



CLASS VIII: Science  
Chapter 7: Reaching the Age of Adolescence

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Questions and Solutions | Page 90 - NCERT Books

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

**Ans.** Hormones

**Q2.** Define adolescence.

**Ans.** Adolescence is the period of life, when the body undergoes changes, leading to reproductive maturity.

**Q3.** What is menstruation? Explain.

**Ans.** If fertilization does not occur, the released egg, and the thickened lining of the uterus along with its blood vessels are shed off. This causes bleeding in women which is called menstruation.

**Q4.** List changes in the body that take place at puberty.

**Ans.**

1. Increase in height
2. Change in body shape
3. Change in voice
4. Increased activity of sweat and sebaceous gland
5. Reaching mental, intellectual and emotional maturity
6. Development of sex organs
7. Secondary sexual characters

**Q5.** Prepare a table depicting names of endocrine glands and hormones secreted by them.

Ans.

S.NO.	Name of Endocrine glands	Position in body	Hormone(s)	Funtion(s)
1	Pituitary	In brain	<b>GH</b> (Growth Hormone)	Body growth
2	Thyroid	Located in the neck between the trachea	<b>Thyroxine</b>	Growth and Development
3	Pancreas	In the loop of duodenum	<b>Insulin</b>	Regulates the level of glucose in blood
4	Adrenal glands	Above kidney	<b>Adrenaline</b>	Increases heart beat, blood pressure and blood glucose level
5	Testes	Outside the abdominal	<b>Testosterone</b>	Stimulate <b>spermatogenesis</b> Promote <b>secondary sexual</b> characters in males.
6	Ovaries	Inside the abdominal	<b>Estrogen</b> <b>Progesterone</b>	Stimulate <b>oogenesis</b> Promote secondary sexual characters in females Maintain pregnancy

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

**Ans.** The testes and ovaries secrete sex hormones. These hormones are responsible for the male and female secondary sexual characters.

The male hormone or testosterone begins to be released by the testes at the onset of puberty. This causes changes in boys, for example, the growth of facial hair.

Once puberty is reached in girls, ovaries begin to produce the female hormone or estrogen which makes the breasts develop. Milk secreting glands or mammary glands develop inside the breasts.

**Q7.** Choose the correct option.

**(a) Adolescents should be careful about what they eat, because**

- (i) proper diet develops their brains.
- (ii) proper diet is needed for the rapid growth taking place in their body.
- (iii) adolescents feel hungry all the time.
- (iv) taste buds are well developed in teenagers.

**(b) Reproductive age in women starts when their**

- (i) menstruation starts.
- (ii) breasts start developing.
- (iii) body weight increases.
- (iv) height increases.



(c) **The right meal for adolescents consists of**

- (i) chips, noodles, coke.
- (ii) chapati, dal, vegetables.
- (iii) rice, noodles and burger.
- (iv) vegetable cutlets, chips and lemon drink.

**Ans. (a)** (ii) proper diet is needed for the rapid growth taking place in their body

**Ans. (b)** (i) menstruation starts

**Ans. (c)** (ii) chapati, dal, vegetables.

**Q8.** Write notes on-

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

**Ans. (a)** At puberty, the voice box or the larynx begins to grow. Boys develop larger voice boxes. The growing voice boxes in boys can be seen as a protruding part of the throat called Adam's apple.

**(b)** Secondary sexual characters

The features which help to distinguish the male from the female, are called secondary sexual characters. The reproductive organs are testes and ovaries which produce the gametes, sperm in male and ova in female.

Similar secondary sexual characters in male and females are : Growth of hairs under, armpits and around pubic area. Increased activity of sweat and sebaceous glands. Oily skin and appearance of pimples. Darkening in skin colour of the genital area.

**Secondary sexual characters in male**

Widening of shoulders.

Deepening of voice.

Appearance of beard and moustaches.

Growth of sex organs (testes and penis).

**Secondary sexual characters in female**

Widening of pelvis and hips.

High pitch voice.

Initiation of menstrual cycle.

Growth of mammary glands (breasts).

Maturation of secondary sex organs like fallopian tubes, uterus.

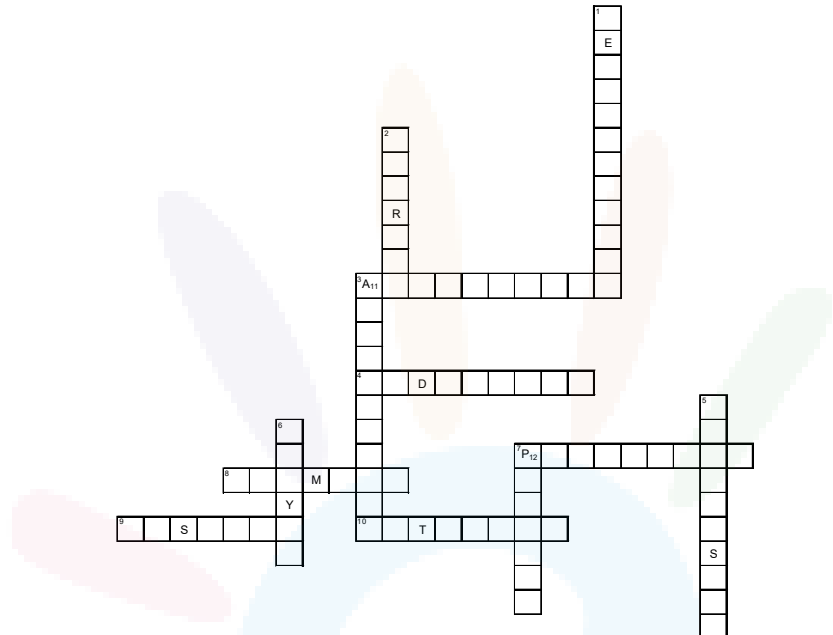
(c) When a sperm containing X chromosome fertilises the egg, the zygote would have two X chromosomes and develop into a female child. If the sperm contributes a Y chromosome



to the egg (ovum) at fertilisation, the zygote would develop into a male child. The sex chromosomes of the father determine the sex of an unborn baby. The belief that the mother is responsible for the sex of her baby is completely wrong and to blame her for this is totally unjustified.

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

**Crossword puzzle**



**Across**

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

**Down**

- 1. Male hormone (12)
- 2. Secretes thyroxine (7)
- 5. Hormone reaches here through blood stream (10)
- 6. Voice box (6)
- 11. Another term for teenager (11)
- 12. Term for changes at adolescence (7)

**Ans. Across**

- 3. Adam's apple
- 4. Endocrine
- 7. Pituitary
- 8. Hormone
- 9. Insulin
- 10. Estrogen



**Down**

1. Testosterone
2. Thyroid
5. Target site
6. Larynx
11. Adolescent
12. Puberty

**Q10.** The table below shows the data on likely heights of boys and girls as they grow in age. Draw graphs showing height and age for both boys and girls on the same graph paper. What conclusions can be drawn from these graphs?

Age (Years)	Height (cm)	
	Boys	Girls
0	53	53
4	96	92
8	114	110
12	129	133
16	150	150
20	173	165

**Ans.** We note that during 8-12 years, girls experience a sudden growth and have more height as compared to boys. This is because puberty occurs earlier in girls(10-12 years), so they grow rapidly during this phase.

During 12-16 years,boys experience sudden grown and their height becomes the same as girls.This is because puberty occurs later in boys (12-13 years) and they grow rapidly during puberty

And, in later years, growth in both boys and girls become stable.

