

St. Andrews Scots Sr. Sec. School

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Session: 2024-2025 – Answer Key

Class: VIII

Subject: Science

Topic: Reaching the Age of Adolescence

Define these terms:

1) Adolescence – The period of life, when the body undergoes changes, leading to reproductive maturity, is called adolescence. This is the time span in which the child develops into an adult.

2) Puberty – Puberty is the period, during which, the human body undergoes certain changes in their body and reproductive organs which leads to sexual maturity.

3) Hormones – Hormones are chemical messengers secreted by the endocrine glands. They control body functioning, physiology and behaviour.

4) Chromosomes – These are thread-like structures that are present inside the nucleus of a cell and meant for carrying information from one generation to the next generation.

5) Ductless Glands- Endocrine glands lack ducts and releases hormones directly into the bloodstream. So, they are also called ductless glands.

CHECK POINT 1

1. 11–13 years
2. Throat region of boys
3. Adolescence
4. Pituitary gland
5. Endocrine glands

CHECK POINT 2

1. (T) 2. (T) 3. (F) 4. (F) 5. (T)

PRACTICE TIME

A. Tick (√) the correct answer:

1. (b) 2. (a) 3. (d) 4. (c) 5. (a) 6. (b)

B. Match the columns:

1. (c) 2. (e) 3. (a) 4. (f) 5. (b) 6. (d)

C. Very Short Answer Type Questions:

1. Hormones
2. Junk food
3. Pituitary glands
4. Puberty
5. Adrenal gland
6. Testosterone

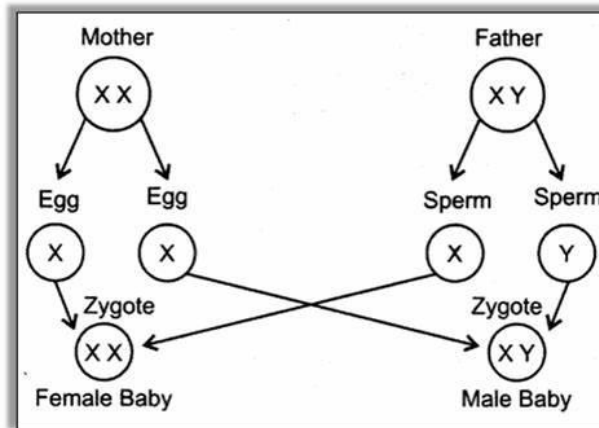
D. Short Answer Type Questions:

1. During adolescence, the muscles grow, shoulders become broad and waistline becomes wider in boys whereas in girls, their pelvic region becomes broad and development of breasts takes place.
2. The external features in the body of males and females which help to distinguish a male from a female are called secondary sexual characters.
3. A cyclic period of 28 days in which the uterus of female undergoes periodic changes involving discharge of broken blood capillaries and lining of uterus, is called menstrual cycle.
4. Personal hygiene at adolescence is important because during this period, the increased activity of sweat glands makes the body smelly and increases the growth of bacteria and fungus in underarms and groin areas.
5. The secondary sexual characters that develop in boys during adolescence are as follows:
 - Broadening of shoulders and chest
 - Development of body muscles
 - Elongation of hands and feet
 - Growth of beard and moustaches
 - Growth of pubic hair along with hair on the chest and thighs
 - Voice becoming deep and hoarse due to the growth of voice box or larynx
 - Growth of reproductive organs
6. The pituitary hormone FSH stimulates testes to release testosterone in males and ovaries to release oestrogen in females. The testosterone and oestrogen produce secondary sexual characters in the body of boys and girls respectively.

E. Long Answer Type Questions:

1. The sex of a child is determined at the time of fertilisation. The sperm carries either X or Y sex chromosome, whereas ovum carries only X type of sex chromosome. Now, if the

- Sperm carrying X chromosome fuses with the ovum, the resulting zygote will have XX sex chromosomes and the child will be a female child.
- Sperm carrying Y chromosome fuses with the ovum, the resulting zygote will have XY sex chromosomes and the child will be a male child.



Sex determination in human beings

2. (a) Endocrine glands are called ductless glands because they do not have any ducts and pour their secretions directly into the blood.

(b) (i) Insulin (ii) Thyroxine (iii) Growth hormone (iv) Progesterone

3. (a) Adolescence is the period of intense growth of the body. Any disease during this period leads to retarded growth. Therefore, to keep the body healthy, an adolescent needs a balanced diet which includes right amount of carbohydrates, fats, proteins, minerals and vitamins to provide complete nutrition to the body.

(b) An adolescent should avoid junk food to prevent diabetes, obesity, cardiac problems and deficiency diseases.

F. HOTS Questions:

1. It is the genes which determine the specific characters of an individual. As the offspring inherit genes from both the parents, they resemble the mother in certain characters and the father in some other characters.

2. During adolescent period, the sweat glands and sebaceous glands become more active, especially on the face. This leads to acnes and pimples.