



Teacher's Resource Book

*Our*

# Habitat

A Book of Environmental Studies

3

# 1. External and Internal Organs

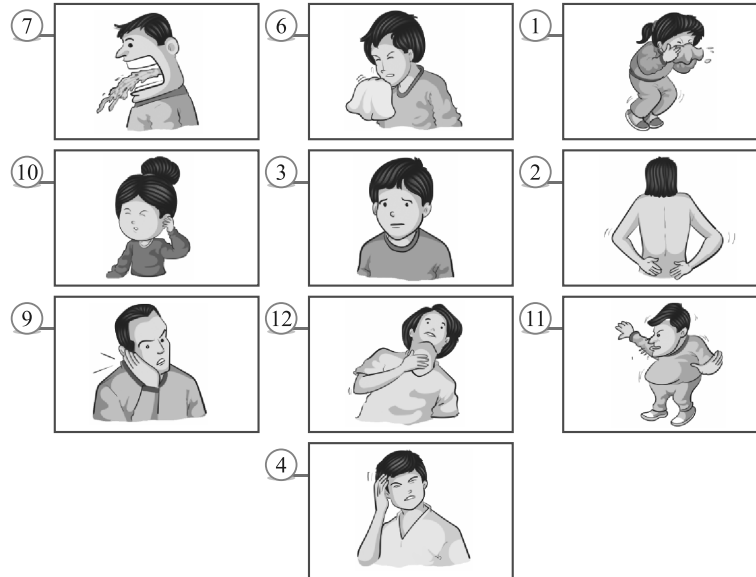
## Exercise

- A. 1. (c)      2. (a)      3. (d)      4. (d)      5. (c)
- B. 1. internal   2. external   3. sense      4. brain      5. the heart
- C. 1. The skull protects our brain.  
2. The human body has around 600 muscles and 206 bones.  
3. The liver acts as the check post of the body.  
4. The nose is the organ that helps us to take air in and out.  
5. The kidneys are the filtering organs of the body.
- D. 1. The organs that help us to sense our surroundings are called sense organs. They are eyes, ears, nose, tongue and skin.  
2. Our hands and legs are our limbs. They help us to run, walk, hold and grip things.  
3. The liver prevents the entry of toxic substances into our body and keeps it healthy.
- E. 1. The brain, spinal cord and nerves are our control and coordinating organs. The brain is a soft organ located inside the skull and continues as spinal cord down to our hips. Both of these have nerves that connect these organs to kidney, heart and liver. The nerves carry signals to brain and spinal cord so that all body parts function properly.  
2. When we eat food, larger pieces are broken down in the stomach. Then they reach small intestine. From here, the digested food is carried by the blood and distributed to different body parts and converted to energy.
- F. Do it yourself.
- G. 1. The control and coordinating system helped her to do so.  
2. The circulatory system comprising of heart and blood vessels can be compared to a postman.

## H.

### Symptoms and Diseases





- |                       |                       |                         |
|-----------------------|-----------------------|-------------------------|
| 1. She has runny nose | 6. He is sneezing     | 10. He has earache      |
| 2. She has backache   | 7. He is vomitting    | 11. He has fever        |
| 3. He has cough       | 8. He has stomachache | 12. She has sore throat |
| 4. She has a headache | 9. He has toothache   | 13. He has rash         |
| 5. He has a cold      |                       |                         |



## 2. Food and Its Nutrients

### Exercise

- A.** 1. (c)      2. (d)      3. (d)      4. (a)      5. (c)
- B.** 1. stem                      2. roots                      3. wheat and rice
4. Proteins                      5. fats
- C.** 1. We get food from plants and animals.
2. Substances that are found in food and provide energy to the body are called nutrients.
3. Intake of nutrient in required amount in our diet is called balanced diet.
4. Vitamins and minerals provide immunity to fight against diseases.
5. Food items from both plants and animals that are used to prepare a dish are called ingredients.
- D.** 1. Carbohydrates are nutrients that provide energy to our body so as to grow and work. They are found in wheat, rice, potato, maize etc.

2. Fats give energy to our body and keep it warm whereas proteins help to build up our body, specially muscles. They are found in butter, ghee, oil, eggs, milk, meat, nuts etc.
- E. 1. Harsh was feeling weak as he ate only one type of food throughout day. It was not a balanced diet.  
2. The doctor might have advised him to eat a diet full of vitamins and minerals such as vegetables, fruits, milk, meat, nuts etc.
- F. Do it yourself.    G. Do it yourself.  
H. Do it yourself.    I. Do it yourself.  
J. Do it yourself.



## 3.    Types of Animals

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### Exercise

- A. 1. (b)          2. (c)          3. (c)          4. (b)          5. (d)
- B. 1. Elephants    2. panda    3. Zebra  
4. Snake    5. Chameleon, lizard
- C. 1. The animals that eat only meat are carnivores. Some examples are lion, tiger, hyena etc.  
2. Giraffe is the animal with a long neck to eat leaves.  
3. Butterfly collects sweet nectar from flowers.  
4. The chameleon catches its prey with its sticky tongue.  
5. Koala bear eats the leaves of eucalyptus tree.
- D. 1. Animals move from one place to another to search for food, shelter and security.  
2. Animals need food to live and stay healthy.  
3. A snake swallows its prey. It has powerful expandable jaws that help it to swallow bigger animals.
- E. 1. Herbivores have sharp front teeth to cut and bite grass or plants. They chew the food with their broad and flat back teeth.  
2. The animal which catches other animals for its food is a predator. A tiger is a predator. On the other hand, the animal that is hunted or eaten is called the prey. The deer is a prey.
- F. 1. The cow that Sonali saw is a ruminant. It was sitting leisurely and chewing the cud.  
2. The python could swallow a large animal such as a deer because it has a powerful expandable jaw.



## 4. Feathers, Beaks and Claws

### Exercise

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- A.** 1. (d)      2. (c)      3. (d)      4. (c)      5. (c)
- B.** 1. streamlined      2. lightweight, fly      3. hollow  
4. breast      5. do not
- C.** 1. Birds are unique animals as they are able to fly.  
2. Birds make sweet sounds.  
3. The body of a bird is streamlined and lightweight.  
4. The bird has three types of feathers.
- D.** 1. The four features of a bird are :  
(i) It has a streamlined and lightweight body.  
(ii) Its body is covered with feathers.  
(iii) It produces different sounds.  
(iv) It flies with the help of wings.
2. The functions of different feathers of a bird are :  
(i) The flight feathers help the bird to fly easily.  
(ii) The down feathers keep the bird's body warm.  
(iii) The body feathers provide shape and colour to the bird.
3. No, all the birds do not have same type of beaks, while a duck has a flat beak, the woodpecker has strong and chisel-shaped beak. The parrot has a curved and hooked beak while the hummingbird has long and slender beak. A kite has strong, sharp and curved beak whereas the peacock has a short, hard and horny beak.
4. Climbing bird like the woodpecker has two toes pointing upwards and two toes pointing downwards, so as to help climb and cling to trees.  
Perching bird like the sparrow has three finger like toes in front and one thumb like toe at the back, helping it to hold onto the branch of a tree.  
Swimming bird like the duck has webbed feet, with one back and three front toes joined with skin, so as to help it push back water while swimming.  
Wading bird like the crane has long thin legs with widely spaced toes, helping it to wade or walk in muddy water. Flesh eating bird like the eagle has sharp and curved claws, helping it to hold its prey.
- E.** Do it yourself.
- F.** 1. Birds have different types of beaks and feet because they eat different types of food.  
2. Some birds cannot fly because of their extra body weight.
- G.** Do it yourself.



## 5. Leaf and Its Importance

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### Exercise

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- A.** 1. (c)    2. (a)    3. (c)    4. (a)    5. (b)
- B.** 1. blade    2. margin    3. mid rib    4. petiole    5. Stomata
- C.** 1. Roots    2. Chlorophyll
3. A herb is a plant with weak, green stem. Mint and spinach are two examples.
4. Plants take in carbon dioxide and give out oxygen.
5. Stomata are small openings present on the underside of the leaf.
- D.** 1. Photosynthesis is the process where a plant prepares its own food by utilising sunlight, water and air.
2. Different uses of a plant are as food, spices, medicines, food for animals, and wood, timber etc.
3. Plants protect themselves by various defence mechanisms like hair structure on their surface, spines, thorns and bitterness.
- E.** 1. Description of different parts of a leaf is as follows :
- (i) The flat surface of the leaf is called leaf blade and it absorbs sunlight to prepare food.
- (ii) The edge of the leaf, called leaf margin, may be smooth or rough.
- (iii) The centre line of the leaf, called midrib, helps to transport water and nutrients.
- (iv) The stalk of the leaf attached to the stem is called petiole.
- (v) The small openings on the underside of the leaf, called stomata, help the plant to breathe by exchanging gases.
2. Carnivorous plants eat plants and small animals to get nutrients, which they do not get from the soil. Two examples are Venus flytrap and sundew plant.
- F.** 1. Mumbai has a hot and humid climate as it is close to the sea. Its village has a cool climate because of the presence of trees and greenery.
2. The tall plant must have some defence mechanism.
- G.** Do it yourself.



## 6. Soil : A Vital Resource

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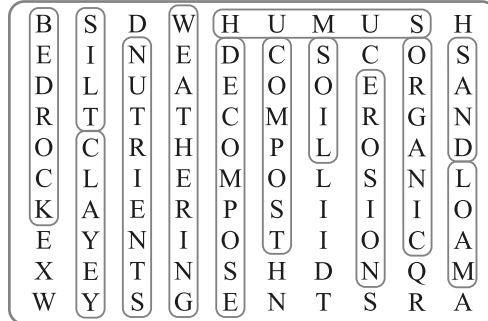
### Exercise

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- A.** 1. (b)    2. (c)    3. (c)    4. (d)    5. (d)

- B.** 1. resource                      2. artificial resources              3. humus  
4. sandy                              5. Clayey, loamy
- C.** 1. A resource is anything that is used by living organisms for their survival.  
2. Air, water and soil are natural resources whereas machines, buildings and roads are artificial resources.  
3. Weathering is the process of breaking down of huge rocks into smaller pieces to form soil.  
4. Soil is called the skin of the earth because it is the topmost layer on its surface.  
5. Humus is the remains of dead plants and animals that is mixed with soil.
- D.** 1. The action of Sun's heat, rain and strong winds break down large rocks on the earth's surface. Rain and wind carry these smaller pieces to far away places, where they strike into each other and become further smaller. This is called soil.  
2. We can conserve soil by not polluting it, planting more trees, not leaving it barren and avoiding deforestation.  
3. Soil is important as plants, that provide us food, grow in it only.
- E.** 1. The different layers of soil are as follows :  
(i) The top soil is the uppermost layer of the soil. It is rich in nutrients and makes the soil fertile.  
(ii) The sub-soil is the next layer. It has stones and pebbles. It has space for the entry and exit of water and air.  
(iii) Parent rock is the third layer and has large stones.  
(iv) The bedrock is the last layer. It is made of huge rocks. Water from the upper layers seep here and is stored.
2. The different types of soils are as follows :  
(i) Sandy soil cannot hold water, gets heated and so, water gets evaporated. It has less nutrients and plants cannot grow well. It is found on the sea shore.  
(ii) Silt soil is smooth and fine soil. It is sticky and has good water holding capacity. It is rich in nutrients and is good for cultivation.  
(iii) Clayey soil has excellent water holding capacity and is rich in nutrients. It is very good for growing crops.  
(iv) Loamy soil is a mixture of silt, sand and clayey soils. It can retain water for a long time. It is the best soil for crops.
- F.** Do it yourself.

G.



- H. 1. Sandy soil is not good to grow flowering plants.  
2. Earthworms are called the farmer's friends. This is because they live in the soil and eat there. This way they make the soil fertile and it is able to breathe and drain well.



## 7. Air, Water and Weather

### Exercise

- A. 1. (c)            2. (c)            3. (a)            4. (a)
- B. 1. carries        2. definite        3. condensation 4. sun, wind, water
- C. 1. The layer of air surrounding the earth is called the atmosphere.  
2. Condensation is the process of changing of water vapour into water.  
3. The three Rs to reduce pollution are Recycle, Reuse and Reduce.  
4. The seasons we experience are Summer, Autuma, winter and Spring.  
5. The rain gauge is used to measure rainfall.  
6. The sources of water are rivers, lakes, canals, ponds and rainfall.
- D. 1. Mountaineers carry oxygen cylinders while climbing because as they go up, air becomes thin and has less oxygen.  
2. Plants need air for breathing and to prepare their food. Air also carries their seeds from place to place. These seeds grow into new plants.  
3. We prefer to wear light coloured clothes in summer because they reflect the sunlight back and we do not feel hot.  
4. We wear woollen clothes in winter because they keep us warm.  
5. Autumn comes between the end of summer and the starting of winter. In this season, the weather is neither too hot or cold. Trees shed their leaves. During Spring, the weather is neither too hot or too cold. Buds blossom into flowers and the surroundings look beautiful. People enjoy picnic as the weather is enjoyable.



- E. 1. The three forms of water are solid ice, liquid water and gaseous water vapour. When ice is heated, it changes into water. When water is heated, it changes into water vapour.  
When water vapour is cooled, it turns to water and when water is further cooled, it changes into solid ice.
2. The causes of pollution are increase in population, number of vehicles and industries. Pollution can be controlled by planting more trees, keeping the surroundings clean and following the three Rs.
- F. Do it yourself.                      G. Do it yourself.



## 8. Light and Shadow

### Exercise

- A. 1. (c)      2. (b)      3. (c)      4. (b)      5. (c)
- B. 1. natural   2. moon   3. firefly   4. bigger   5. shadow
- C. 1. Plant is the living organism that prepares its own food.  
2. The dark spot behind an object when light falls on it is the shadow.  
3. The object that emits light naturally is called a natural source of light. The examples are the sun, the moon, the stars, the firefly etc.
- D. 1. The man-made sources of light are called artificial sources of light. Some examples are candles, bulb, tubelight, CFL and LED.  
2. A shadow is formed when any object blocks the path of the light.  
3. Shadows are longer in mornings and evenings as sun rays are not straight but slanting.
- E. Do it yourself.                      F. Do it yourself.
- G. Do it yourself.



## 9. Sound and Force

### Exercise

- A. 1. (c)      2. (c)      3. (c)      4. (c)
- B. 1. vibrates   2. force   3. objects   4. friction   5. load
- C. 1. A pleasant sound is the one that soothes us and makes us feel good. Examples are soft music, chirping of birds and rustling of leaves.  
2. The push or pull applied on an object is called force.  
3. The force that slows down or stops the motion of an object is called friction.

- D.** 1. The sound is produced when an object moves and vibrates (moves to and fro).  
 2. The effects of force are :  
 (i) It can change the shape of an object.  
 (ii) It can change the direction of a moving object.
- E.** Do it yourself.
- F.** Do it yourself. □

## 10. India : The Land of Festivals

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### Exercise

- A.** 1. (c)      2. (c)      3. (c)      4. (c)      5. (c)
- B.** 1. Republic    2. Tableaus    3. bravery    4. Mahabali  
 5. Tamil Nadu
- C.** 1. We celebrate festivals to enjoy any particular day or reason.  
 2. Three types of festivals are celebrated in India : National, Religious and Harvest.  
 3. We celebrate Independence Day to enjoy our freedom from the British.
- D.** 1. Do it yourself.                      2. Do it yourself.
- E.** Do it yourself.
- F.** Do it yourself. □

## 11. The Continents

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### Exercise

- A.** 1. (c)      2. (d)      3. (b)      4. (c)
- B.** 1. planet    2. landmass    3. populous    4. Russia    5. Ottawa
- C.** 1. A continent is a very large landmass.  
 2. An ocean is a very large body of water.  
 3. Australia is the smallest continent.
- D.** 1. A globe is a three dimensional sphere that represents the whole earth.  
 2. A map is a representation or a drawing of the earth's surface, or its part on a flat surface. An atlas is a book of small maps.

3. The globe provides us a broad-level picture of the world whereas a map is more detailed and specific. It may also be small or big. A globe is difficult to carry around whereas a map is very easy to carry.
- E. Do it yourself.
- F. Do it yourself.



## 12. Space Around Us

### Exercise

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- A. 1. (a)      2. (d)      3. (c)      4. (c)      5. (b)
- B. 1. eight                  2. Mercury                  3. third  
4. Mars                  5. Uranus, Neptune
- C. 1. Earth is considered a unique planet due to the presence of air and water which has made life possible.  
2. A crater is a large hole or depression on the surface of a celestial body.  
3. Sun has most significance in our life as in its absence, there would be no life.  
4. Jupiter is called the Stormy Planet as a storm has been raging here for thousands of years. It is the fifth planet from the sun and the largest in the solar system.
- D. Do it yourself.
- E. 1. The sun gives us heat and light.  
2. We should avoid looking at the Sun directly as its rays are very strong and may damage our eyes.  
3. Life is not possible on other planets because they do not have air and water.
- F. 1. We can't see the stars in the day because of the bright light of the sun.  
2. Astronauts go to space to study it.
- G. Do it yourself.



## 13. Safety and First Aid

### Exercise

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- A. 1. (b)      2. (b)      3. (a)      4. (b)      5. (d)

- B.** 1. shock                      2. Zebra crossing        3. First Aid  
4. antiseptic                  5. rules
- C.** 1. Safety rules to be followed at home are :
- (i) Never play with sharp objects.
  - (ii) Do not touch electrical appliances with wet hands.
  - (iii) Keep away from gas stove.
  - (iv) Do not take medicines on your own.
- Safety rules to be followed on the road are :
- (i) Always walk on the footpath.
  - (ii) Cross the road only at Zebra crossing.
  - (iii) Never talk to strangers on the road.
  - (iv) Always wear a helmet on a two wheeler.
2. The first help given to any injured person before the doctor arrives is called First Aid. For an animal bite, wash the wound properly with soap and running water. Then apply an antiseptic cream and cover the wound with a clean bandage. Then, take the victim to a doctor.
3. First aid for a road accident is as follows :
- (i) Do not panic and remain calm.
  - (ii) Do not let people crowd around the victim.
  - (iii) Do not move him, loosen his clothes and make him breathe properly.
  - (iv) Tie a handkerchief or a cloth on the wound and call for an ambulance.
4. First aid for burns is as follows :
- (i) Put some ice or chilled water on the burnt part. Later, apply antiseptic cream or ointment.
  - (ii) Pour water or wrap a thick blanket around a person, if his clothes are on fire. Then, make him roll on the floor.
  - (iii) Take him to the doctor immediately.
5. Five safety measures for school are :
- (i) Do not run up or down on the stairs.
  - (ii) Do not run around benches or tables.
  - (iii) Do not push each other.
  - (iv) Always be friendly to others.
  - (v) Be careful and alert while playing.
- D.** Do it yourself.
- E.** Do it yourself.



# 14. Discoveries and Inventions

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## Exercise

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- A.** 1. (c)            2. (b)            3. (a)            4. (a)
- B.** 1. life            2. easy            3. discoveries, inventions  
4. catapult
- C.** 1. An unknown thing that comes to light for the first time is called discovery.  
2. A thing which is made for the first time ever is called an invention.  
3. Archimedes invented the pulley in the 3rd century B.C.  
4. Eli Whitney made the Cotton Gin.
- D.** 1. Oliver Evans propounded the principle of vapour-compression refrigeration. It is the principle behind the first refrigerator.  
2. A flat electric iron is used to press garments.  
3. An antibiotic is a type of substance that works against bacteria.  
4. A vacuum cleaner helps to clean the house.
- E.** Do it yourself.
- F.** Do it yourself.

