

Board – CBSE

Class – 6

Topic - Living organisms

Question 1.

Visit a pond and make a list of animals found inside the water.

Answer:

The animals like frogs, fish, molluscs and certain insects are found inside the water.

Protozoans like amoeba and turtles, water spiders, water skaters, dragon flies, king fishers, ducks and many other types of animals are inhabiting the ponds.

Question 2.

Name some plants which live in dry areas.

Answer:

Plants like cactus, munj, kaner, accacia (keekar), seesam, etc., live in dry areas.

Question 3.

Mention a few aquatic plants found in a pond.

Answer:

Water hyacinth, hydrilla, spirogyra, water lily, lotus, lemna, etc.

Question 4.

Name the places of living of the following plants:

1. Cactus
2. Hydrilla

Answer:

1. Cactus: Desert
2. Hydrilla: Pond.

Habitat and adaptation

Question 1.

What is adaptation?

Answer:

The change in specific features or certain habits, which enables a plant or an animal to live in its surroundings is called adaptation.

Question 2.

What is habitat?

Answer:

The surrounding where organisms survive, flourish and reproduce is called a habitat.

Question 3.

What are aquatic habitats?

Answer:

Habitats of plants and animals that live in water are called aquatic habitat. ‘

Question 4.

What are terrestrial habitats? Give examples.

Answer:

The plants and animals that live on land are said to be live in terrestrial habitats. ‘

For example, forests, grasslands, deserts, coastal and mountain regions.

Question 5.

What are biotic components?

Answer:

The living things such as plants and animals in a habitat are its biotic components.

Question 6.

Explain abiotic components.

Answer:

Various non-living things such as rocks, soil, air and water in a habitat constitute its abiotic components.

Question 7.

Define ecology.

Answer:

The study of the relationship between living organisms and their surroundings is called ecology.

Question 8.

Why does a fish have slippery scales on its body?

Answer:

A fish has slippery scales on its body. These scales protect the fish and also help in easy movement through water.

A journey through different habitats

Question 1.

Out of desert and aquatic plants, whose roots are almost absent?

Answer:

Aquatic plants.

Question 2.

Give three main adaptive features in a desert plant.

Answer:

1. Well-developed root systems.
2. Leaves are either very small or converted to spines.

3. Stem are green and fleshy in some plants.

Question 3.

What adaptation of desert animals protect themselves from deficiency of water?

Answer:

Animals living in hot places such as desert, for example, snakes, desert rats and lizards are not able to get sufficient water. So these animals have thick skin, which prevents evaporation. Since they do not sweat, they can survive without water for a longer period.

Question 4.

What is the ultimate source of energy for every ecosystem? Which biotic component can trap solar energy and how?

Answer:

Sun is the ultimate source of energy. Green plants are capable of trapping solar energy by leaves in a process called photosynthesis, using water and CO₂ in the presence of sunlight.

Question 5.

Mountain is a special terrestrial habitat where the temperature is very low and most of the areas are covered with snow. What is the flora and fauna of this habitat at higher altitudes?

Answer:

Flora: Grasses, mosses and lichens.

Fauna: Snow bear, fox, water fowl, musk deer, wolf.

Snow leopards, yak and mountain goats.

Question 6.

Why do camels have long legs?

Answer:

Long legs of camels help them to lift their body above the ground. Thus, they are able to avoid direct contact with the hot ground.

Question 7.

What are nocturnal animals? Give two examples of nocturnal animals.

Answer:

Some animals are active during night time. These are called nocturnal animals. e.g., bats, cockroaches and owls.

Question 8.

If strong winds blow only in one direction, what will be the effect on trees?

Answer:

Trees will bend in the direction of wind and attain a typical shape.

Question 9.

Why is the head and snout of the snake is tapering?

Answer:

It is adapted to burrowing and digging habits.

Question 10.

Which plants have leaves without pores?

Answer:

Underwater plants.

Question 11.

Plants in hilly areas have to bear high speed winds and cold. Which adaptation best helps them to face such conditions?

Answer:

Tall, thin and straight trunk with needle-shaped leaves.

Question 12.

Give one example of

1. free floating plant
2. plants without roots.

Answer:

1. Lotus
2. Ceratophyllum.

Question 13.

Name the respiratory organ in

1. terrestrial animals
2. aquatic animals (fish)

Answer:

1. Lungs
2. Gills.

Question 14.

How do the skins of animals living in cold places protect them from cold conditions?

Answer:

The skin of animals like walrus, seals and penguins are thick and protect them from the cold. Another way of protection from cold is by having thick fur.

Question 15.

How is a fish adapted to live in water?

Answer:

Fish have the following adaptations to live in water:

- In all the fish, the head and tail portions are smaller than the middle portion, that is, the body tapers at both the ends. This shape of the body provides least resistance to the fish when they swim in water.

- Skin of the fish is covered with scales. These scales are slippery; the slippery scales help the fish in swimming.
- We have lungs, which is an organ for respiration. Similarly, fish has gills for respiration. It utilises oxygen dissolved in water and releases carbon dioxide into the water.

Question 16.

What is the adaptation mechanism of a chameleon?

Answer:

It changes its colours to suit with its surroundings.

Question 17.

What do you mean by camouflage?

Answer:

Camouflage is the ability of an organism to blend in with its surroundings.

Question 18.

What is known as 'Lungs of the world'?

Answer: The Amazon Rainforest is known as the 'Lungs of the world'.

Question 19.

What are blowholes?

Answer:

The organs by which dolphins or whales breathe are called blow holes or nostrils.

Question 20.

Differentiate between diurnal and nocturnal animals.

Answer:

Diurnal animals: Animals which are active during the day time.

Nocturnal animals: Some animals like earthworms and cockroaches are active at night.

Question 21.

Define predators and prey.

Answer:

Predators: The animals which kill other animals for their food are called predators. Prey:

The animals which are killed by predators for their food are called prey.

Characteristics of the living beings

Question 1.

What is life?

Answer:

It is easy to say that this object is living and this is non-living, but it is difficult to say what is life. Life is the sum total of all the activities shown by a living object and the activities taking place inside its body.

Thus life is the process seen only in living objects in the form of growth, movement, feeding or eating, sensitivity, respiration, excretion and reproduction.

Question 2.

List the important characteristics of living things, which differentiate them from non-living things.

Answer:

living things	Non-living things
1. Living things need food, air and water.	1. Non-living things do not need food, air or water.
2. Living things grow.	2. Non-living things do not grow.

3. Living things can move on their own.	3. Non-living things cannot move on their own.
4. Living things are sensitive. They respond to changes around them.	4. Non-living things are not sensitive. They do not respond to changes around them.
5. Living things reproduce themselves.	5. Non-living things do not reproduce.
6. Living things respire. They release energy from food.	6. Non-living things do not respire.
7. Living things excrete. They get rid of waste materials from their body.	7. Non-living things do not excrete.
8. Living things have a definite life span.	8. Non-living things exist for ever.
9. Living things are made up of living cells.	9. Non-living things are made up of molecules.

Question 3.

What are the main characteristics of living objects?

Answer:

- Living objects need water, air and food for their survival.
- They show feeding, movement, respiration, excretion, growth, sensitiveness and reproduction.
- They have a definite life span.
- All living things are made up of cells.

Question 4.

Indicate which of the following are living and which are non-living: buffalo, grass, grasshopper, table, aeroplane, pencil, bicycle, crow, banyan tree.

Answer:

Living things:

1. Buffalo
2. Grass
3. Grasshopper
4. Crow
5. Banyan

Non-living things:

1. Table
2. Aeroplane
3. Pencil
4. Bicycle
5. tree

Question 5.

Name any four single-celled living organisms.

Answer:

1. Amoeba
2. Paramecium
3. Bacteria and
4. Yeast.

Question 6.

What is reproduction?

Answer:

It is a process by which living organism gives birth to the next generation of its own kind. ‘

Question 7.

What are the different types of reproduction?

Answer:

1. Asexual reproduction.
2. Sexual reproduction.

Question 8.

What do you mean by vegetative propagation in plants?

Answer:

It is a process of growing plants from any vegetative part of a plant like leaf, stem, root, etc.

Question 9.

What do you understand by the life cycle and lifespan of a living thing?

Answer:

Life cycle: Life cycle is the series of changes in the life of an organism including reproduction. All the living things have a life cycle. The single cell or unicellular organisms change into multicellular organisms. The multicellular organisms also start their life from a single cell.

Life span: All the living things start their lives from birth. These living things grow into adults, remain alive for a certain period of time and finally die. The time period for which living things remain alive is called its life span. All the living things have a definite life span

(Fig. 9.5).

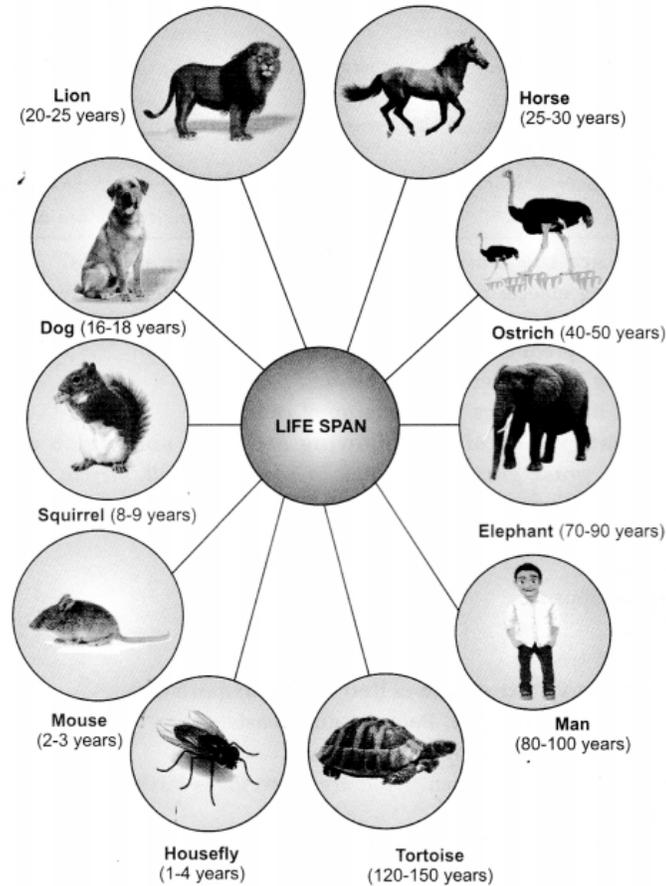


Fig. 9.5. Life span of some living things

Question 10.

Name the organs which are used by the following animals for walking:

Birds, Fish, Horse

Answer:

Names of the animal	Organ used for locomotion
1. Birds	Wings

2. Fish	Fins
3. Horse	Limbs

Question 11.

Name the type of locomotion in the following animals:

fish, earthworm, cow, birds, frog

Answer:

Names of the animal	Type of locomotion
1. Fish	Swimming
2. Earthworm	Crawling
3. Cow	Walking
4. Birds	Flying
5. Frog	Jumping

Question 12.

Why bacteria and viruses are considered as 'Immortal'?

Answer:

Bacteria and viruses neither grow old nor die. Their growth remains continued for ever. They may survive a million years or even more if frozen or buried under salt. If they are buried in a non-living environment, they stop growing but do not die. Whenever they get favourable conditions, they start growing again. Hence they are considered as 'immortal'.

Question 13.

What is stimulus?

Answer:

The change in environment that makes an organism to react or produce a change in its activities is called stimulus.

Question 14.

What is the role of decomposers?

Answer:

Decomposers maintain the balance of nutrients in the soil by decomposing dead plants and animals present in the soil. Hence, it is clear that the biotic and abiotic components of nature are interdependent.

Question 15.

Write the differences between respiration and breathing.

Answer:

Respiration: It is the process through which living things utilise oxygen to release the energy stored in food they eat.

Breathing: During breathing, when we inhale, air rich in oxygen moves from outside of our body to inside. When we breathe out, the air rich in carbon dioxide moves from inside of our body to outside.

Question 16.

Differentiate between locomotion and movement.

Answer:

Locomotion: It is the movement of an organism, bodily from one place to another. It involves the whole body as in walking, running, etc.

Movement: It is the change in the position of any part of the body with respect to its axis, e.g., shaking of the head.

Question 17.

What do you mean by acclimatisation?

Answer:

Acclimatisation refers to the small changes in an organism over a short period to adjust to a new environment.

Question 18.

What kind of movement do we see in plants?

Answer:

- Opening and closing of a flower.
- Growth of a stem and leaves.
- Movement of water, minerals, and food from one part of the plant to another.
- Movement of stem towards sunlight and root towards water in soil.

Question 19.

“All living things respond to external stimuli.” Explain.

Answer:

All living things respond to changes in their surroundings. These changes which they respond to, are called stimuli. Living things show responses to stimuli such as heat, light, touch, sound, smell, taste, etc. The response of living things is usually in the form of some movement of their body part. Plants also perform movement, though at a slow rate. For example, chhui-mui, kachhan flowers of lotus and water lilies show such type of activity. So all living things (animals and plants) respond to external stimuli.

Activity 4.

Place a potted plant in a room a little away from a window through which sunlight enters some time during the day (Fig.). Continue watering the plant for a few days.

Does the plant grow upright, like plants out in the open? Note the direction in which it bends, if it is not growing upright. Do you think, this may be in response to some stimulus?

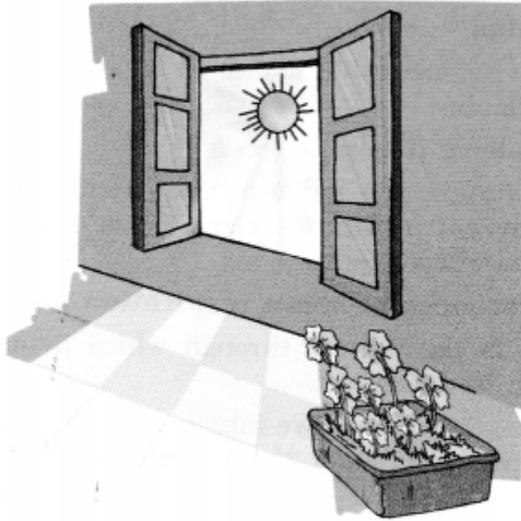


Fig. Plant responds to light

No, the plant will not grow upright. It will bend in the direction of the window. It is due to the stimulus of the sunlight.

Objective Type Questions

Question 1.

Give one word for the following sentences:

1. Anything that has mass and occupies space.
2. The process of taking food by organisms.
3. The process of getting rid of waste.
4. The process of removal of wastes in plants.
5. The factors like food, water, light, temperature to which organisms respond.
6. Production of new organisms of their own kind.
7. Increase in size along with mass using energy.

Answer:

1. matter
2. nutrition
3. excretion

4. secretion
5. stimuli
6. reproduction
7. growth

Column A	Column B
(a) Bird	Nocturnal
(b) Cat	(ii) Have no eyes
(c) Hydrilla	(iii) Volant adaptation
(d) Whale	(iv) Terrestrial
(e) Cactus	(v) Found on mountain
(f) Snow bear	(vi) Aquatic plant
(g) Camel	(vii) Desert plant
(h) Proteus	(viii) Desert adaptation
(i) Amblyopsis	(ix) Aquatic adaptation
(j) Cockroach	(x) Reduced eyes

Question 2.

Match the following items given in Column A with that in Column B:

Answer:

Column A	Column B
(a) Bird	(iii) Volant adaptation
(b) Cat	(iv) Terrestrial
(c) Hydrilla	(vi) Aquatic plant
(d) Whale	(ix) Aquatic adaptation
(e) Cactus	(vii) Desert plant
(f) Snow bear	(v) Found on mountain
(g) Camel	(viii) Desert adaptation
(h) Proteus	(x) Reduced eyes
(i) Amblyopsis	(ii) Have no eyes
(j) Cockroach	(i) Nocturnal

Question 3.

Fill in the blanks with appropriate words:

1. The place where organisms live is called
2. The plants and animals that live in water, it is called habitat.
3. Plants and animals that live on land, it is called habitat.
4. is a medium in aquatic habitat.
5. is a medium in terrestrial habitat.
6. Soil, water and air are components of a habitat.
7. Plants put in shade for a longer time become

8. Animals living in have very much reduced eyes.
9. Plants growing in hot and dry places are called
10. Desert plants have root system.
11. Forests and trees act as
12. Animals depend on for their food.
13. Matter is anything that has and occupies
14. The process of respiration involves gases.
15. Some objects are categorised as living while others as

Answer:

1. habitat
2. aquatic
3. terrestrial
4. Water
5. Air
6. abiotic
7. delicate and weak
8. caves and burrows
9. xerophytes
10. long and extensive
11. wind-brakes
12. plants
13. mass, space
14. exchange
15. non-living

Question 4.

State whether the statements given below are True or False:

1. Habitat is a special environment of an organism.
2. Succulent is an adaptation in mesophytes.

3. All birds do not have feathers.
4. Fin is for aquatic life in fish.
5. The plants and animals cannot survive without air.
6. In all the fish, body tapers at both ends.
7. Cactus plants have thick and fleshy stems to store water.
8. Almost all types of plants occur in the sea.
9. All living organisms need water for their survival.
10. Leaves in aquatic plants are reduced in size to minimize their evaporating surface.
11. The flower of surajmukhi (sunflower) always faces the sun.
12. Animals live in isolation and are independent.
13. Microorganisms are a part of abiotic components.
14. Habitat includes both living and nonliving things.
15. Mountain is a special terrestrial habitat where the temperature is very low.
16. Large trees are abundant at higher altitudes,
17. Hilly trees do not have flowers.
18. All objects around us are made up of matter.
19. All objects have similar shapes and sizes,
20. Non-living objects do not carry out respiration.

Answer:

1. True
2. False
3. False
4. True
5. True
6. True
7. True
8. True
9. True

- 10. False
- 11. True
- 12. False
- 13. False
- 14. True
- 15. True
- 16. False
- 17. False
- 18. True
- 19. False
- 20. True

Question 5.

Choose the correct option in the following questions:

(i) Which one of the following statements is correct?

- (a) Several kinds of plants and animals may share the same habitat.
- (b) All the animals and plants in a habitat are adapted to it.
- (c) Both the statements are correct.
- (d) None of these is correct.

Answer:

(c) Several kinds of plants and animals may share the same habitat and adopt it.

(ii) Animals and plants have certain features which allow them to survive in a particular habitat. This is called

- (a) adaptation
- (b) speciation
- (c) specialisation
- (d) evolution

Answer:

(a) Presence of features which enable plants and animals to live in a habitat is called adaptation.

(iii) Which is a biotic component of the environment?

- (a) Plants
- (b) Animals
- (c) Microorganisms
- (d) All of these

Answer:

(d) All of these constitute biotic components.

(iv) Which is not an abiotic component of the environment?

- (a) Soil
- (b) Bacteria
- (c) Water
- (d) Air

Answer:

(b) Bacteria are living beings.

(v) Which is an example of an animal found in a mountain region?

- (a) Leopard
- (b) Yak
- (c) Mountain goat
- (d) All of these

Answer:

(d) Leopards, mountain goats and yak are found in mountain regions.

(vi) What are the characteristics of a desert plant?

- (a) No leaves or very small leaves
- (b) Spines
- (c) Deep roots
- (d) All of these

Answer:

(d) All of these characters help the plants to survive in the scarcity of water.

(vii) Respiration in aquatic animals occurs by

- (a) lungs
- (b) gills
- (c) nostrils
- (d) legs

Answer:

(b) Aquatic animals use gills for respiration.

(viii) Which is an aquatic adaptation?

- (a) Streamlined body
- (b) Light and hollow bones
- (c) Hair on body
- (d) Gills

Answer:

(a) Streamlined body helps them to swim.

(ix) Bending of a stem towards sunlight is called

- (a) geotropism
- (b) phototropism
- (c) hydrotropism

(d) nasticism

Answer:

(b) Bending of the stem towards sunlight is called phototropism.

(x) Sunken stomata are present in

(a) hydrophytes

(b) epiphytes

(c) xerophytes

(d) mesophytes

Answer:

(c) Sunken stomata are found in xerophytes plants, such plants grow under poor water conditions.