



CLASS: VIII DIVISION: _____

SUBJECT: SCIENCE

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LESSON: 7– Reaching the age of Adolescence

I. KEY WORDS:

1. Puberty
2. Insulin
3. Estrogen
4. Pituitary gland
5. Target site
6. Hormones
7. Adam's Apple
8. Adrenalin
9. Testosterone
10. Thyroxine

II. PRE ACTIVITY :

Draw a flow chart on onset of puberty controlled by hormones.

III. ANSWER THE FOLLOWING:

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

Ans: Hormones are chemical messengers that transport signal from one cell (or gland) to another cell (or gland).

Q2. Define adolescence.

Ans: The period of life, when the body undergoes changes, leading to reproductive maturity, is called adolescence. Adolescence begins around the age of 11 and lasts up to 18 or 19 years of age.

Q3. Prepare a Table having two columns depicting names of endocrine glands and hormones secreted by them.

Ans: S. No.	Endocrine Gland	Location	Hormone Secreted
1.	Pituitary	At the base of the brain	Growth Hormones
2.	Thyroid	Near the larynx	Thyroxine
3.	Adrenal	On the Kidney	Adrenalin
4.	Pancreas	Below Stomach	Insulin
5.	Testes	Outside the abdomen	Testosterone
6.	Ovaries	Below abdomen	Oestrogen & Progesterone

Q4. What is menstruation? Explain.

Ans: In a female reproductive ovaries, the ova begin to mature with the onset of puberty. One ovum matures and released by one of the ovaries once in about 28 to 30 days. During this period, the wall of the uterus becomes thick so as to receive the egg, in case it is fertilized and begins to develop. 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 female which is called menstruation. Menstruation occurs once in about 28 to 30 days.

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

Ans: Common changes occur among boys and girls during puberty:

- a. Sudden increase in height
- b. Change in body shape
- c. Change in voice. In boys voice becomes deep and harsh, in girls it is high pitched voice.
- d. Increased activity of sweat and sebaceous glands.
- e. Reproductive organs begin to mature.
- f. Appearance of secondary sexual characteristics
- g. Changes in Boys during puberty
- h. Facial hairs such as beard and moustaches develop.
- i. Hair develops under the armpit, under chest and in the pubic regions
- j. Voice becomes deeper.
- k. Muscles develop, and shoulder becomes broad
- l. Increase in weight.
- m. Changes in Girls during puberty:
- n. Development and enlargement of breasts.
- o. Hair develops under the armpit and in the pubic regions.
- p. Hips broaden and pelvic region widens
- q. Deposition of fat around hips.

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

Ans: Hormones which constitute the secondary sexual characters are called sex hormones. In general, hormones work instantly when they released in blood stream. Sex hormones are different because they start to work later on. They gradually prepare in the body for reproduction.

The sex hormones are responsible for the fundamental change in growth & development and stimulate the developments of secondary sexual characters. The testes and the ovaries are the reproductive Organs and both are stimulated by the pituitary hormone during Puberty. That's the reason these are called sex hormones.

Functions of Sex Hormones:

In male, the testes produces the male sex hormone testosterone. This hormone helps in the development and maintenance of the primary and secondary sexual characters and production of sperms

In female, the ovaries secrete oestrogen and progesterone responsible for the primary and secondary sexual characters.

Q7. Write notes on:

a. Adam's apple

b. Sex determination in the unborn baby.

Ans: a. **Adam's apple:**

The protruding part of the throat is called Adam's apple. It is the enlarged voice box or larynx which gets enlarged and visible from outside in boys at the onset of puberty. This makes the voice of boys hoarse.

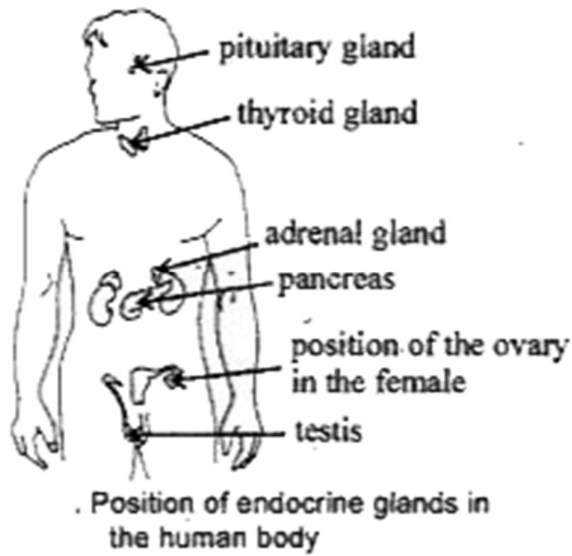
b. Sex determination in the unborn baby:

All human being have 23 pairs of chromosomes in the nuclei of their cells. Out of these two chromosomes are the sex chromosomes named x and y. A female has two x chromosomes, while a male has one x and one y chromosome. The gametes (egg and sperm) have only one set of chromosomes. The unfertilised egg always have one x and but sperms may have x or y . When a sperm containing x chromosome fertilised the egg, the zygote would have two x chromosomes and develop into a female child. If the sperm contributes a

y chromosomes to the egg (ovum) at fertilisation, the zygote would develop into a male child. This concludes that the sex chromosomes of the father determine the sex of an unborn baby.

Q8. Draw a diagram which shows position of endocrine glands in human body

Ans :



IV. Post activity:

Show the diagrammatic representation of sex determination in humans

Subject Tr

HOD

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