Chapter 10

Habitat

A. Short answer type questions

1. It helps to protect them from winter environment.
2. It's an adaptation to get sunlight.
3. Their speed allows them to escape their predators, and frequent grasslands fires.
4. She should grow plants which need less water. She can grow a variety of cacti plants.
5. The yak uses its hooves & horns to break the ice from frozen ground and graze on the grass below.
6. This process is called migration. For ex. boreal animals
7. Polar bear has padded feet which helps them to walk on the snow.

C . Long answer type questions

1. A streamlined body shape helps the animal to move easily because such a shape offers least resistance to motion. The animal adapted with streamlined body are deer, cheetah etc.
2. Adaptations in camel-

a) It can keep its nostrils closed to keep out stand.

b) Fat stored in a camel's hump act as a food reserve.

c) Board feet help in walking on the sand without sinking in it.

d) It can drink huge amount of water at a time.

3. a) This stored food will provide them energy during hibernation to carry out life processes.

b) It is the ability of certain animals to blend with the surroundings, making the to difficult to spot. This adaptation enables them to hide from their predators. For eg:- sloth, leaf insects.

c) To reduce the rate of transpiration.

D. HOTS

1. In cactus, stem is modified into leaves and leaves are modified into spines. The plant is adapted in such a way to survive in desert.
2. It enables them to hide from their predators. This ability is called camouflage.
3. In rainforests due to very little sunlight, very few plants are able to survive on the floor.

E. Value and life skills

I think animals should be kept in their natural habitat instead of zoo.

Chapter 9

Forms and Movements in Animals

A. Short answer type questions

1.

Down stroke	Up stroke
The wings of birds are moved down and forwards, lifting the body in the air. This movement is termed as down stroke.	The wings of birds are lifted upwards, in preparation for another down stroke. This is termed as upstroke.

2. Fish have fins and a flexible backbone, which help them to swim.
3. Neck,legs and hands.
4. Shell protects snail from heat of the sun and enemies.
5. Because knee joint is covered with knee cap/patella which resist the rotation of our leg at knee joints.
6. Earthworm moves by lengthening and shortening of body segments.

C . Long answer type questions

1. Yes, Prokaryotic organisms can perform all the necessary activities for their life using a single cell.
2. The following features help birds to fly.

(a) Birds have streamlined bodies that make it easier for them to move through air.

(b) Their bones are hollow that make them lightweight.

(c) They have wings that help them to fly.

(d) They have powerful chest muscles that help them flap their wings during flight.

3. Human beings can not fly because of following reasons-

(a) Forelimbs are not modified into wings.

(b) Bones are not hollow & light bones.

(c) Body is not streamlined.

4. (a) Yes, because muscles bring about movement by contracting (shortening) and relaxing (lengthening). One end of a muscle is attached to a movable bone, whereas the other end is attached to a fixed bone. When the muscle contracts, it pulls the movable bone.

(b) Most snakes move in a wave-like manner. Their flexible backbones help them in this movement. The body curves like a wave. The wave- like motion pushes the body forward by pressing against the ground.

(c) It tells about any fracture in the bones.

5. The ends of the bones are covered with a tough, elastic tissue called cartilage. Cartilage makes the ends of the bones smooth and reduces friction between the bones during movement.

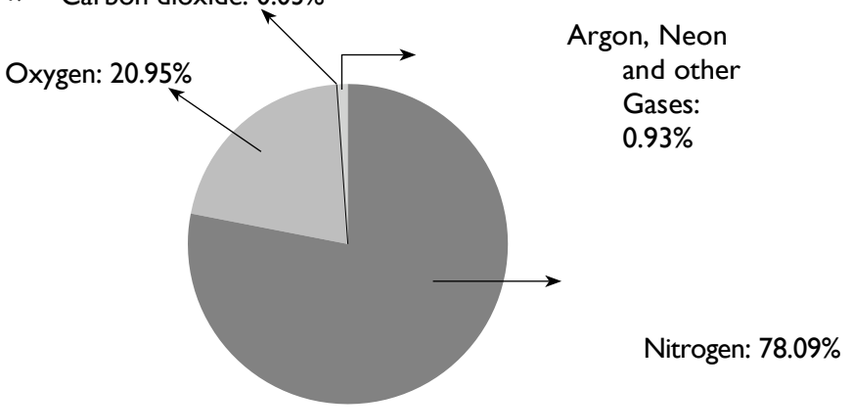
If there is no cartilage in our body then our bones will rub against each other resulting in damage to the skeleton system.

Chapter 15

Air and its Important

A. Short type questions

1. Carbon dioxide: 0.03%



2. Fish have gills that help them breathe inside water. A fish breathes by taking water into its mouth and forcing it out through gills. As water passes over the thin walls of the gills, dissolved oxygen moves into blood. While earthworms take in oxygen through their moist skin. They secrete a slippery substance called mucous that keeps their skin moist. The moist skin absorbs oxygen and gives out carbon dioxide.

3. As a result of air pollution, oxides of nitrogen and sulphur reacts with rain water and form acid rain.

   Gases responsible: Nitrogen dioxide and Sulphur dioxide.

4. Breathing involves the process of inhaling and exhaling the air in and out of lungs. While breathing, oxygen is inhaled and carbon dioxide is exhaled.

Respiration is the process of the breaking down the glucose to produce energy which is used by cells to carry out the cellular function.

5. This is because in the air tight container, the beans do not get the oxygen needed for the germination of seeds.

6. Plants take nitrogen from the nature in the form of nitrates and nitrites.

C . Long answer type questions

1. (a) Nitrogen Gas is an antioxidant which prevents the rancidity of chips in the packets.

(b) This is because the level of oxygen decreases with high altitudes.

(c) Near the factories, air pollution is very high. This may result in acid rain which reduces the fertility of soil and hence crop production too.

(d) This is due to constant increase in concentration of carbon dioxide in the atmosphere, which results in increase in temperature. It cause global warming.

2. This cycle of release and consumption of oxygen gas in nature is called the oxygen cycle.

Living organisms release carbon dioxide gas when they respire. This carbon dioxide is used by the plants to carry out photosynthesis. Thus, the balance of oxygen and carbon dioxide is maintained in the nature.

3. The atmosphere works like a blanket in the surroundings of the earth. This blanket allows a limited amount of heat and light to fall on the earth's surface. This saves the earth from becoming either too cold or too hot.

Chapter 16

Water

A. Short answer type questions

1. a) It is because of the condensation of water vapours present in the atmosphere.

b) There is cold water in the portion 'Y' of the glass which causes condensation of water vapours but since there is no water in the portion 'X' of the glass, so condensation does not occur.

2. Clouds are formed due to accumulation of water droplets at higher altitude in the sky where atmospheric temperature is very low.

3. Living things get continuous supply of water on the earth because of the existence of water cycle.

4. The possible reason of death of fishes and other aquatic organisms is the disposal of chemicals from the factories into the rivers. It can be controlled if the chemicals are treated properly before disposing off into the water resources.

5. Floods are caused due to heavy rainfall which results in the level of water in water resources. Floods result in crop damage, epidemic diseases, starvation, and destructions etc.

C . Long answer type questions

1. a) 100°C

b) Water changes into water vapours

c) Evaporation and boiling

d) It is because of the evaporation of water from the flask.

2. a) The impure water coming out from the tube of the R.O. system is used to wash clothes in washing machine. It helps the lady to conserve water.

b) Other ways to conserve water at home are:

1. Turn off the tap while brushing your teeth and hands.
2. Fix leaky faucets.
3. Do not throw chemicals, oils, paints and medicines down the sink drain, or the toilet.
4. Install water thimbles in taps and shower hoses to reduce the amount of water flowing out.

c) It is necessary to conserve water because:

1. It would be exhausted if not conserved.
2. It reduces water pollution.
3. It protects ecosystem and wildlife.

3. a) The bright electric spark is lightning. It is formed due to heavy discharge of electricity between two clouds and between clouds and the earth.

b) Bhavya should not do the following things at the time of lightning and thunder:

1. Stand near or under the tree
2. Use of telephones and electrical appliances