

UNIQUE STUDY POINT

By Sumeet Sahu

www.uniquestudyonline.com

Unique Study Point, Amitesh Nagar, Indore, MP | Contact: 8103405051

Class: VI	Subject: Science	Session: 2025-26
Chapter: 10 - Living Creatures: Exploring their Characteristics	Time: 1½ Hours	Max. Marks: 40

General Instructions:

1. All questions are compulsory.
2. This question paper contains 20 questions divided into five sections A, B, C, D and E.
3. Section A contains 10 MCQs of 1 mark each.
4. Section B contains 4 questions of 2 marks each.
5. Section C contains 3 questions of 3 marks each.
6. Section D contains 1 question of 5 marks.
7. Section E contains 2 Case Study Based questions of 4 marks each.

SECTION A - Multiple Choice Questions (1 mark each)

- Q1.** Which of the following is an insectivorous plant mentioned in the chapter?
- (a) Mimosa
 - (b) Drosera
 - (c) Amla
 - (d) Bean plant
- Q2.** Breathing is a part of which life process?
- (a) Nutrition
 - (b) Excretion
 - (c) Respiration
 - (d) Reproduction
- Q3.** Which part of the seed develops into a plant during germination?
- (a) Seed coat
 - (b) Embryo
 - (c) Fruit
 - (d) Pod
- Q4.** A young frog with a tail is called:
- (a) Tadpole
 - (b) Froglet
 - (c) Spawn
 - (d) Embryo
- Q5.** The process of producing new ones of one's own kind is called:
- (a) Growth

- (b) Nutrition
- (c) Reproduction
- (d) Movement

Q6. Which of the following plants fold their leaves after sunset?

- (a) Drosera
- (b) Amla (Indian gooseberry)
- (c) Bean plant
- (d) Rose plant

Q7. In an inverted plant, the shoot will grow:

- (a) Downward
- (b) Upward
- (c) Sideways
- (d) Will not grow

Q8. Which stage comes immediately before the adult mosquito stage?

- (a) Egg
- (b) Larva
- (c) Pupa
- (d) Embryo

Q9. Water droplets on leaves of grasses and roses are an example of:

- (a) Respiration
- (b) Excretion
- (c) Nutrition
- (d) Reproduction

Q10. Which of the following is required for further growth of seedlings after germination?

- (a) Darkness
- (b) Sunlight
- (c) Excess water
- (d) No air

SECTION B - Short Answer Questions (2 marks each)

Q11. List four characteristics of living beings.

Q12. How does water help in seed germination? Explain.

Q13. Name the four stages in the life cycle of a mosquito.

Q14. Why is reproduction necessary for living beings?

SECTION C - Short Answer Questions (3 marks each)

Q15. Explain how plants show movement even though they do not move from one place to another. Give three examples.

Q16. Describe the experiment to show that seeds kept in darkness can germinate. What does this experiment prove?

Q17. Differentiate between the larva and pupa stages of a mosquito on the basis of their structure and

development.

SECTION D - Long Answer Question (5 marks)

Q18. Describe the life cycle of a mosquito in detail. Why do larvae and pupae repeatedly come to the water surface? How can we prevent mosquito breeding?

SECTION E - Case Study Based Questions (4 marks each)

Q19. Case Study 1:

A teacher demonstrated an experiment to students where four bean seeds were planted in different conditions. Setup A: plant kept upright in sunlight from all directions. Setup B: plant kept inverted in sunlight from all directions. Setup C: plant kept upright with light coming from only one direction through a small hole. After a week, students observed the direction of growth of roots and shoots in each setup.

Based on the above information, answer the following questions:

- What will be the direction of shoot growth in Setup B? (1 mark)
- What will be the direction of root growth in Setup B? (1 mark)
- In which direction will the shoot grow in Setup C? Why? (2 marks)

Q20. Case Study 2:

Aayush observed tadpoles in a pond during the rainy season. He noticed that young tadpoles have tails but no legs. After a few weeks, he saw that some tadpoles had developed legs but still retained their tails. Later, he found small frogs with very short tails near the pond. Finally, he observed adult frogs without tails jumping on land.

Based on the above information, answer the following questions:

- Why do young tadpoles have tails? (1 mark)
- What is a small frog with a tail called? (1 mark)
- Explain the changes in habitat from tadpole to adult frog. (1 mark)
- How does the breathing mechanism change from tadpole to adult frog? (1 mark)

Made with ♥ by Sumeet Sahu

Unique Study Point, Amitesh Nagar, Indore, MP

Website: uniquestudyonline.com

SECTION A - Answers to MCQs

Ans 1. (b) Drosera

Explanation: Drosera is an insectivorous plant featured with saucer-shaped leaves having many hair-like projections with sticky ends that trap insects.

Ans 2. (c) Respiration

Explanation: Breathing is a part of respiration. During respiration, living beings take in oxygen and release carbon dioxide.

Ans 3. (b) Embryo

Explanation: The embryo is the tiny developing plant inside the seed that grows into a new plant during germination.

Ans 4. (b) Froglet

Explanation: A froglet is a young frog that still has a small tail. It represents the transition stage between tadpole and adult frog.

Ans 5. (c) Reproduction

Explanation: Reproduction is the process of producing new ones of one's own kind, which is necessary for the continuity of life.

Ans 6. (b) Amla (Indian gooseberry)

Explanation: The sleeping leaves of amla (Indian gooseberry) tree fold together after sunset in response to darkness.

Ans 7. (b) Upward

Explanation: Even when a plant is kept inverted, the shoot bends and grows upward towards light and against gravity.

Ans 8. (c) Pupa

Explanation: The sequence in mosquito life cycle is: egg → larva → pupa → adult mosquito. The pupa transforms into an adult mosquito.

Ans 9. (b) Excretion

Explanation: Plants excrete excess water and minerals in the form of small droplets on leaves. This is an example of excretion in plants.

Ans 10. (b) Sunlight

Explanation: After germination, sunlight is required for further growth of seedlings as it is necessary for photosynthesis.

SECTION B - Answers to Short Answer Questions

Ans 11.

Four characteristics of living beings are:

1. **Movement:** All living beings show some form of movement, though not all move from place to place.
2. **Growth:** Living beings grow and increase in size over time.
3. **Respiration:** Living beings respire to obtain energy from food.
4. **Reproduction:** Living beings reproduce to produce new ones of their own kind.

(Any four from: Movement, Growth, Nutrition, Respiration, Excretion, Response to stimuli, Reproduction)

Ans 12.

How water helps in seed germination:

- Water softens the seed coat, making it easier for the embryo to emerge.
- Water enables the seeds to carry out the chemical processes necessary for their growth.
- Water activates enzymes that break down stored food in the seed, providing energy for the embryo.
- Water causes the seed to swell, which helps break the seed coat.

Without adequate water, these processes cannot occur and germination will not take place.

Ans 13.

Four stages in the life cycle of a mosquito:

1. **Egg:** Female mosquito lays eggs in or near water.
2. **Larva:** The egg hatches into a worm-like larva that lives in water.
3. **Pupa:** The larva develops into a pupa, which is a transitional stage.
4. **Adult:** The pupa transforms into an adult mosquito that flies away.

Ans 14.

Why reproduction is necessary for living beings:

- Reproduction is necessary for the continuity of life on Earth.
- It ensures that a species does not become extinct when individuals die.
- Through reproduction, living beings produce offspring that carry forward their genetic information to the next generation.
- It helps maintain the population of a species in nature.

SECTION C - Answers to Short Answer Questions

Ans 15.

How plants show movement without moving from place to place:

Even though plants do not move from one place to another like animals, they do show certain types of movements:

Examples:

1. **Opening and closing of flowers:** Many flowers open during daytime and close at night. This is a type of movement in response to light.
2. **Touch-me-not (Mimosa) plant:** The leaves of touch-me-not plant fold when we touch them. This is movement in response to touch stimulus.
3. **Insectivorous plants (Drosera):** When an insect enters the saucer-shaped leaves of Drosera, the hair-like projections move inward and trap the insect with their sticky ends.
4. **Sleeping leaves of Amla:** Certain plants like amla fold their leaves after sunset. The leaves facing each other come together in response to darkness.
5. **Climbers:** Climber plants wind themselves around any object placed close to them, showing movement.

(Any three examples with explanation)

Ans 16.

Experiment to show seeds kept in darkness can germinate:

Materials Required: Glass beaker, bean seeds, moist soil, cardboard box

Procedure:

1. Take a glass beaker and fill it with garden soil.
2. Sow 4-5 bean seeds in the beaker.
3. Keep the soil moist by adding moderate amount of water regularly.
4. Place the beaker in a cardboard box or in a dark cupboard where no light reaches.
5. Observe for 7-10 days.

Observation: Seeds germinate even in complete darkness, provided they receive adequate water and air.

What this experiment proves:

- This experiment proves that sunlight is NOT essential for seed germination.
- Most seeds can germinate in darkness as long as they have water and air.
- However, after germination, sunlight becomes necessary for further growth of the seedling for photosynthesis.

Ans 17.

Difference between larva and pupa stages of mosquito:

Aspect	Larva	Pupa
Shape	Worm-like, elongated body	Comma-shaped, compact body
Activity	Active, swims and feeds in water	Less active, does not feed
Development	Grows in size, sheds skin multiple times	Undergoes transformation into adult
Duration	Longer duration	Shorter duration
Next Stage	Develops into pupa	Transforms into adult mosquito

SECTION D - Answer to Long Answer Question

Ans 18.

Life cycle of a mosquito:

Mosquitoes pass through four distinct stages in their life cycle:

Stage 1 - Egg:

- Female mosquitoes lay eggs directly on or near water.
- Eggs may be laid singly or in clusters.
- The eggs hatch within a few days depending on temperature and conditions.

Stage 2 - Larva:

- The egg hatches into a worm-like larva.

- Larvae live in water and feed on microorganisms and organic matter.
- They have a distinct head, thorax, and abdomen.
- Larvae undergo several molts (shedding of skin) as they grow.
- This stage lasts for several days to weeks depending on species and conditions.

Stage 3 - Pupa:

- The larva transforms into a pupa.
- The pupa is comma-shaped and less active than the larva.
- It does not feed during this stage.
- Inside the pupal case, the mosquito undergoes complete transformation.
- This stage lasts for 1-4 days.

Stage 4 - Adult Mosquito:

- The pupa case splits open and the adult mosquito emerges.
- It rests briefly on the water surface to dry its wings.
- Once the wings are dry, it flies away.
- Adult mosquitoes may live for 10-15 days or longer.
- Female mosquitoes mate and lay eggs, continuing the cycle.

Why larvae and pupae repeatedly come to the water surface:

- Mosquito larvae and pupae live in water but they need to breathe air.
- They have breathing tubes (siphons) that they use to take in air from the atmosphere.
- They repeatedly come to the water surface to breathe through these tubes.
- If prevented from reaching the surface, they will die due to lack of oxygen.

How to prevent mosquito breeding:

1. **Eliminate stagnant water:** Empty water from coolers, flower pots, old tires, and any containers where water can collect.
2. **Use kerosene oil:** Spray kerosene oil on stagnant water that cannot be emptied. The oil forms a layer on the surface, preventing larvae and pupae from breathing.
3. **Cover water storage:** Cover water tanks, drums, and other storage containers properly.
4. **Change water regularly:** Change water in bird baths, pet bowls, and vases regularly.
5. **Maintain surroundings:** Keep surroundings clean and ensure proper drainage to prevent water accumulation.

SECTION E - Answers to Case Study Based Questions

Ans 19.

(a) Direction of shoot growth in Setup B: In Setup B (inverted plant), the shoot will bend and grow upward towards the sky, even though the plant is inverted. (1 mark)

(b) Direction of root growth in Setup B: In Setup B (inverted plant), the root will also bend and grow downward into the soil, even though the plant is inverted. (1 mark)

(c) Direction of shoot growth in Setup C and reason: In Setup C, the shoot will grow towards the direction from which light is coming (towards the hole). This happens because shoots show positive phototropism - they grow towards the source of light. Sunlight is necessary for photosynthesis, so shoots naturally grow towards light to maximize their exposure to sunlight for making food. (2 marks)

Ans 20.

(a) Why young tadpoles have tails: Young tadpoles have tails to help them swim in water. Since tadpoles live completely in water during the early stages, the tail acts as a swimming organ that helps

them move around efficiently in their aquatic habitat. (1 mark)

(b) What is a small frog with a tail called: A small frog with a tail is called a froglet. It represents the intermediate stage between tadpole and adult frog. (1 mark)

(c) Changes in habitat from tadpole to adult frog: Tadpoles live completely in water and cannot survive on land. As they develop into froglets, they begin to spend some time on land but still stay near water. Adult frogs can live both in water and on land (amphibians), though they need to keep their skin moist. (1 mark)

(d) Changes in breathing mechanism: Tadpoles breathe through gills like fish, extracting oxygen from water. As they develop into froglets and then adult frogs, they develop lungs for breathing air. Adult frogs can breathe through both lungs and their moist skin. (1 mark)

Made with ♥ by Sumeet Sahu

Unique Study Point, Amitesh Nagar, Indore, MP

Website: uniquestudyonline.com