

Chapter Sixteen

Reproduction

Introduction:

This is the process by which living things create more of their own kind, or new individuals. These new individuals replace their parents who grow old and die. There are two types and these are sexual reproduction and asexual reproduction. Like plants, animals can reproduce sexually, while lower animals and plants reproduce asexually.

Sexual Reproduction:

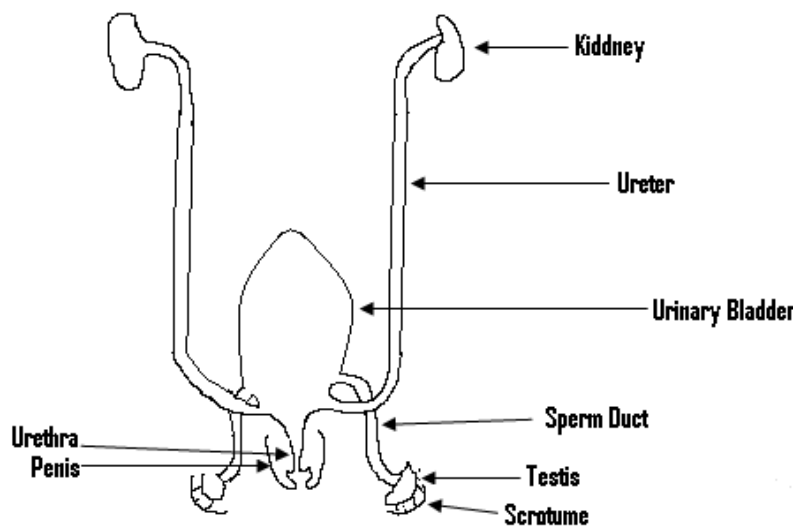
- The male sex cell is called sperm, while that of the female is called an egg or ovum.
- A sex cell can also be referred to as a gamete.
- Sexual reproduction is the type in which a new organism or individual is formed, by the joining or the coming together of the male and the female sex cells.
- When the male and the female sex cells unite or come together, the sperm fertilizes the egg.
- The process in which a sperm joins or unites with an egg is called fertilization, and after fertilization, the fertilized egg changes into a new individual called the zygote.
- The zygote then grows or develops into an embryo, and the embryo later develops into a human being.

Asexual Reproduction:

- This is the type of reproduction in which a new organism develops from parts of, or from parts produced by only one parent.
- Asexual reproduction may take any of the following forms or processes listed next:

- (a) Plants such as the cassava can be reproduced by using or planting parts of the stem called stem cuttings.
- (b) Some animals and plants simply split or divide into two, and each half then grows into an adult.
- (c) Certain organisms give off parts of their bodies, which develop into new organisms.
- (d) Some simple animals and plants produce tiny structures called spores , that grow into adult organisms.

The Male Reproductive organ:



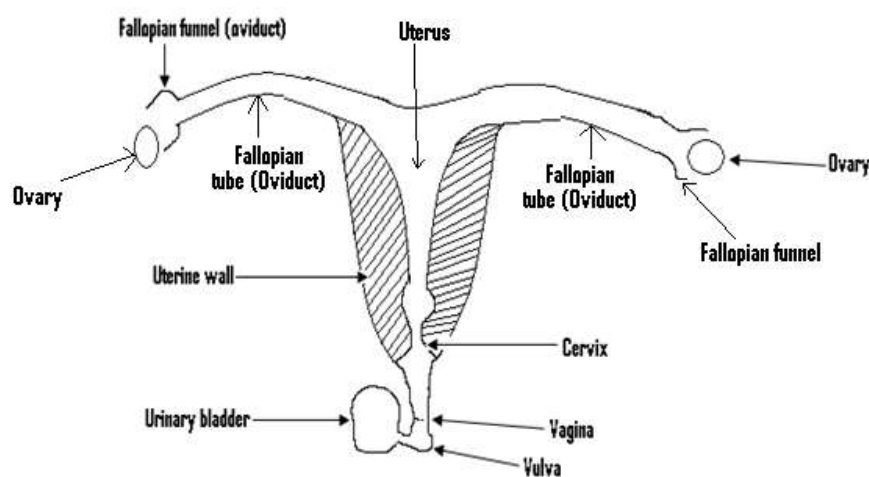
- The male reproductive system or the male sex organs or genitals are mostly outside his body.
- It consists of the penis, the testes, the scrotum, the urethra and the urinary bladder.
- The penis which is a finger shaped organ , is used to ensure that sperms produced by the testes get into the vagina.
- Behind the penis hangs the scrotum, which contains the testicles or the testes.
- The urethra which serves as a passage for both urine and sperm passes through the penis.

- Sperms are produced and stored by the testes, and these sperms are mixed with a whitish fluid called the semen (seminal fluid) and stored.
- The semen which contains the sperms is released through the urethra.
- Urine from the bladder and sperm from the testicles are both discharged from the body through the penis, but at different times.
- At puberty, a lot of changes called the male secondary sexual characteristics occur in the male.
- A hormone called testosterone is responsible for these male secondary sexual characteristics.

Male secondary characteristics:

- (1) The voice deepens.
- (2) The appearance of hair in the armpit and the pubic region.
- (3) The appearance of facial hair or hair on the face, such as beard and the moustache.
- (4) The enlargement of the penis.

The female Reproductive organ:



- All the female reproductive organs are inside her body.
- It consists of a pair of ovaries which produce and store the eggs.
- Lying very close to each ovary is a funnel shaped structure, called the fallopian funnel which leads into the fallopian tube or the oviduct.

- The ovaries normally release an egg about every 28 days, and this process in which the egg is released is called ovulation.
- The egg released is first received by the fallopian funnel, and then passed on into the fallopian tube or oviduct.
- There are two fallopian tubes or oviducts and these combine to form the uterus.
- The cervix which is the lower narrower end of the uterus leads into the womb, which in turn leads into the vagina.
- Each fallopian tube is associated with only one ovary.
- The urethra leads from the urinary bladder to the outside.
- In the female human being, the urethra and the vagina open to the outside by separate openings.
- The sensitive clitoris lies above the vagina.

Menstruation:

- Usually only one egg is released at a time, as part of the monthly process called the menstrual cycle.
- During this cycle, changes take place in the uterus for its soft inner lining develops many tiny blood vessels, which thickens or increases in thickness as time goes on.
- It reaches its full thickness shortly after the released of the egg from an ovary.
- If the egg is not fertilized within about 72 hours, it dies and the unfertilized egg together with the inner lining and the blood vessels is slowly discharged through the vagina, in a process called menstruation.
- This cycle which usually lasts for about five or six days, occurs every month unless an egg is fertilized.
- The onset or the start of menstruation signals or is an indication of sexual maturity of the female concerned, and from this time onward, she becomes capable of becoming pregnant.
- On the other hand, if the egg released is fertilized by a sperm, then it grows within the uterus into the zygote.

- This zygote grows to become an embryo, which develops into a human being.
- The monthly menstrual cycle is controlled by an hormone called oestrogen, and it is this hormone which stimulates the development of female secondary characters or characteristics.
- At puberty, several changes occur in the female and these changes are referred to as the female secondary sexual characteristics.

Female secondary sexual characteristics:

- (1) The appearance of armpit and pubic hair.
- (2) The enlargement of the breast and the hip.