

# VIDYA BHAWAN BALIKA VIDYAPEETH

## STUDY MATERIAL SCIENCE

### CLASS-VIII

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#### ▶ Reaching the age of adolescence

**Adolescence:** The term is manipulated from a Latin word 'Adolescence' meaning "to grow into maturity."

Whenever a kid starts crossing the age of 10 or 11, there is a sudden spurt in growth. This shows that they (boys and girls) are no longer a child but are on the way to becoming an adult.

Humans become capable of reproduction after puberty sets in. Between the ages of 11 years and 19 years, children are called adolescents.

The onset of puberty brings about the growth of the reproductive organs. Hair grows at various places on the body. Breasts develop in girls and the region below the waist becomes wider, while facial hair (moustache and beard) appears in boys. Voice of boys becomes hoarse as voice box enlarges during adolescence.

Children gain height, weight and reach mental maturity and emotional maturity during adolescence.

The onset of puberty and maturity from reproductive parts are controlled by hormones.

Hormones are the secretions from endocrine glands, which pour them directly into the bloodstream.

#### **Hormones of Pituitary Gland**

The pituitary gland also called master gland, secretes

hormones like growth hormone and the hormones that stimulate other glands such as the testes, ovaries, thyroids and adrenals to secrete hormones. For example, Pancreas secretes insulin, the thyroid secretes thyroxine and adrenals secrete adrenalin.

### **Male and Female Hormones**

Testosterone is the male hormone and estrogen, the female hormone. The uterine wall in females, i.e., the endometrium prepares itself to receive the developing fertilised egg. In case there is no fertilisation, the thickened lining of the uterine wall breaks down along with degenerated corpus luteum and egg and goes out of the body along with blood. This is called menstruation.

**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.

**Ductless Glands:** A few glands such as sweat glands, oil glands and salivary glands release their secretions through ducts. Endocrine glands lack ducts and it releases hormones directly into the bloodstream. So they are also called ductless glands.

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

**Menarche:** The first menstrual flow begins at puberty and is termed menarche.

**Adam's Apple:** This is the protruding part of the throat in boys which begin to grow at puberty. This is also known as the voice box or the larynx.