



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

TERM-1 (2026-27)
SCIENCE MS

Class: VII

Time: 3hours

Date 07/09/26

SECTION- A BIOLOGY

MM 80

1. a) Increased brain development
2. d) Physical, emotional and mental changes
3. c) Widening of hips
4. a) Trachea
5. a) Small intestine
6. a) Gall bladder
7. d) Breath
8. a) Both A and R are true, and R is the correct explanation of A.
9. a) Both A and R are true, and R is the correct explanation of A.
10. During puberty, hormonal changes increase the activity of oil (sebaceous) glands in the skin. Excess oil and dead skin cells block the pores, allowing bacteria to grow, which causes acne and pimples.
11. Puberty: A
 - Adolescence: B
12. a) Defecation is the process of removing undigested food and waste materials from the body through the anus.

b) Rumination is the process in which cud-chewing animals bring partially digested food back to the mouth, chew it again, and swallow it.
13. a) Name the secretions of organs A, B and F.
 - A (Salivary glands): Saliva
 - B (Stomach): Gastric juice

- F (Liver): Bile juice

b) Oesophagus (Food pipe)

c) Small intestine

d) Oesophagus, stomach and small intestine are parts of the alimentary canal.

OR

Lime water is used because it turns milky when carbon dioxide is passed through it. Exhaled air contains carbon dioxide, so when Rohit blows into lime water, it turns milky due to the formation of calcium carbonate. This proves that exhaled air contains carbon dioxide.

14. RKSK (Rashtriya Kishor Swasthya Karyakram): Provides health education, counselling, and healthcare services for adolescents.

- MHS (Menstrual Hygiene Scheme): Promotes menstrual hygiene awareness and provides sanitary napkins to adolescent girls.
- Jan Aushadhi Suvidha Sanitary Napkin Initiative: Supplies affordable, high-quality sanitary napkins through Jan Aushadhi Kendras to improve menstrual health.

15. a) Adolescence.

b) She is growing taller. (*Voice change is also acceptable.*)

c) During adolescence, hormones released by endocrine glands increase rapidly. These hormonal changes affect emotions and behaviour, causing mood swings and increased emotional sensitivity.

OR

d) Eat a balanced and nutritious diet.

Exercise regularly and maintain personal hygiene.

16. The stomach secretes the following:

1. Hydrochloric Acid (HCl):
 - Makes the food acidic.
 - Kills harmful germs.
 - Activates digestive enzymes.
2. Pepsin:
 - Breaks down proteins into simpler substances.
3. Mucus:
 - Protects the inner lining of the stomach from acid.
 - Prevents damage to the stomach wall.

OR

Flowchart:

Water enters through the mouth



Water passes over the gills



Oxygen dissolved in water diffuses into the blood through the gill filaments



Blood carries oxygen to all parts of the body



Carbon dioxide from the blood diffuses into the water



Water carrying carbon dioxide leaves through the gill openings (operculum)

Explanation:

Fish breathe using gills. As water flows over the gills, oxygen is absorbed into the blood and carbon dioxide is released into the water. This process enables fish to obtain oxygen for respiration.

SECTION- B CHEMISTRY

17. **Ans: b)** New discoveries and evidence improve scientific knowledge.
18. **Ans: b)** To confirm that the results are reliable
19. **Ans: c)** Lemon juice is acidic.
20. **Ans: c)** Distilled water
21. **Ans: b)** They are good conductors of electricity and can be drawn into wires.
22. **Ans: c)** Dull appearance and poor conductivity
23. **Ans: c)** Graphite – Non-metal that conducts electricity
24. **Ans: a)** Both A and R are true, and R is the correct explanation of A.
25. **Ans :a.** Science is called an ever-evolving field because new discoveries and inventions continuously improve our understanding of the world.
b. Scientists revise or modify existing ideas when new evidence is found through observations and experiments.
26. **Ans:**

Substance	Example	One Property
Acidic	Lemon juice	Turns blue litmus red
Basic	Soap solution	Turns red litmus blue
Neutral	Distilled water	Does not change the colour of litmus paper

27. **Ans:** Copper and aluminium are used for making electrical wires because:

1. They are good conductors of electricity, allowing electric current to pass through easily.
2. They are ductile, so they can be drawn into thin wires without breaking.
3. They are durable and resistant to corrosion, making the wires long-lasting.

OR

Ans: The iron nail will rust because iron reacts with oxygen and moisture.

Aluminium will not rust like iron because it forms a thin protective oxide layer.

Therefore, aluminium is more resistant to corrosion than iron.

28. **Ans :**

1. Antacids neutralize excess acid in the stomach.
2. Farmers add lime to acidic soil to improve its fertility.
3. Factories neutralize acidic or basic wastes before releasing them into water bodies.
4. Bee stings (acidic) can be relieved by applying baking soda, while wasp stings (basic) can be treated with vinegar or lemon juice.

29. **Ans:**

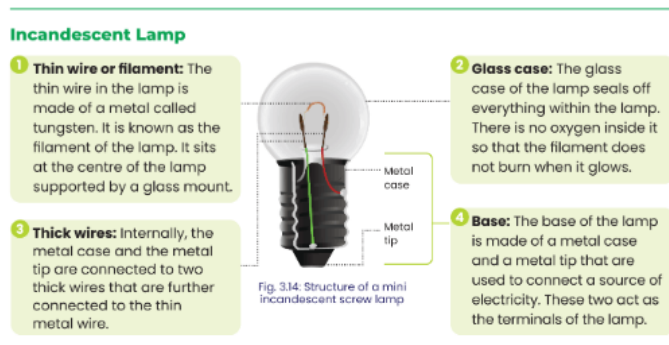
- a) Lemon juice.
- b) Soap solution.
- c) Distilled water.
- d) An acid turns blue litmus paper red.

30. **Ans :**

Property	Metals	Non-metals
Appearance	Lustrous	Usually dull
Conductivity	Good conductors	Poor conductors
Malleability	Malleable	Brittle
Ductility	Ductile	Non-ductile
Sonority	Sonorous	Non-sonorous
Example	Iron, Copper	Sulphur, Carbon

SECTION-C PHYSICS

30. (d) Wooden piece
31. (c) Radiation
32. (a) Both A and R are true, and R is the correct explanation of A.
33. Light-coloured clothes reflect most of the sunlight and absorb less heat, keeping our body cool in summer.
Dark-coloured clothes absorb more heat from the surroundings, helping to keep our body warm in winter.
34. **Labels to include in the diagram:**
 - Glass bulb
 - Tungsten filament
 - Support wires
 - Metal cap
 - Terminals



Working:

When electric current passes through the thin tungsten filament, it becomes very hot and glows, producing light. The glass bulb contains an inert gas or vacuum to prevent the filament from burning.

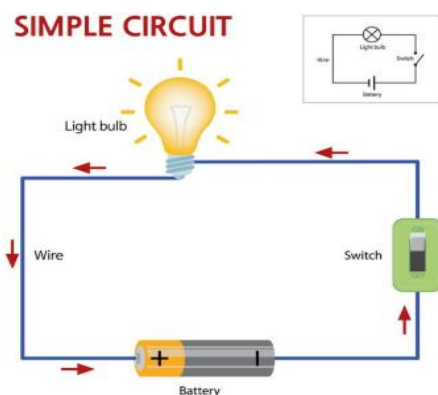
35. A torch works by converting electrical energy from cells into light energy. When the switch is turned on, the circuit becomes complete and current flows through the bulb, making it glow.

Main components:

- Cells (battery)
- Switch
- Bulb
- Reflector
- Connecting wires

These components are connected in a series circuit. The cells provide electricity, and the switch controls the flow of current.

36. A simple electric circuit consists of a cell, a lamp, a switch, and connecting wires. These components are connected in a loop.



Working:

When the switch is closed, the circuit is complete and electric current flows through the lamp, causing it to glow. When the switch is open, the circuit breaks and the lamp does not glow.

37. **Insulators** are materials that do not allow electricity or heat to pass through them easily.

Examples: wood, plastic, rubber.

Cooking utensil handles are made of insulators because they do not conduct heat. They prevent our hands from getting burned while holding hot utensils.

38. a. An electric circuit is a complete arrangement of electrical components connected by wires that provides a path for electric current to flow.
- b. Electric current flows from the positive terminal of a cell to the negative terminal in an external circuit.
- c.

**closed
Circuit**

Open Circuit

It has a complete path for current flow.

It has a broken path or gap.

Current flows and electrical devices work.

Current does not flow and devices do not work.

or

d. A continuous path allows electric charges to move from one terminal of the cell to the other. Without a complete path, current cannot flow.

39. Diagram labels:

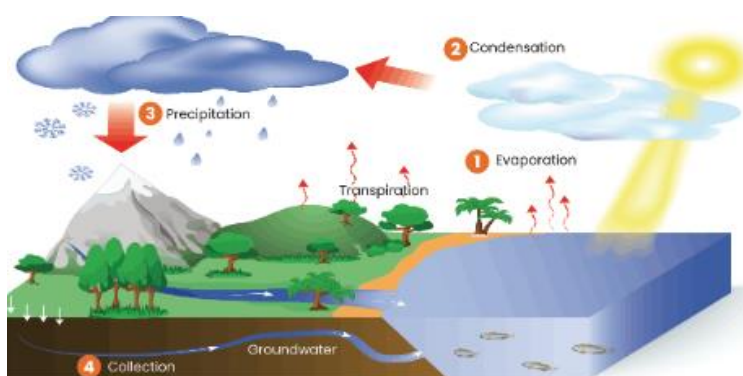


Fig. 7.13: The water cycle

- Evaporation
- Condensation
- Clouds
- Precipitation
- Collection

Explanation:

Evaporation:

The Sun heats water in oceans, rivers, and lakes, changing it into water vapour that rises into the atmosphere.

Condensation:

When water vapour reaches higher, cooler regions, it cools and changes into tiny water droplets, forming clouds.

Water cycle:

Water continuously moves between the Earth's surface and the atmosphere through evaporation, condensation, and precipitation.

Or

Heat Transfer by Convection

Convection is the transfer of heat through the movement of particles in liquids and gases.

When a liquid or gas is heated, the warmer particles become less dense and rise upward. Cooler particles move down to take their place, creating convection currents.

Sea breeze:

During the day, land heats up faster than the sea. The air above the land becomes warm and rises. Cooler air from the sea moves towards the land to replace it, causing a sea breeze.

*****ALL THE BEST*****