

Chapter 10. Reaching of the adolescence class 8 study material Living science

A. MULTIPLE-CHOICE QUESTIONS: Choose the most appropriate answer.

1. Which of these processes in the body is controlled by hormones? a. blood circulation b. growth c. digestion
2. Which of these is not a gland of the endocrine system? a. adrenal b. thyroid c. penis c. thyroid gland
3. Which of these is called the master gland? a. pituitary gland b. testes d. excretion d. ovaries pancreas
4. Which combination of sex chromosomes is present in a female? a. X X b. YY c. XY d. none of these
5. The stage at which the body becomes capable of reproduction is called
a, puberty. b. menopause. c. menstruation. d, gestation.
6. The pituitary gland is located
a. above the kidneys. b. in the neck. c. at the base of the brain. d. near the sex organs.
7. Which hormone controls metamorphosis in frogs?
a. thyroxine b. adrenaline c. growth hormone (GH) d. testosterone
8. Which of these is not a secondary sex characteristic?
a. increase in height b. release of testosterone c, voice change d. hair growth on body

Answer: 1. b 2. c 3. a 4. a 5. a 6. c 7. a 8. b

B. VERY SHORT-ANSWER QUESTIONS: Give one-word answers.

1. The glands of the _____ system secrete hormones.
2. Glands release hormones into the blood stream through ducts. True or false?
3. Hormones act wherever they are released by the glands. True or false?
4. The hormone _____ released by the _____ gland gives sudden energy to the body to fight or run away when in danger.
5. In males, the hormone _____ controls sexual characteristics.
6. Adolescence is marked by the onset of puberty. True or false?
7. All parts of the body grow at the same rate during adolescence. True or false?
8. The larynx is bigger in _____ (boys/girls).
9. Adolescents normally sweat more than adults. Is that true or is it a myth?
10. Ovulation is the production of an _____ by one of the
11. Does a female begin or end her reproductive period at menopause?
12. Every sperm has _____ (one/two) sex chromosomes.

Answer:

1. Endocrine 2. False 3. False 4. adrenalin, adrenal 5. testosterone 6. True
7. False 8. boys 9. True 10. egg/ovum, ovaries 11. end 12. two

C. SHORT-ANSWER QUESTIONS (TYPE I): Answer in a sentence or two.

1. What is the function of the endocrine system? What is it made up of?

Ans: The endocrine system is made up of a number of ductless glands that secrete different types of hormones. These hormones in turn control different processes in the body.

2. Name four body processes that hormones control.

Ans: Growth, development, behaviour and reproduction.

3. What hormone does the adrenal glands produce? What is the function of this hormone?

Ans: The adrenal glands secrete the hormone adrenalin when a person is angry or afraid. It prepares the body to fight or to run away.

4. Why is the pituitary gland referred to as the 'master gland'?

Ans: The pituitary gland is also called the master gland as it influences the functioning of the other glands.

5. Name four endocrine glands and the hormones they secrete.

Ans: Endocrine glands:	Secreted hormones:
(i) Pituitary gland (or master gland)	(i) Growth Hormone (GH)
(ii) Adrenal gland	(ii) Adrenalin
(iii) Pancreas	(iii) Insulin
(iv) Thyroid gland	(iv) Thyroxine
(v) Testes	(v) Testosterone
(vi) Ovaries	(vi) Oestrogen, Progesterone

6. What do you understand by 'puberty'?

Ans: The stage of life when the body becomes capable of reproduction is known as puberty. It is normally 11-16 years in boys and 10-15 years in girls. However, the period may vary from person to person.

7. Why is looking after physical health more important at the adolescent age?

Ans: During adolescence, there is rapid mental and physical growth. Therefore, looking after physical growth is more important.

8. What is the final height achieved by an individual primarily governed by? What is the role of hormones in this process?

Ans: While the final height an individual attains is primarily controlled by genes, hormones control how the height increases. It is important that the body gets the correct nutrition during adolescence to ensure healthy growth of bones, muscles and other parts.

D. SHORT-ANSWER QUESTIONS (TYPE II): Answer in about 30 words.

1. What are the functions of the pituitary gland? List two hormones it produces and give their functions.

Ans: The pituitary gland produces several hormones that control water balance, growth and also the release of other hormones.

The growth hormone (GH) stimulates growth and development in the body.

The thyroid stimulating hormone (TSH) stimulates the thyroid gland to produce thyroxin.

2. Discuss the way height in adolescents' increases.

Ans: There is sudden increase in height during adolescence. During this period, different parts of the body do not grow at the same rate. For example, the arms and legs often grow faster than other parts, making them appear oversized and awkward. However, this is temporary and soon the body regains its normal proportions.

3. What causes pimples to appear in adolescents?

Ans: There is increase in the activity of sweat and sebaceous (oil) glands in adolescents. The skin becomes oilier. This often leads to appearance of acne and pimples on the face.

4. What changes occur in the body shapes of boys and girls at adolescence?

Ans: In boys, the shoulders become broader and the chest becomes wider. The muscles grow more than in girls. In girls, the pelvic region widens, hips broaden, breasts develop and increase in size. Mammary glands develop inside the breasts.

5. Why do adolescents often find themselves confused and insecure?

Ans: Intellectual development occurs during adolescence to transform the individual from a child to an adult. As a result of trying to adjust to the changes in the body and mind, adolescents often find themselves feeling confused, insecure and self conscious.

E: QUESTIONS: Answer in about 60 words.

1. Discuss the changes in the voices of boys and girls during adolescence.

Ans: The voice box or the larynx becomes bigger in boys than in girls. This is why boys develop a deep voice whereas girls have a high pitched voice.

In boys as the larynx begins to grow, the voice often cracks. Sometimes the voice also becomes hoarse. However, this is temporary and the voice is soon back to normal.

2. Discuss the menstrual cycle.

Ans: Every month unfertilized egg along with the thickening of the uterus wall expelled out through vagina is called the menstrual cycle. It is controlled by hormones.

In females, the reproductive age starts at puberty and continues to approximately 45-50 years of age.

The first menstrual flow that begins at puberty is known as menarche.

At around 45-50 years of age, the menstrual cycle stops and the female is no longer reproductive. This is known as menopause.

3. Explain what determines the sex of a baby.

Ans: Each gamete has only one sex chromosome. An egg has an X X chromosome. A sperm may have an X Y chromosome.

(i) If a sperm containing an X chromosome fertilizes the egg, the zygote would have two X X chromosomes and would develop into a female.

(ii) If a sperm containing a Y chromosome fertilizes the egg, the zygote would have X Y chromosome and would develop into a male.

Therefore, the sex of a baby is determined by chromosome present in fertilized sperm

4. How should an adolescent look after his/her physical health?

Ans: An adolescent should take proper nutrition. There is sudden increase in height and many changes take place in the shape of the body. It is important because if the body gets correct nutrition during adolescence then it would ensure healthy growth of bones muscles and other parts.

HOTS QUESTIONS: Think and answer.

1. Many adolescent boys look awkward and disproportionate. Why is that so?

Ans: During adolescence, different parts of the body do not grow at the same rate. For example, the arms and legs often grow faster than other parts. This makes their bodies appear disproportionate and awkward.

2. Why do you think the pelvic area in girls broadens at puberty?

Ans: The pelvic area in girls broadens at puberty to accommodate the uterus, and later the growing baby in it.

3. Drugs are harmful at all ages. Why do we then specially emphasise that adolescents should avoid drugs?

Ans: We specially emphasize that adolescents should avoid drugs because adolescence is a stage of insecurity and confusion. Thus, it is easy for adolescents to get addicted to drugs and ruin their whole life.