

NCERT SOLUTIONS

CLASS - 8TH



aglasem.com

Class : 8th

Subject : Science

Chapter : 10

Chapter Name : REACHING THE AGE OF ADOLESCENCE

Q1 What is the term used for chemical secretions of endocrine glands responsible for changes taking place in the body?

Answer. Hormones are chemical substances which are secreted by endocrine glands. They are responsible for changes taking place in the body.

Page : 124 , Block name : Exercise

Q2 Define adolescence.

Answer. Adolescence is the time period between the beginning of puberty and adulthood. During this period, the body undergoes several changes alongside reproductive maturity. It begins around the age of 11 and lasts till 18 or 19 years of age. The period of adolescence may vary from person to person.

Page : 124 , Block name : Exercise

Q3 What is menstruation? Explain.

Answer. Menstruation is the process of the shedding of the uterine lining on a regular monthly basis. It begins at puberty and is the reproductive cycle of the female body. Every month, the uterus prepares itself to receive a fertilized egg. Therefore, the inner lining of the uterus becomes thick and is supplied with blood to nourish the embryo. If the egg is not fertilized, then the lining of the uterus breaks down and gets released in the form of blood through the vagina. This lasts for about two to eight days. This cycle occurs every month and is known as the menstrual cycle.

Page : 124 , Block name : Exercise

Q5 List changes in the body that take place at puberty.

Answer. Changes at puberty:

- (i) Sudden increase in height and weight.
- (ii) Broadening of shoulders and widening of chest in boys, In girls, the region below waist becomes wider.
- (iii) In boys, under the influence of hormones, the larynx becomes prominent, the vocal cords become longer and thicker. These changes cause the voice to become hoarse.
- (iv) Appearance of hair in areas such as underarms, face, hands, and legs.
- (v) Appearance of acne as a result of excessive secretion of oil from skin.
- (iv) Testis grows and starts producing sperms in males, whereas in females, the ovary enlarges and starts producing matured eggs.

Page : 124 , Block name : Exercise

Q5 Prepare a Table having two columns depicting names of endocrine glands and hormones secreted by them

Answer.

Endocrine gland	Hormones
Testis	Testosterone
Ovary	Oestrogen
Thyroid	Thyroxin
Adrenal	Adrenalin
Pancreas	Insulin
Pituitary	Growth hormone

Page : 124 , Block name : Exercise

Q6 What are sex hormones? Why are they named so? State their function.

Answer. Sex hormones are chemical substances produced by sex organs. For example, testosterone is the male sex hormone produced by the testis, and oestrogen is the female sex hormone produced by the ovary. These hormones affect the sexual features of an organism. Hence, they are known as sex hormones.

Functions of sex hormones:

Testosterone: This hormone brings about secondary sex characters in boys such as the growth of a beard, the voice becoming hoarse, development of reproductive organs, etc.

Oestrogen: This hormone is responsible for the development of secondary sexual characters in females such as the enlargement of breasts, development of female reproductive organs, etc.

Page : 124 , Block name : Exercise

Q7 Choose the correct option.

- (a) Adolescents should be careful about what they eat, because
- proper diet develops their brains.
 - proper diet is needed for the rapid growth taking place in their body.
 - adolescents feel hungry all the time.
 - taste buds are well developed in teenagers.
- (b) Reproductive age in women starts when their
- menstruation starts.
 - breasts start developing.
 - body weight increases.
 - height increases.
- (c) The right meal for adolescents consists of
- chips, noodles, coke.
 - chapati, dal, vegetables.
 - rice, noodles and burger.
 - vegetable cutlets, chips and lemon drink.

- Answer. (a) (ii) Adolescents should be careful about what they eat, because proper diet is needed for therapid growth taking place in their body.
- (b) (i) Reproductive age in women starts when their menstruation starts.
- (c) (ii) The right meal for adolescents consists of chapatti, dal, vegetables.

Page : 124 , Block name : Exercise

Q8 Write notes on—

- (a) Adam's apple.
- (b) Secondary sexual characters.
- (c) Sex determination in the unborn baby

Answer. (a) Adam's apple:

In human males, the larynx grows larger during puberty and can be seen as a protruding part of the throat. This protrusion is known as the Adam's apple. In boys, under the influence of sex hormones, the larynx becomes prominent. As a result, the vocal cords become longer and thicker, causing the voice to become hoarse.

However, in females, the larynx is of a small size and is hardly visible. Therefore, girls have a high pitched voice, while the voice of boys is low pitched.

(b) Secondary sexual characters are those features that help in distinguishing the male and the female body from each other. They are physical or behavioural characteristics that appear in humans at the time of puberty.

Secondary sexual characters in boys:

- (i) Appearance of moustache and beard.
- (ii) Appearance of chest hair.
- (iii) Growth of hair in genital area and other parts of the skin.

Secondary sexual character in girls:

- (i) Increase in breast size and darkening of the skin of nipples present at the tip of the breasts.
- (ii) Growth of hair in genital area and other body parts.
- (c) Sex determination in an unborn baby:

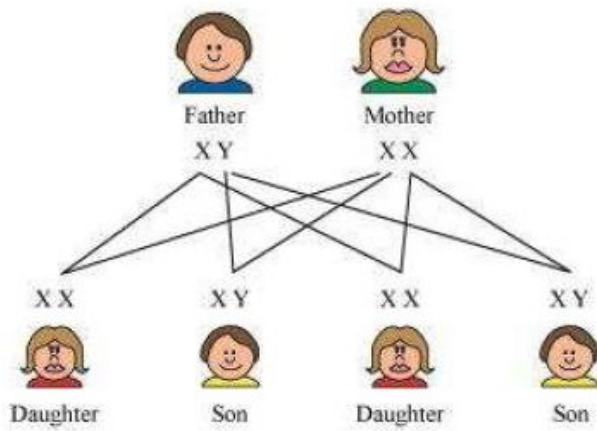
The sex of a baby is determined by the type of male gamete that fuses with the female gamete. All human beings have 23 pairs of chromosomes in their nuclei. Out of these 23 pairs, the last pair is known as the sex chromosome.

The human males have 23 pairs of chromosomes including XY sex chromosomes.

Therefore, the male gamete has 22 chromosomes and either an X or Y sex chromosome. Male gametes can be of two types: 22+X or 22+Y

Females have 23 pairs of chromosomes including XX sex chromosomes. Therefore, their gametes can only have 22 chromosomes and one X sex chromosome.

Type of female gametes: 22+X



Thus, as the mother provides only X chromosome, the sex of the baby is determined by the type of male gamete (X or Y) that fuses with the X chromosome of the female.

Page : 124 , Block name : Exercise

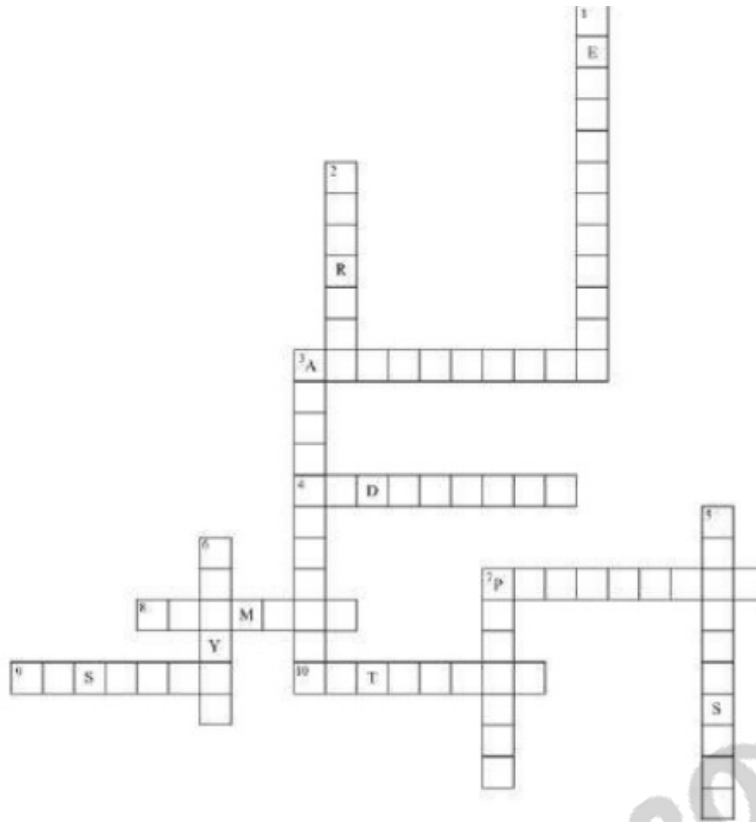
Q9 Word game : Use the clues to work out the words.

Across

3. Protruding voice box in boys
4. Glands without ducts
7. Endocrine gland attached to brain
8. Secretion of endocrine glands
9. Pancreatic hormone
10. Female hormone

Down

1. Male hormone
2. Secretes thyroxine
3. Another term for teenage
5. Hormone reaches here through blood stream
6. Voice box
7. Term for changes at adolescence



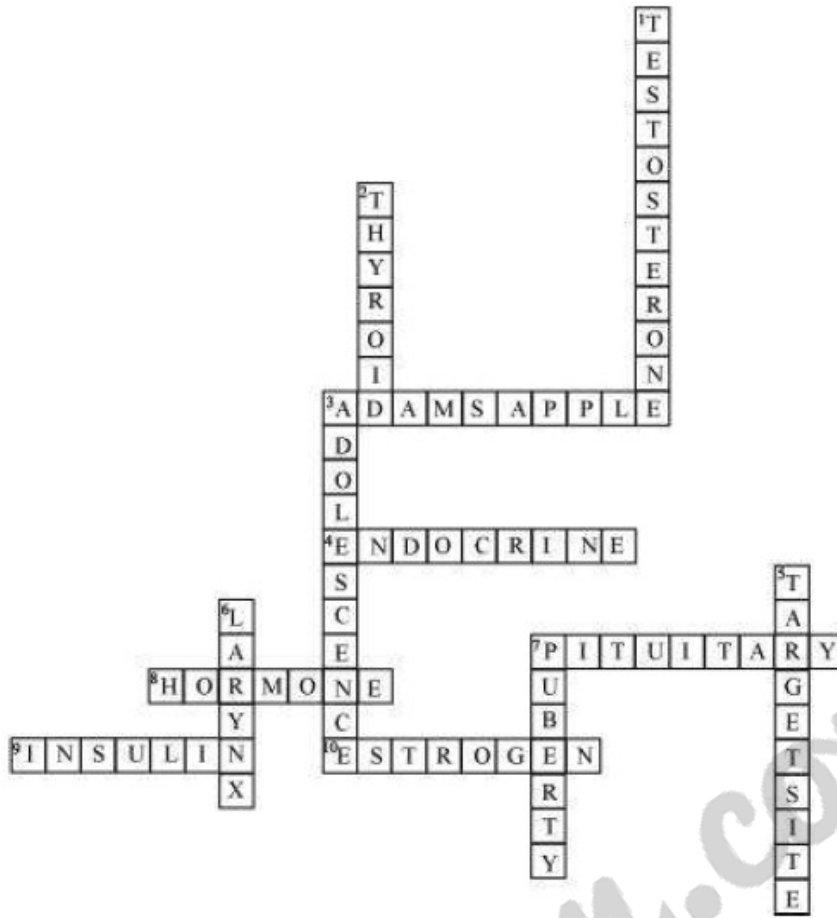
Answer. Across

- 3. ADAM'S APPLE
- 4. ENDOCRINE
- 7. PITUITARY
- 8. HORMONE
- 9. INSULIN
- 10. ESTROGEN

Down

- 1. TESTOSTERONE
- 2. THYROID
- 3. ADOLESCENCE
- 5. TARGET SITE
- 6. LARYNX
- 7. PUBERTY

aglasem.com



Page : 124 , Block name : Exercise

aglasem.com