

DON BOSCO HIGH SCHOOL

LESSON 6 ADOLESCENCE A STAGE OF GROWTH

1. What is adolescence?

Answer:

Adolescence is the stage of life between childhood and adulthood during which a person undergoes rapid physical, mental, emotional, and social changes. It is a period of growth and development that prepares the body for adulthood.

2. What is puberty?

Answer:

Puberty is the period during adolescence when the body begins to mature sexually. During puberty, boys and girls develop reproductive organs and secondary sexual characteristics, making them capable of reproduction.

3. At what age does adolescence generally begin and end?

Answer:

Adolescence usually begins between the ages of **10 and 12 years** and continues until about **18 or 19 years**. The exact age varies from one individual to another.

4. What are the main changes that take place during adolescence?

Answer:

During adolescence:

- There is a rapid increase in height and weight.
- Body shape changes.
- Reproductive organs mature.
- Secondary sexual characteristics develop.
- Voice changes.

- Emotional and mental development takes place.
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5. What is the growth spurt?

Answer:

A growth spurt is a sudden and rapid increase in height and weight that occurs during adolescence. Girls generally experience this growth spurt earlier than boys.

6. What are hormones?

Answer:

Hormones are chemical substances produced by endocrine glands. They control growth, development, reproduction, metabolism, and many other body functions.

7. What are endocrine glands?

Answer:

Endocrine glands are glands that release hormones directly into the bloodstream. These hormones travel to different parts of the body and regulate various body functions.

Examples include the pituitary gland, thyroid gland, adrenal glands, pancreas, testes, and ovaries.

8. Why is the pituitary gland called the "master gland"?

Answer:

The pituitary gland is called the **master gland** because it produces hormones that control the activity of many other endocrine glands, including the thyroid gland, testes, and ovaries.

9. What changes occur in boys during puberty?

Answer:

During puberty, boys:

- Grow taller.
 - Develop broader shoulders.
 - Grow hair on the face, chest, underarms, and pubic region.
 - Experience a deepening of the voice.
 - Develop muscles.
 - The testes begin producing sperm.
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10. What changes occur in girls during puberty?**Answer:**

During puberty, girls:

- Grow taller.
 - Develop wider hips.
 - Breasts begin to develop.
 - Hair grows in the underarms and pubic region.
 - The ovaries begin producing eggs.
 - Menstruation begins.
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11. What are secondary sexual characteristics?**Answer:**

Secondary sexual characteristics are physical features that develop during puberty and distinguish males from females but are not directly involved in reproduction.

Examples:

- Beard and moustache in boys.
 - Development of breasts in girls.
 - Growth of hair in the underarms and pubic region in both.
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12. Why does the voice change during adolescence?**Answer:**

During puberty, the voice box (larynx) grows larger due to the action of hormones.

- In boys, the voice becomes deeper and heavier.
 - In girls, the voice becomes slightly deeper but remains comparatively high-pitched.
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13. What causes pimples during adolescence?

Answer:

Hormonal changes make the oil glands in the skin more active. Excess oil and dirt can block skin pores, leading to pimples or acne.

14. Why is personal hygiene important during adolescence?

Answer:

During adolescence, sweat and oil glands become more active. Good personal hygiene helps:

- Prevent body odour.
 - Reduce skin infections.
 - Prevent pimples.
 - Maintain overall health.
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15. What is menstruation?

Answer:

Menstruation is the monthly shedding of the lining of the uterus when fertilisation does not occur. It usually lasts for **3–7 days** and is a normal process in healthy adolescent girls and women.

16. What is the menstrual cycle?

Answer:

The menstrual cycle is the regular monthly cycle in females during which an egg matures and the uterus prepares for pregnancy. If the egg is not fertilised, menstruation occurs. The average menstrual cycle lasts about **28 days**, though it can vary from person to person.

17. Why is menstruation a natural process?

Answer:

Menstruation is a normal biological process that shows the reproductive system is developing and functioning properly. It is not a disease or illness.

18. What is a balanced diet? Why is it important during adolescence?

Answer:

A balanced diet contains all the essential nutrients in the right amounts, including carbohydrates, proteins, fats, vitamins, minerals, fibre, and water.

It is important because adolescents need extra nutrients to support rapid growth, bone development, and overall health.

19. Why is iron important during adolescence?

Answer:

Iron is needed to make haemoglobin, which carries oxygen in the blood. Adolescent girls especially need enough iron to replace the blood lost during menstruation and to prevent anaemia.

20. Name some foods rich in iron and calcium.

Answer:

Iron-rich foods:

- Spinach
- Beans
- Jaggery
- Dates
- Lentils

Calcium-rich foods:

- Milk

- Curd
 - Cheese
 - Green leafy vegetables
 - Ragi
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21. Why is regular exercise important during adolescence?

Answer:

Exercise:

- Strengthens muscles and bones.
 - Improves blood circulation.
 - Maintains a healthy body weight.
 - Improves mental health.
 - Builds stamina and fitness.
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22. Why is adequate sleep necessary during adolescence?

Answer:

Adolescents need sufficient sleep because the body grows rapidly during this period. Sleep helps repair tissues, supports brain development, and improves concentration and memory.

23. Differentiate between adolescence and puberty.

Adolescence	Puberty
A stage of growth between childhood and adulthood.	A period during adolescence when sexual maturity begins.
Includes physical, emotional, mental, and social changes.	Mainly involves physical and reproductive changes.
Lasts several years.	Occurs during the early part of adolescence.

24. Differentiate between hormones and endocrine glands.

Hormones	Endocrine Glands
Chemical messengers.	Organs that produce hormones.
Travel through the bloodstream.	Release hormones into the blood.
Control body functions.	Produce hormones for body regulation.

25. What are emotional changes during adolescence?

Answer:

Adolescents may experience:

- Mood swings.
- Increased self-awareness.
- Curiosity.
- Greater independence.
- Strong emotions such as happiness, anger, or sadness.

These changes occur because of hormonal activity and brain development.

26. Why should adolescents avoid tobacco, alcohol, and drugs?

Answer:

These harmful substances can:

- Damage the brain and other organs.
 - Affect growth and development.
 - Cause addiction.
 - Reduce concentration and learning ability.
 - Lead to serious health problems.
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27. How can adolescents maintain good health?

Answer:

Adolescents should:

- Eat a balanced diet.

- Exercise regularly.
 - Maintain personal hygiene.
 - Sleep for 8–10 hours.
 - Avoid harmful substances.
 - Seek guidance from trusted adults or healthcare professionals when needed.
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28. Complete the table.

Hormone	Gland	Main Function
Growth Hormone	Pituitary	Promotes body growth
Thyroxine	Thyroid	Controls metabolism and growth
Insulin	Pancreas	Controls blood sugar level
Testosterone	Testes	Develops male characteristics
Oestrogen	Ovaries	Develops female characteristics

29. Why do boys and girls grow at different rates during adolescence?

Answer:

Girls usually begin puberty earlier than boys and experience their growth spurt sooner. Boys often continue growing for a longer period, which is why they may eventually become taller on average.

30. Why is adolescence considered an important stage of life?

Answer:

Adolescence is important because it is the period when:

- The body grows rapidly.
- Reproductive organs mature.
- Emotional and mental development occurs.

- Healthy habits are formed.
 - Individuals prepare for adulthood and greater responsibilities.
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Higher-Order Thinking Questions

1. Why do two children of the same age sometimes show different stages of puberty?

Answer:

The age at which puberty begins varies from person to person due to factors such as genetics, nutrition, overall health, and hormones. Therefore, it is normal for children of the same age to develop at different rates.

2. An adolescent skips meals regularly and avoids milk and vegetables. What problems might this cause?

Answer:

The adolescent may experience poor growth, weak bones, tiredness, iron deficiency (anaemia), reduced immunity, and poor concentration due to lack of essential nutrients.

3. Why is it important for adolescents to discuss their doubts about puberty with trusted adults or teachers?

Answer:

Talking to trusted adults or teachers helps adolescents get correct information, reduces confusion and anxiety, encourages healthy habits, and helps them understand that the changes of puberty are normal.

4. Why do doctors advise adolescents to exercise regularly instead of spending long hours on mobile phones or computers?

Answer:

Regular exercise supports healthy growth, strengthens muscles and bones, improves posture, reduces stress, and promotes overall physical and mental well-being. Excessive screen time may reduce physical activity and affect health.

5. Explain why adolescence is a period of opportunities as well as responsibilities.

Answer:

Adolescence brings many opportunities for learning, developing skills, building healthy habits, and becoming more independent. At the same time, adolescents must make responsible choices, maintain good health, respect others, and avoid harmful habits such as tobacco, alcohol, and drugs.

Quick Revision Table

Term	Meaning
Adolescence	Stage between childhood and adulthood.
Puberty	Period when the body becomes sexually mature.
Hormones	Chemical messengers produced by endocrine glands.
Endocrine Glands	Glands that release hormones into the bloodstream.
Growth Spurt	Rapid increase in height and weight.
Secondary Sexual Characteristics	Physical features that develop during puberty.
Menstruation	Monthly shedding of the uterine lining in females.
Balanced Diet	Diet containing all essential nutrients in the right amounts.
Personal Hygiene	Habits that keep the body clean and healthy.
Pituitary Gland	"Master gland" that controls other endocrine glands.