Chapter 6: Adolescence: A Stage of Growth and Change

Exercises — Let Us Enhance Our Learning

Q1 Ramesh, an 11-year-old boy, developed a few pimples on his face. His mother told him that this is because of ongoing biological changes in his body.
(i) What could be the possible reasons for the development of these pimples on his face?
(ii) What can he do to get some relief from these pimples?

SOLUTION

(i) Reasons for pimples during adolescence:
Ramesh is 11 years old, which is the onset of adolescence (typically 10–19 years).
During adolescence, the body undergoes several biological changes including an increase in oily secretions from the skin.
These oily secretions can clog the skin pores and lead to infections, causing a skin condition called acne.
Acne manifests as small, reddish pimples, commonly visible on the face.
So the possible reason is: increased oily secretions from the skin during adolescence clog the pores and cause infections, resulting in pimples (acne).

(ii) Steps Ramesh can take for relief:
Keep the face clean by washing it regularly with water to remove excess oil and dirt from the skin pores.
Avoid touching or squeezing the pimples, as this can spread infection and worsen acne.
Maintain good personal hygiene overall.
If the condition persists or worsens, consult a doctor for appropriate medical advice.
The text notes that acne is a common occurrence during adolescent years and varies among individuals, so patience and proper hygiene are key.

Answer: (i) Increased oily secretions from the skin during adolescence clog pores, leading to acne/pimples. (ii) Keep the face clean by washing regularly, avoid squeezing pimples, maintain personal hygiene, and consult a doctor if needed.

Q2 Which of the following food groups would be a better option for adolescents and why? (i) A plate of junk food — burger, French fries, pizza, doughnuts, and fried snacks. (ii) A balanced thali — rice, roti, dal, vegetable curry, salad, and curd.

SOLUTION

The two images show: (i) a plate of junk food — burger, French fries, pizza, doughnuts, and other fried/processed snacks; and (ii) a balanced thali — rice, roti (chapati), dal (lentils), a vegetable curry, salad (cucumber, tomato, lemon), and curd.

Food group (ii) — the balanced thali — is the better option for adolescents.

Why food group (ii) is better:
Adolescence is a period of rapid growth and development, so the body has high nutritional demands.
The balanced thali (ii) provides all the nutrients an adolescent needs: proteins (dal), carbohydrates (rice, roti), fats, vitamins and minerals (vegetables, salad), and calcium (curd) in the right proportions.
Proteins are needed for proper growth, gaining strength, and improving energy levels.
Carbohydrates provide energy for physical activities and keeping the body active.
Calcium (from milk, curd, millets, cheese, paneer) is required for optimal bone growth.
Iron (from spinach, kidney beans, dried fruits like raisins and figs) is needed for the formation of blood; adolescents — especially girls — can suffer from iron deficiency.
Vitamins and minerals support the proper functioning of the body.

Why food group (i) is NOT a good option:
The junk food in (i) — burger, fries, pizza, doughnuts — is high in fat, sugar, and refined carbohydrates but lacks proteins, vitamins, minerals, and fibre.
Such food does not meet the high nutritional needs of a rapidly growing adolescent body and can lead to health problems.

Answer: Food group (ii) — the balanced thali (rice, roti, dal, vegetables, salad, curd) — is the better option. It provides proteins, carbohydrates, fats, calcium, iron, vitamins, and minerals in balanced proportions, meeting the high nutritional demands of an adolescent's rapid growth, bone development, blood formation, and energy needs. Food group (i) is mostly junk food (burger, fries, pizza, doughnuts) that is high in fat and sugar but lacks essential nutrients, so it is not suitable.

Q3 Unscramble the underlined word in the following sentences:
(i) The discharge of blood in adolescent girls which generally occurs every 28–30 days is nstmnoiaretu.
(ii) The hoarseness in the voice of adolescent boys is due to enlarged iceov xob.
(iii) Secondary sexual characteristics are natural signs that the body is preparing for adulthood and mark the onset of urtypeb.
(iv) We should say NO to lahoclo and srugd as they are addictive.

SOLUTION

(i) Unscrambling 'nstmnoiaretu':
Rearranging the letters: n-s-t-m-n-o-i-a-r-e-t-u → MENSTRUATION
The discharge of blood in adolescent girls which generally occurs every 28–30 days is MENSTRUATION.

(ii) Unscrambling 'iceov xob':
Rearranging: i-c-e-o-v = VOICE; x-o-b = BOX
The hoarseness in the voice of adolescent boys is due to the enlarged VOICE BOX.
(The voice box grows in adolescent boys, and its growth may be seen as a bump in the throat called the Adam's apple.)

(iii) Unscrambling 'urtypeb':
Rearranging: u-r-t-y-p-e-b → PUBERTY
Secondary sexual characteristics are natural signs that the body is preparing for adulthood and mark the onset of PUBERTY.

(iv) Unscrambling 'lahoclo' and 'srugd':
lahoclo → ALCOHOL; srugd → DRUGS
We should say NO to ALCOHOL and DRUGS as they are addictive.

Answer: (i) MENSTRUATION (ii) VOICE BOX (iii) PUBERTY (iv) ALCOHOL and DRUGS

Q4 Shalu told her friend, 'Adolescence brings only physical changes, like growing taller or developing body hair.' Is she correct? What would you change in this description of adolescence?

SOLUTION

Shalu is NOT correct. Her description is incomplete and inaccurate.

Why Shalu is incorrect:
Adolescence is not limited to physical changes alone. It involves significant changes across three broad categories:

1. Physical changes (which Shalu mentioned):
Increase in height and weight.
Changes in body structure — broader shoulders in boys, development of breasts in girls.
Changes in voice — growth of voice box; hoarseness in boys.
Appearance of hair in armpits, pubic region, face (boys), chest (boys).
Skin changes — acne and pimples due to increased oily secretions.

2. Biological/internal changes (which Shalu missed):
Maturation of reproductive organs.
In girls, onset of the menstrual cycle (menstruation), which generally recurs every 28–30 days.
These changes indicate reproductive capability — puberty.
These changes are driven by hormones — chemicals produced in the body in response to signals from the brain.

3. Emotional and behavioural changes (which Shalu missed):
Adolescence is marked by stronger emotions than childhood.
Mood swings — feeling very energetic and happy on some days, low on others.
Increased sensitivity and compassion.
Stronger curiosity, interest in new areas.
Desire to take up social initiatives.

What to correct in Shalu's description:
Replace 'only physical changes' with 'physical, biological/reproductive, and emotional and behavioural changes'.
A complete description: Adolescence is a period of rapid growth from childhood to adulthood (ages 10–19) marked by physical changes (height, hair, voice, skin), internal biological changes (maturation of reproductive organs, menstruation in

girls), and emotional and behavioural changes (mood swings, stronger emotions, new interests).

Answer: Shalu is incorrect. Adolescence involves not just physical changes but also internal biological changes (onset of menstrual cycle, maturation of reproductive organs, driven by hormones) and emotional and behavioural changes (mood swings, stronger emotions, increased sensitivity, new interests). Her description should include all three dimensions.

Q5 During a discussion in the class, some of the students raised the following points. What questions would you ask them to check the correctness of these points?
(i) Adolescents do not need to worry about behavioural changes.
(ii) If someone tries a harmful substance once, they can stop anytime they want.

SOLUTION

(i) Questioning the point: 'Adolescents do not need to worry about behavioural changes.'
Questions to check correctness:
Are you aware that adolescence is marked by stronger emotions than childhood — does that not affect behaviour?
Have you noticed that mood swings, increased sensitivity, and peer influence all impact how adolescents behave? Do these not deserve attention?
If behavioural changes are not addressed, can they lead to unhealthy decisions — such as being influenced by peers to try harmful substances?
Is it not important to understand how our emotions influence our behaviour so we can make better choices and respond to situations thoughtfully?
Don't you think seeking guidance from parents and teachers about behavioural changes helps adolescents navigate this stage more responsibly?

(ii) Questioning the point: 'If someone tries a harmful substance once, they can stop anytime they want.'
Questions to check correctness:
Are you aware that tobacco, alcohol, and drugs are addictive — once a person starts, they develop a strong urge to take them again and again?
Do you know that what begins as 'just one time' can gradually lead to regular use, a condition called substance abuse?
Have you seen or read about cases where people believed they could stop after

one try but could not?
Do you know that overcoming addiction often requires professional counselling and medical help — doesn't that suggest it is not as easy as 'stopping anytime'?
Is it not wiser to say NO the first time and every time, rather than risk developing an addiction?

Answer: (i) Ask: Do you know adolescence involves stronger emotions and peer influence that DO affect behaviour? Is it not important to understand these changes to make better choices? (ii) Ask: Are you aware that harmful substances are addictive — one try can lead to regular use (substance abuse)? Do you know overcoming addiction requires medical help, making it very hard to 'stop anytime'?

Q6 Adolescents sometimes experience mood swings. On some days, they feel very energetic and happy, while on other days, they may feel low. What other behavioural changes are associated with this age?

SOLUTION

Mood swings are one of many behavioural changes during adolescence. Other behavioural changes associated with this age include:

1. Increased sensitivity:
Adolescents become more sensitive to the feelings and reactions of others around them.
Strong emotions may lead to increased compassion and concern for others.

2. Compassion and involvement in social work:
Adolescents may develop a desire to take up social initiatives to support those who are needy or disadvantaged.
They may join or support community activities.

3. Self-exploration and creativity:
Adolescents may develop a deeper interest in new areas such as music, dance, sports, art, or other creative pursuits.
Involvement in such activities can lead to innovation and self-expression.

4. Heightened curiosity and excitement:
Adolescents develop a new viewpoint towards almost everything around them.
This curiosity can drive exploration and learning.

5. Peer influence and mimicry:
Adolescents may feel attracted to their peers and tend to mimic their behaviour.

They interact extensively — both in person and online — with peers.

6. Increased online activity and social media use:
Adolescents interact with others on online platforms, which requires responsible behaviour to avoid cyberbullying or misuse of personal information.

7. Thoughtful decision-making (or its opposite):
This stage calls for being thoughtful and responsible while interacting with others.
Without proper guidance, adolescents may also make impulsive decisions under peer pressure (e.g., being tempted to try harmful substances).

Answer: Other behavioural changes during adolescence include: increased sensitivity and compassion, involvement in social initiatives, self-exploration and interest in creative activities (music, dance, sports), heightened curiosity, strong peer influence and mimicry, increased online social interaction, and a need to make thoughtful decisions. These arise because adolescence is marked by stronger emotions than childhood.

Q7 While using a toilet, Mohini noticed that used sanitary pads were scattered near the bin. She got upset and shared her feelings with her friends. They discussed the importance of menstrual hygiene and healthy sanitary habits. What menstrual hygiene and sanitary habits would you suggest to your friends?

SOLUTION

The following menstrual hygiene and sanitary habits should be followed, based on the chapter:

1. Use appropriate menstrual hygiene products:
Use sanitary pads or reusable cloth pads designed for menstrual hygiene to maintain comfort and cleanliness during menstruation.
Biodegradable sanitary pads are also available and are environment-friendly.

2. Dispose of used sanitary pads properly:
Used sanitary pads must be wrapped in newspaper before disposing of them.
They should be placed INSIDE a dustbin — not scattered near or around it.
This ensures community health and environmental cleanliness.
Scattering used pads is unhygienic and poses a health risk to others.

3. Maintain body hygiene during menstruation:
Keep the body clean during menstruation to stay comfortable and prevent infections.

4. Maintain general hygiene in the washroom:
Ensure the washroom and bin area are kept clean after use.
Encourage others to follow hygienic disposal practices.

5. Reduce stigma around menstruation:
Menstruation is a natural process. Healthy habits and open, informed discussions help reduce shame or stigma.
Encourage a scientific outlook towards menstruation.

6. Be aware of government schemes:
Schemes like the Menstrual Hygiene Scheme (MHS), RKSK, and the Suvidha Sanitary Napkin Initiative provide sanitary pads free or at low cost — use these resources.
Advocate for proper sanitary facilities in schools and public places.

Answer: Use sanitary pads or cloth pads. Dispose of used pads by wrapping them in newspaper and placing them INSIDE the dustbin — never scatter them. Maintain body hygiene during menstruation. Keep washroom areas clean. Treat menstruation as a natural process and reduce stigma. Use government schemes like MHS and Suvidha Initiative for access to affordable pads.

Q8 Mary and Manoj were classmates and good friends. On turning 11, Mary developed a little bulge on the front of her neck. She visited the doctor who gave her medication and asked to take iodine-rich diet. Similarly, a bump was developed on the front of Manoj's neck when he turned 12. However, the doctor told him that it was a part of growing up. According to you, what could be the possible reason for advising Mary and Manoj differently?

SOLUTION

The two cases are different in nature, and that is why the doctors gave different advice.

Manoj's case (normal — part of growing up):
Manoj is an adolescent boy aged 12. During adolescence, boys experience growth of the voice box (larynx).
This growth can be seen as a bump in the throat region, called the Adam's apple.
It is a secondary sexual characteristic — a normal part of puberty in boys.
No treatment is needed; the doctor correctly told Manoj it is a part of growing up.

Mary's case (a medical condition — not a normal part of puberty):

Mary is an 11-year-old girl. A bulge on the front of the neck in girls of this age is NOT a normal secondary sexual characteristic.
The doctor prescribed medication and advised an iodine-rich diet. This strongly indicates that Mary may be suffering from goitre — a condition caused by iodine deficiency, which leads to swelling of the thyroid gland (located in the front of the neck).
Iodine is essential for the thyroid gland to function properly; without enough iodine, the gland enlarges, forming a visible bulge.
This is a health condition that requires treatment, unlike Manoj's Adam's apple.

Summary of difference:
Manoj's bump = Adam's apple, a normal secondary sexual characteristic of puberty in adolescent boys; no treatment needed.
Mary's bulge = likely goitre due to iodine deficiency, a medical condition requiring iodine-rich diet and medication.
Hence the doctors advised them differently because one change was a normal part of adolescence while the other was a health condition.

Answer: Manoj's bump is the Adam's apple — a normal secondary sexual characteristic in adolescent boys caused by growth of the voice box during puberty; no treatment needed. Mary's bulge is likely goitre caused by iodine deficiency (thyroid gland enlargement), a medical condition requiring an iodine-rich diet and medication. The two differ because one is a normal part of growing up and the other is a nutritional deficiency disorder.

Q9 During adolescence, the boys and girls undergo certain physical changes, a few of which are given below.
(i) Change in voice
(ii) Development of breasts
(iii) Growth of moustache
(iv) Growth of facial hair
(v) Pimples on the face
(vi) Growth of hair in the pubic region
(vii) Growth of hair in armpits
Categorise these changes in the table given below:
Physical changes during adolescence — Observed only in boys | Observed only in girls | Common in boys and girls

SOLUTION

Categorising each change based on the chapter:

(i) Change in voice:
In adolescent boys, growth of the voice box leads to a hoarse, noticeably changed voice and the Adam's apple.
In adolescent girls, the voice box also grows but is not as big, leading to only slight changes in voice.
→ Common in boys and girls (more prominent in boys).

(ii) Development of breasts:
Explicitly mentioned as a change in girls only.
→ Observed only in girls.

(iii) Growth of moustache:
Boys develop facial hair, which grows into a moustache and beard as they move towards adulthood.
→ Observed only in boys.

(iv) Growth of facial hair:
Boys develop facial hair (moustache, beard).
→ Observed only in boys.

(v) Pimples on the face:
Acne and pimples occur due to increased oily skin secretions during adolescence. The chapter states this is 'another common occurrence during the adolescent years' without restricting it to one gender.
→ Common in boys and girls.

(vi) Growth of hair in the pubic region:
The chapter states: 'Both boys and girls experience the growth of hair in different parts of their bodies, such as the armpits and pubic region.'
→ Common in boys and girls.

(vii) Growth of hair in armpits:
The chapter states: 'Both boys and girls experience the growth of hair in different parts of their bodies, such as the armpits and pubic region.'
→ Common in boys and girls.

Summary table:

Observed only in boys	Observed only in girls	Common in boys and girls
(iii) Growth of moustache	(ii) Development of breasts	(i) Change in voice
(iv) Growth of facial hair		(v) Pimples on the face
		(vi) Growth of hair in pubic region
		(vii) Growth of hair in armpits

Answer: Only in boys: (iii) Growth of moustache, (iv) Growth of facial hair. Only in girls: (ii) Development of breasts. Common in both boys and girls: (i) Change in voice, (v) Pimples on the face, (vi) Growth of hair in pubic region, (vii) Growth of hair in armpits.

Q10 Prepare a poster mentioning the tips for adolescents to live a healthy lifestyle.

SOLUTION

This is a creative/activity question. A poster on healthy lifestyle tips for adolescents should include the following points drawn from the chapter:

Title: HEALTHY ADOLESCENCE — Tips for a Healthy Lifestyle

1. EAT WELL — Nourish Your Body
Eat a balanced diet with proteins, carbohydrates, fats, vitamins, and minerals.
Include milk, curd, millets, and paneer for calcium (strong bones).
Eat spinach, kidney beans, and dry fruits for iron (healthy blood).
Avoid junk food and sugary snacks.

2. STAY CLEAN — Practice Personal Hygiene
Keep your body clean, especially the armpits and pubic region.
Girls: use proper menstrual hygiene products (sanitary pads); dispose of used pads by wrapping in newspaper and placing inside a bin.

3. MOVE IT — Stay Physically Active
Exercise regularly. Play sports and games.
Physical activity keeps your body and mind fit, builds stamina, and boosts your mood.

4. BE KIND — Build a Balanced Social Life
Be polite and respectful to everyone, in person and online.
Avoid cyberbullying. Think before you post. Protect your privacy online.

Seek guidance from parents and teachers when needed.

5. SAY NO — Avoid Harmful Substances
Say NO to tobacco, alcohol, drugs, and other addictive substances — the first time and every time.
These substances damage your health and are addictive.
If pressured, seek help from a trusted adult.

6. UNDERSTAND — Know Your Body
Adolescence is normal. Physical, emotional, and behavioural changes are part of growing up.
Hormones drive these changes. Mood swings are normal — channel your energy into creative activities.

Remember: Your health and future are in your hands — choose wisely!

Answer: Poster tips: (1) Eat a balanced diet — proteins, calcium (milk/millets), iron (spinach/beans). (2) Maintain personal hygiene; dispose of sanitary pads properly. (3) Exercise regularly — sports, yoga, games. (4) Be respectful online and offline; avoid cyberbullying. (5) Say NO to tobacco, alcohol, and drugs — they are addictive. (6) Understand that physical and emotional changes during adolescence are normal; seek guidance when needed.