getting back a full organism from its body part. In a complex multicellular organism, specialized cells make up tissue and tissues make up an organ. Organs make up an organ system and finally organ systems make up an organism. Since it is such a complex process it is not easy to develop organism through regeneration.

**6-Why is vegetative propagation practiced for growing some type of plants?**

**SOLUTION:**

Vegetative propagation is mainly practiced for the

Plants that have lost the capacity to produce seeds.

Plants whose parent plant characters are preserved

Plants biotype can be retained and multiplied in deficiency without any change or variation. The examples are banana and seedless grapes.

**7-Why is DNA copying an essential part of the process of reproduction?**

**SOLUTION:**

DNA copying is very important to produce organisms which are similar to their parents.

In the process of reproduction, there must be a transfer of the blueprint of the body design from parent to their off springs.

As copying of DNA brings some variations each time, the cells are similar to parent cell in many aspects.

**8-What is the difference between pollination and fertilization?**

**SOLUTION:**

Pollination is the transfer of pollen grains from the anther to the stigma of a flower

Fertilization is the fusion of male gamete with female gamete.

**9-What is the role of the seminal vesicles and the prostate gland?**

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**SOLUTION:**

The secretions of seminal vesicles and prostate gland provide nutrition to the sperms and also make their further transport easier.

**10- What are the changes seen in girls at the time of puberty?**

**SOLUTION:**

The major changes in girls at the time of puberty are

Breast size begins to increase  
Girls begin to menstruate  
Growth of pubic hair  
Skin becomes oily

**11-How does the embryo get nourishment inside the mother's body?**

**SOLUTION:**

The embryo grows inside the mother's womb and gets nourishment from its mother's blood through the placenta.  
Through placenta, glucose and oxygen pass from mother to the embryo.  
Moreover, waste substances of embryo are removed through placenta into the mother's blood.

**12- Will copper-T help a woman from sexually transmitted diseases?**

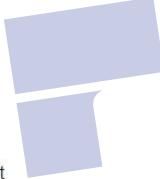
**SOLUTION:**

No, copper-T will not protect her from sexually transmitted disease. It is only to prevent the implantation of embryo in the uterus.

**13-In which of the following organisms, does asexual reproduction take place through budding?**

- I-Leishmania
- II-Plasmodium
- III-Amoeba
- IV-Yeast

**SOLUTION:** IV- Yeast



#### **EXTRA QUESTION AND ANSWERS**

**1-Which of the following is not a part of the female reproductive system in human beings?**

- I-Ovary
- II-Vas deferens
- III-Uterus
- IV-Fallopian tube

**SOLUTION:** II- Vas deferens

**2-The anther contains**

- I-Pollen grains
- II-Ovules
- III-Carpel
- IV-Sepals

**SOLUTION:** I-Pollen Grains

**2-What are the advantages of sexual reproduction over asexual reproduction?**

**SOLUTION:**

Sexual reproduction plays an important role in the origin of new species having different characteristics, which is not possible in the case of asexual reproduction.

**3-What are the functions performed by the testis in human beings?**

**SOLUTION:**

Functions of testis are

It helps in the production of a hormone called testosterone.  
It produces sperms.

**4- Why does menstruation occur?**

**SOLUTION:** If the egg is not fertilized and uterus does not get zygote, the developed lining of the uterus is shed during menstrual period.

**5- What are the different methods of contraception?**

**SOLUTION:**

There are three main methods of contraception

Barrier method  
Surgical method  
Chemical method

**Barrier methods:**

Physical devices like condom, diaphragm and cervical caps are used. They prevent the entry of sperms in the female genital tract during copulation.

**Chemical methods:**

Specific drugs are used by females in this method. There are two types of drugs namely Oral pills and Vaginal pills

**Surgical methods:**

A small portion of vas deferens in the male and fallopian tube in the female are surgically removed. It is called vasectomy in males and tubectomy in females.

Apart from these three methods

Intrauterine contraceptive devices are used to prevent pregnancies.  
Copper-T is placed safely inside the uterus by a skilled nurse or doctor.

**6-What are the modes of reproduction in unicellular and multicellular organisms?**

**SOLUTION:**

Unicellular organism reproduce asexually

ex- binary fission, budding

Multicellular organism use both sexual and asexual reproduction.

ex- cows ,dogs

**7-How does reproduction help in providing stability to the population of a species?**

**SOLUTION:**

Every species has to constantly struggle for its survival. The rate of birth and death in a given population determines its stability. Birth rate and death rate should be approximately equal. Reproduction is a way to replenish the lost section of the population.

**8-What could be the reasons for adopting contraceptive methods?**

**SOLUTION:**

The main reasons are

Preventing sexually transmitted diseases  
Immaturity in women  
Avoiding frequent and unwanted pregnancies