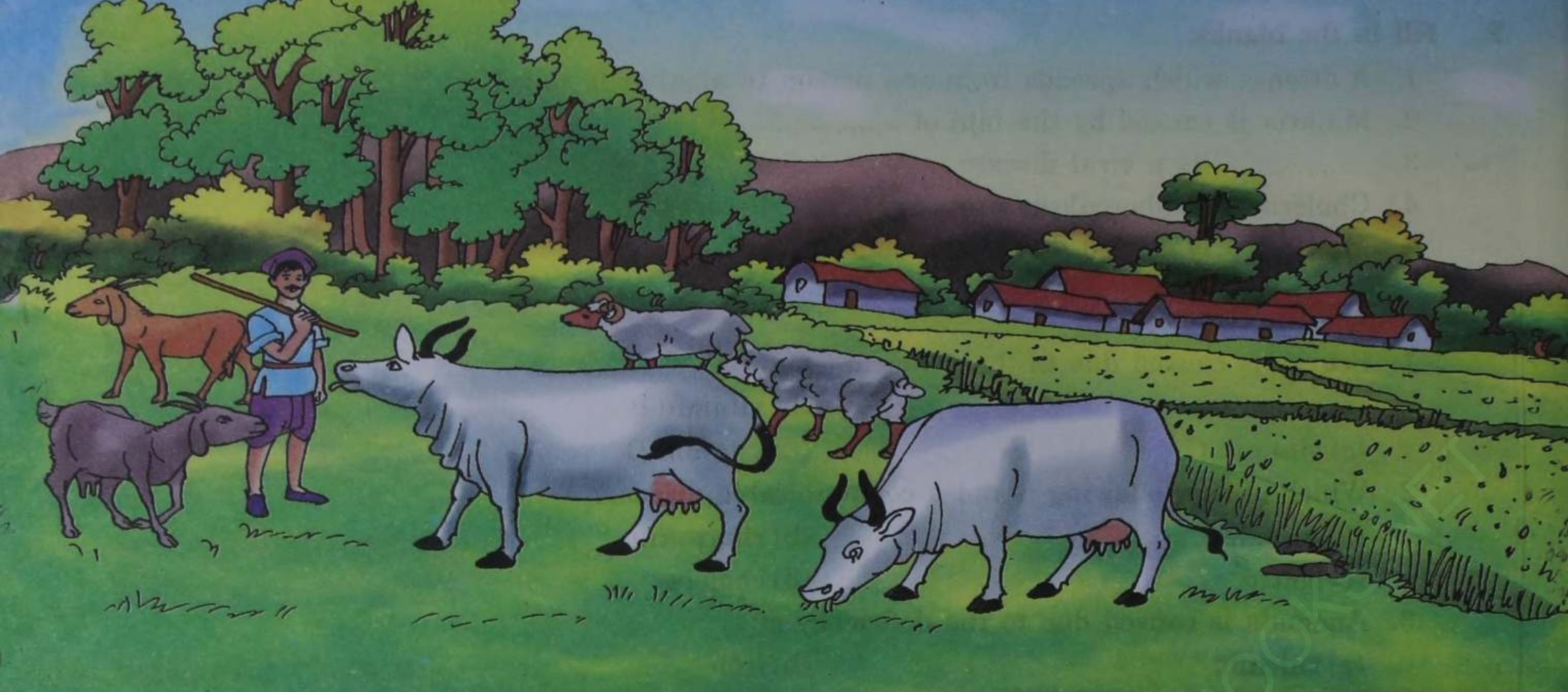




UNIT 6

Our Environment

Learning Objectives

- ◆ Learning about the planet earth
- ◆ Conditions on the earth to sustain life
- ◆ Environment has three components: biotic, abiotic and socio-cultural
- ◆ Identifying producers, consumers and decomposers
- ◆ Food chains and food web
- ◆ Description of flow of energy in nature

Our earth is one of the eight planets that revolve around the sun. It is the only planet that is placed at the right distance from the sun and has all the necessary conditions required for the survival of living organisms. It is perhaps the only planet in this Solar System that has life on it.

STRUCTURE OF THE EARTH

The outer, solid layer of the earth which supports life is called **lithosphere**. This

layer is full of minerals and all other nutrients essential for plants. About seventy per cent of the earth surface is covered with water in the forms of seas, rivers, lakes, etc. The aquatic envelope of the earth is called hydrosphere. Surrounding the lithosphere is an envelope of gases (air) which is called as atmosphere. Thus planet earth consists of three layers (i) Lithosphere (ii) Hydrosphere (iii) Atmosphere.

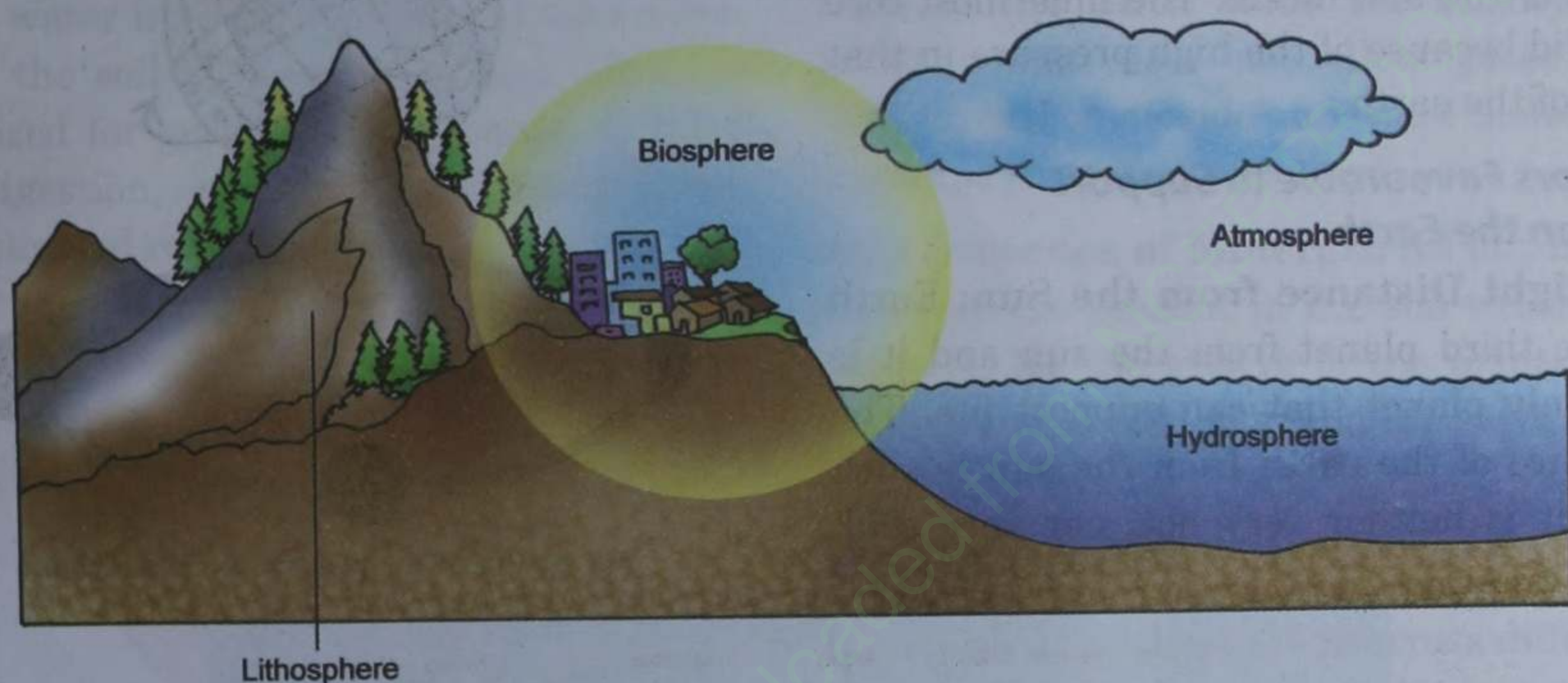


Fig. 6.1 The structure of biosphere

The Inner Structure of the Earth

The interior of the earth is made up of three layers:

Crust: This is the most important layer as it sustains life. This layer provides all necessary materials for the growth of life. It is a compound of rocks, soil, gravel, water, etc. The materials found in the earth crust are called minerals. These minerals are used to extract metals. The metal is used in making

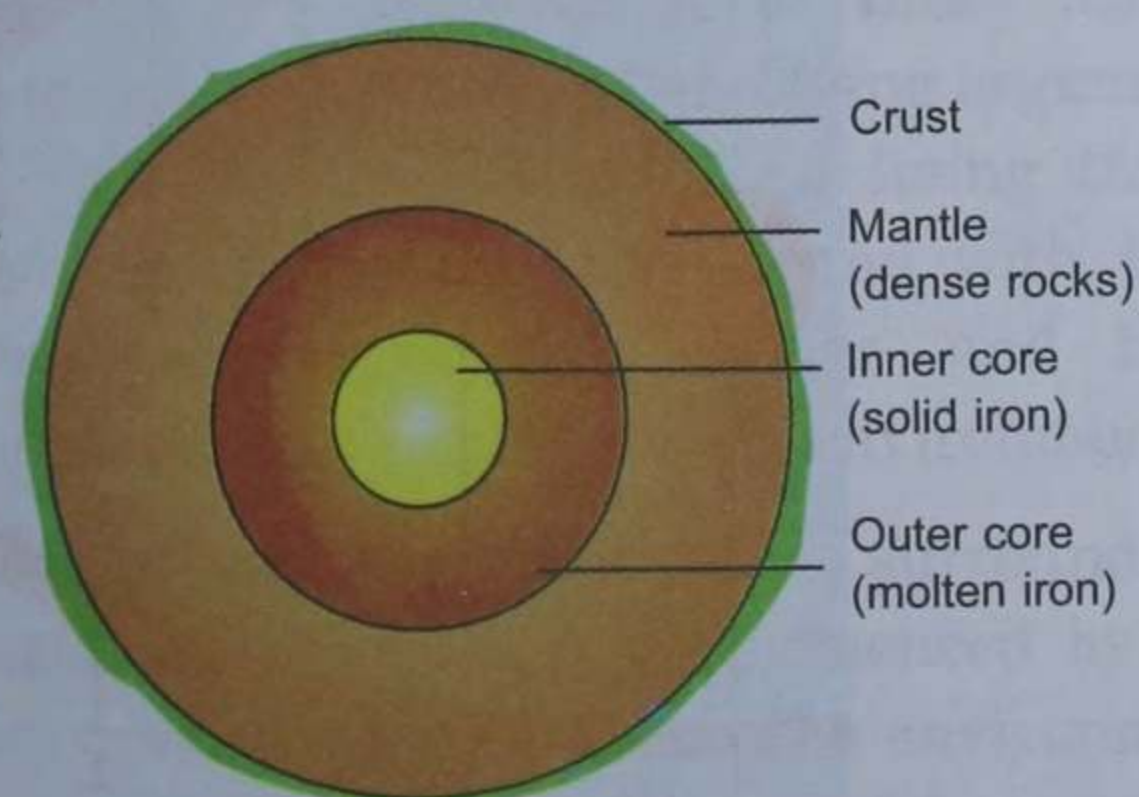


Fig. 6.2 Structure of the Earth

tools, machines and other equipments. Fossil fuels like coal, petroleum and natural gas are also found in the earth crust. The coal and oils are the sources of energy.

Mantle: This is the middle layer. It is much hotter than the crust. Iron and magnesium compounds are found abundantly in the molten state in the inner rocks of this layer. The hot molten rock is called **magma**. The mantle is about 2900 km in thickness.

Core: This is the innermost part of the earth. It is very hot and the temperature inside is about 4000 C. This consists of molten iron and nickel. The innermost core is solid because of the high pressure in that part of the earth.

Factors Favourable to Support Life on the Earth

(i) Right Distance from the Sun: Earth is the third planet from the sun and it is the only planet that can support life. The distance of the earth from the sun is such that it is neither very hot, nor very cold.

Most of the places on the earth receive right amount of solar heat to sustain life.

(ii) Rotation and Revolution of the Earth: The earth always spins on its axis from west to east. It takes 24 hours to complete one rotation. This spinning of the earth causes day and night.

The earth moves around the sun in an oval shape orbit. It is called the revolution of the

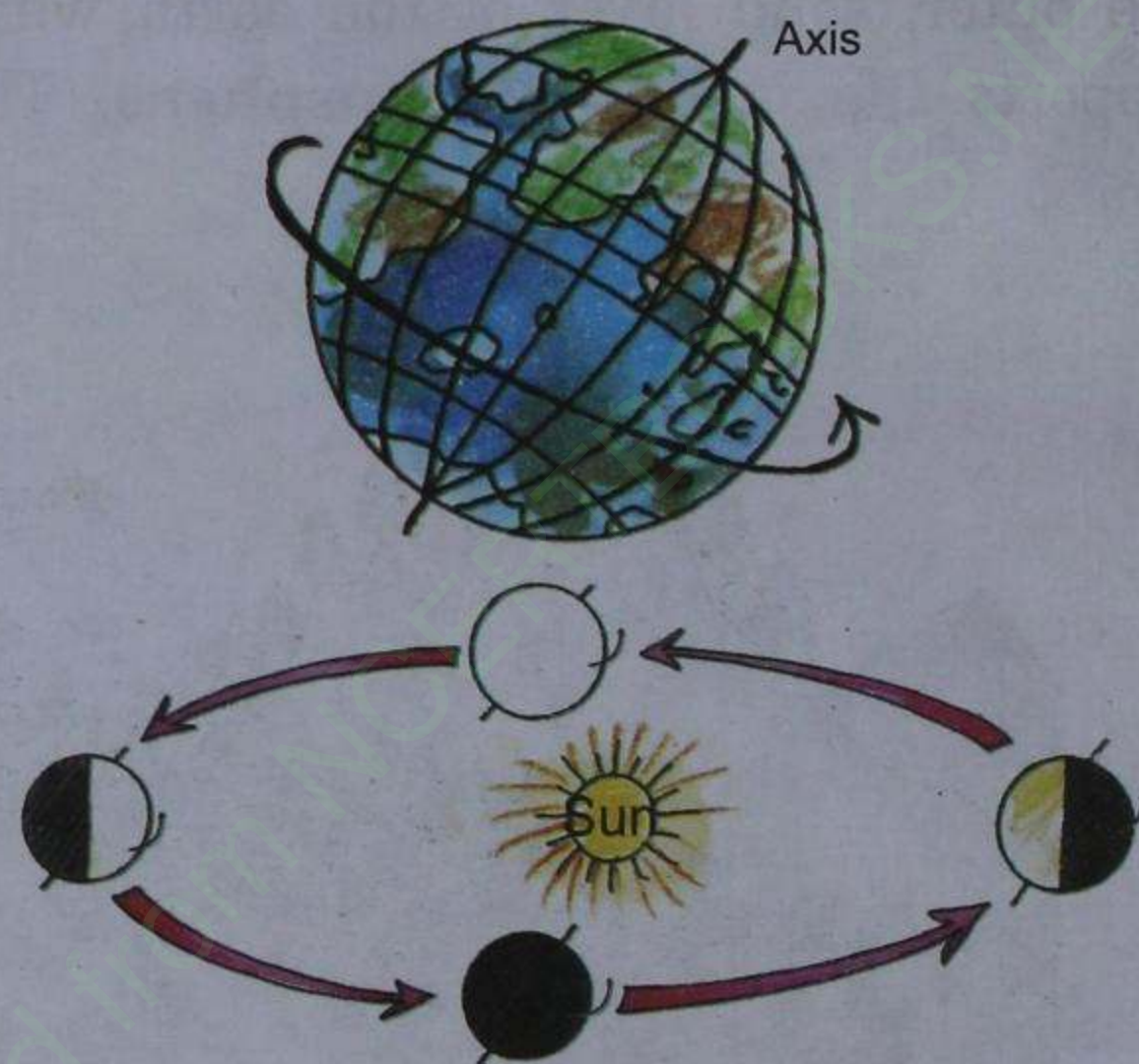


Fig. 6.4 Rotation and revolution of the earth

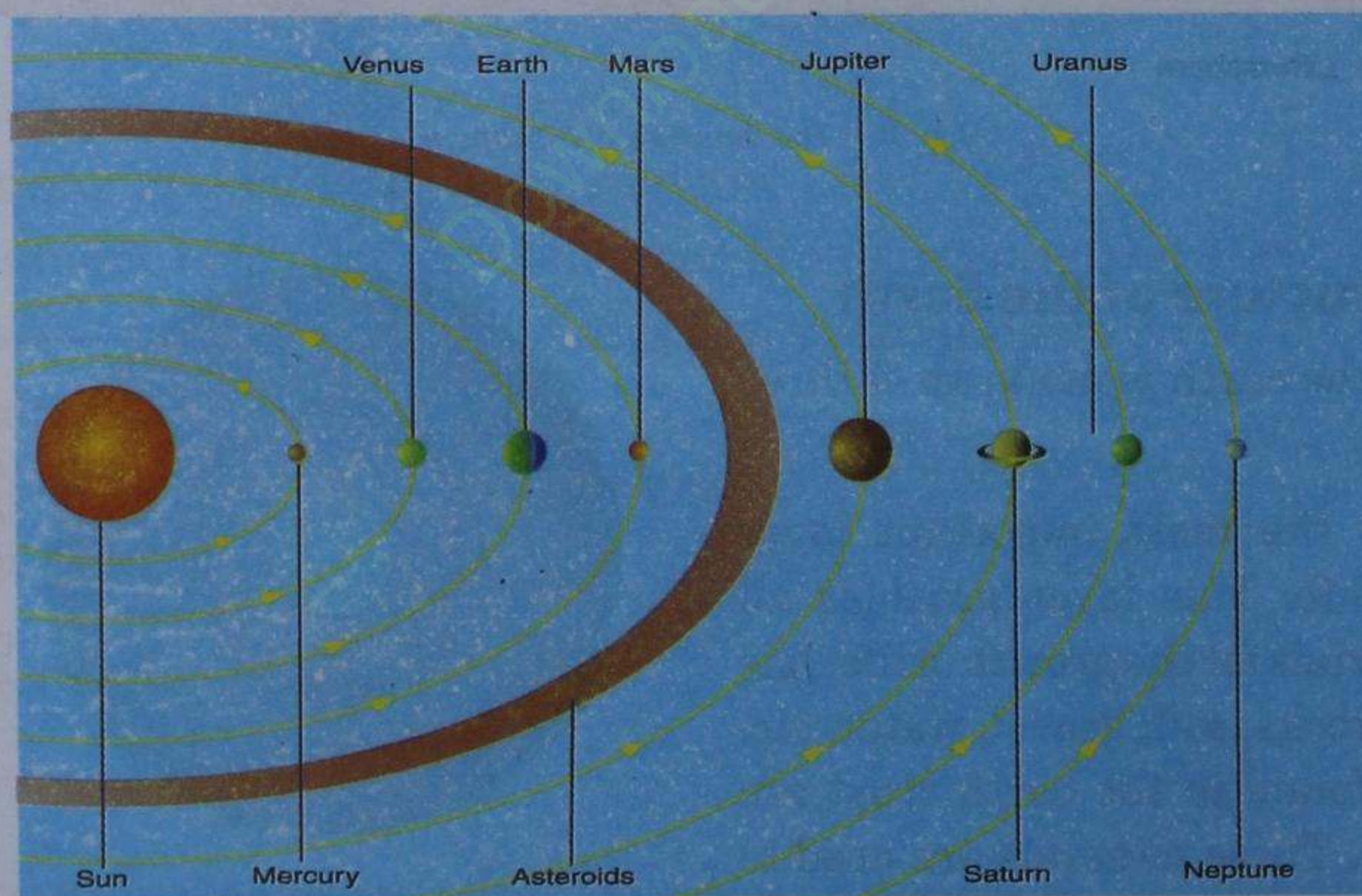


Fig. 6.3 Planets in the increasing order of their distance from the Sun

earth. The earth takes 365 days to complete one revolution. The earth's axis is tilted at an angle. The revolution of the earth and the tilt of its axis cause the different seasons on the earth.

(iii) Presence of Water: Earth has many waterbodies on it. Three fourths of the surface of the earth are covered with water in the form of seas, rivers and lakes. Out of the total water available on the earth, only 2.5% is fresh water. The rest 97.5% of the total water is salt water. Plants take water from the soil to make their food. Water is required for germination of seeds. It helps in digestion, excretion and many other biochemical reactions.

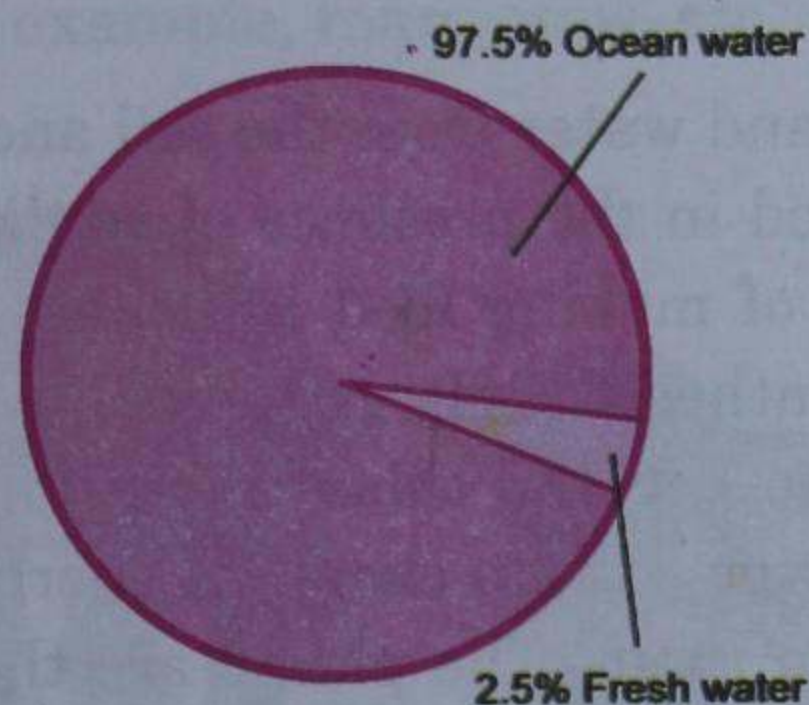


Fig. 6.5 Distribution of water on the earth's surface

(iv) Just Right Temperature: The temperature on the earth is neither too low nor too high. All life supporting reactions take place at moderate temperature.

(v) Presence of Atmosphere: The cover of gases surrounding the earth is called the earth's atmosphere. The atmosphere extends up to 1000 km from the surface of the earth. It mainly consists of nitrogen, oxygen, carbon dioxide and water vapours.

Oxygen is required for respiration. Aquatic animals take in dissolved oxygen from water. Carbon dioxide is also important as plants take in carbon dioxide from the air to make their food. Nitrogen is an inactive gas. Presence of nitrogen slows down the rate of combustion. Atmosphere also has a protective layer of ozone gas. This gas protects the earth from harmful effects of certain ultraviolet rays from the sun.

(vi) Gravitational Force: The gravitational force of the earth holds the atmosphere above it and does not allow gases like oxygen, carbon dioxide and water molecules to escape from its atmosphere.

(vii) Presence of Minerals: All important minerals are present in the soil which are essential for the growth of the plants, the main source of food found on the earth.

ENVIRONMENT

If we look around, we come across different kinds of animals, plants, birds, rivers, mountains, sky, clouds etc. If we examine closely, we discover that these things interact with one another. Living organisms do not live in isolation. All living things interact with one another and with their surroundings. Living beings and their surroundings constitute the environment.

Living beings influence their surroundings and are themselves get influenced by the environment they live in. The environment can broadly be divided into three segments, namely **biotic**, **abiotic** and **socio-cultural**. The three components constitute living,

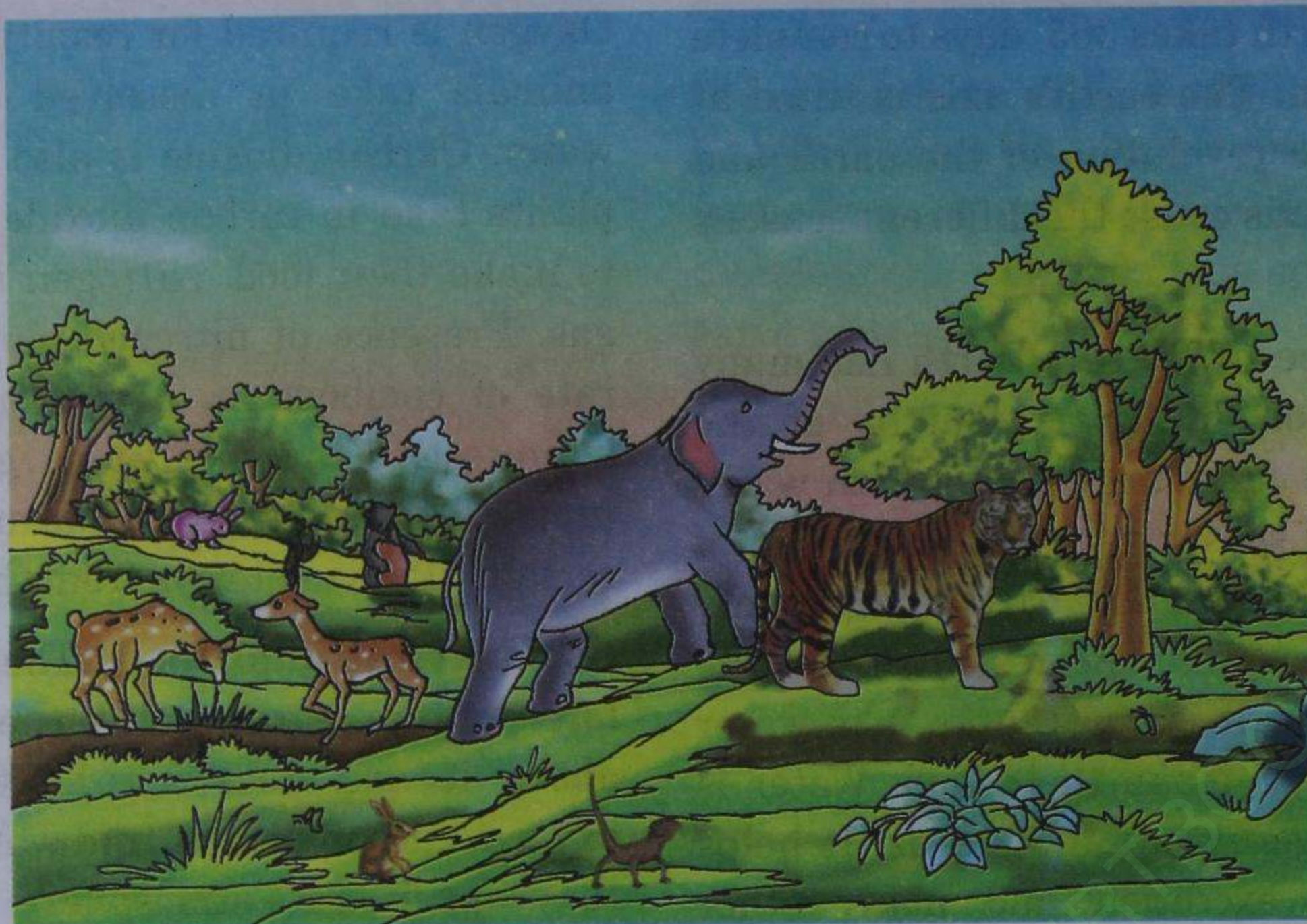


Fig. 6.6 Living beings and their surroundings constitute the environment

non-living and the environment created and influenced by human activities. Human beings have a great influence on the environment. The natural environment in which early men used to live, is no longer natural, as we have modified it to suit our needs and requirements.

Biotic Components of Environment

Biotic components include all living organisms including plants, animals and microorganisms. Biotic components can be further divided on the basis of their food habits and how they obtain their foods in the environment.

Producers

First come the producers, the plants that can prepare their own food. Green plants make their own food. They take carbon dioxide from

the air and water from the soil and prepare their food in the presence of sunlight. This process of making food by plants is called photosynthesis. Only green plants have the ability to use the solar energy of the sun and convert it into chemical energy that is stored in them. The plants are thus called **autotrophs** or producers.

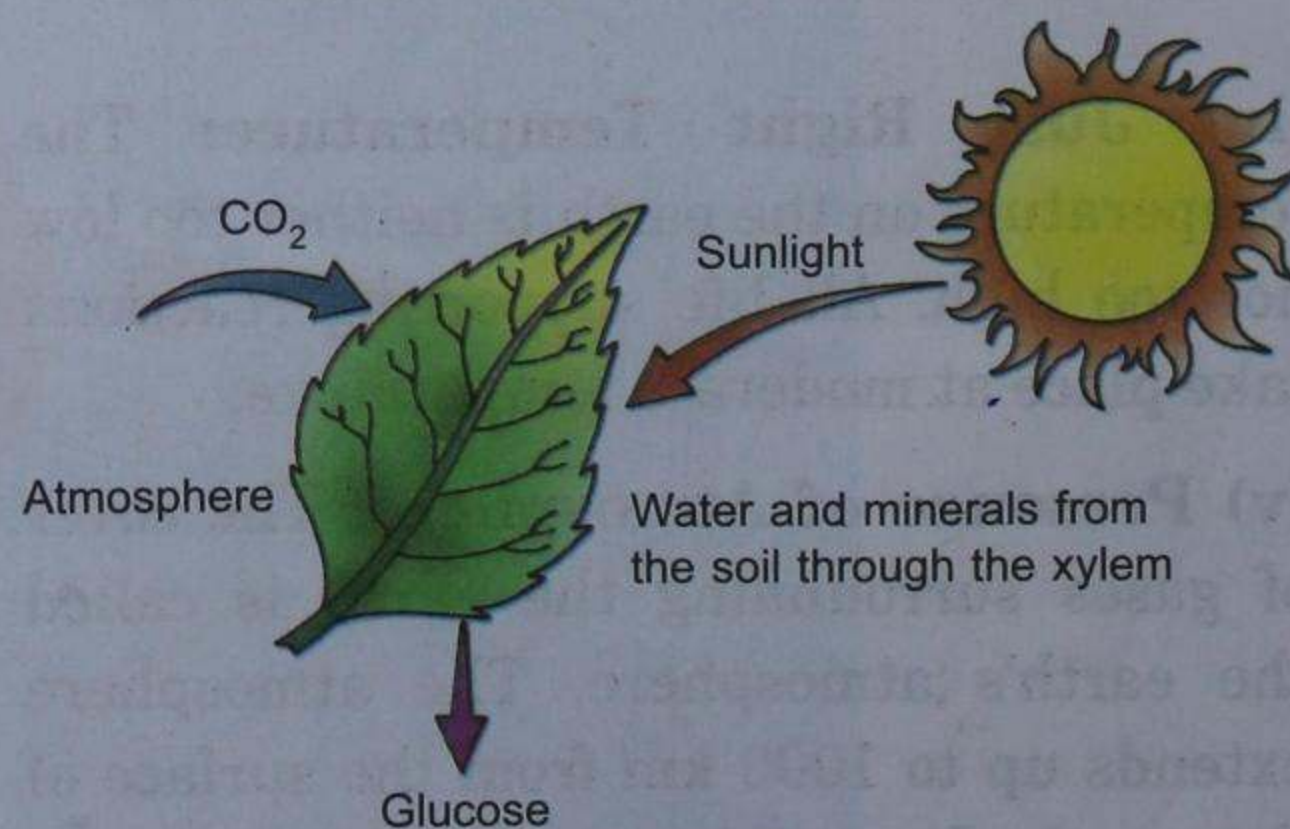


Fig. 6.7 Green plants prepare food by the process of photosynthesis

Consumers

All living organisms that cannot make their own food either live on plants or other animals. They are called **heterotrophs**.

- Animals that mainly depend on plants for their food, are called **herbivores**, for example, cow, goat, deer, etc.
- Animals that eat other living animals are called **carnivores**, for example, lion, tiger, leopard, etc.

Some animals feed on dead animals. They are called **scavengers**, for example, vulture, eagle, etc.

- Some animals eat both plants and animals. They are called **omnivores**, for example, man, crow, etc.



Elephant (Herbivore)



Lion (Carnivore)



Bear (Omnivore)



Vulture (Scavenger)

Fig. 6.8 Consumers

Decomposers

The decomposers help in decomposing the dead bodies of plants and animals and hence act as cleansing agents of our environment. The decomposers also put back the various nutrients from the dead bodies of plants and animals back into the soil, air and water for reuse by the crops. Thus there is a cyclic exchange of materials between a biotic community and its environment in an ecosystem. The nutrients are constantly recycled and are used again and again.

Abiotic Components of Environment

Abiotic components are also called as non-living components. Light, air and soil are abiotic components. Climatic factors like rainfall, temperature, wind, etc., are also abiotic components.

Soil

The soil is the uppermost layer of the earth crust. Soil is formed by the weathering of rocks. The soil contains minerals, water and humus, which are essential for the growth of plants. Plants are the main source of food for most of the animals surviving on the earth.

Life exists in top soil. The top soil is dark in colour. Just below the top soil is a layer of light coloured soil called sub-soil. The bottom layer is made up of solid rock called **bed rock**. In the soil live a variety of living organisms like bacteria, fungi, worms, insects. Some are useful while some are harmful for humans.

TABLE 6.1**Constituents of air**

S.No.	Constituents	Percentage by Volume
1.	Nitrogen	78.03
2.	Oxygen	20.99
3.	Carbon dioxide	0.03
4.	Inert gases	0.95
5.	Water vapour	Variable
6.	Dust particle	Variable

Air

The most important components of air are oxygen and carbon dioxide. All living organisms take in oxygen during respiration. Plants use carbon dioxide of the air to prepare their food. They release oxygen during the process. Cyclic movement of carbon dioxide and oxygen between biotic and abiotic components helps in maintaining the carbon dioxide and oxygen balance in nature.

Water

Primary source of water is rainwater. Both plants and animals need water for their life. Water acts as a universal solvent and plants absorb minerals in the form of a solution. Plants take water from the soil for preparing their food by photosynthesis. Out of the total water available on the earth, only a tiny fraction (0.01%) of the total water is available for human use.

The amount of water available in a geographical area decides the kind of plants and animals that are found there.

Temperature

Degree of hotness or coldness is called temperature. The temperature of a place keeps changing. The temperature controls the distribution of animals and plants on the earth. Some animals like penguin and polar bear are found in cold places whereas animals like camels can live and survive in places having high temperature. Plants in desert area grow in higher temperature. Their leaves become spiny to check water loss. Some animals like lizards, frog and snakes go underground in winter. They become less active during winter. This is called **hibernation**.

Light

Green plants manufacture food in the presence of sunlight. A considerable amount of light is stored up as chemical energy in plants for future use. Light also influences opening and closing of stomata. Plants respond to light. It affects germination, movement and flowering in plants. Some plants require light for longer period of time for flowering and other require less time of exposure to sunlight in order to flower. Behaviour of animals is also influenced by light. Most animals are active and move about freely in day time. Animals like earthworms and millipedes do not like light. They are usually found in dark places inside the soil or in dark store room. Owls and cockroaches are active at night. They do not need light for their movement.

Interactions between Biotic and Abiotic Components of Environment

Various components of biotic and abiotic environment interact with each other. This interaction may be between biotic and abiotic components or within biotic components.

The producers, consumers, decomposers and the abiotic environment depend on one another (Fig. 6.7). There is a system of give and take between the two. The abiotic substances supply nutrients to the producers. The producers prepare food for the consumers. When the producers and consumers die, they are decomposed into simpler substances by decomposers. These are put back into the soil, air and water. These nutrients are again absorbed by the producers and the cycle is repeated again and again.

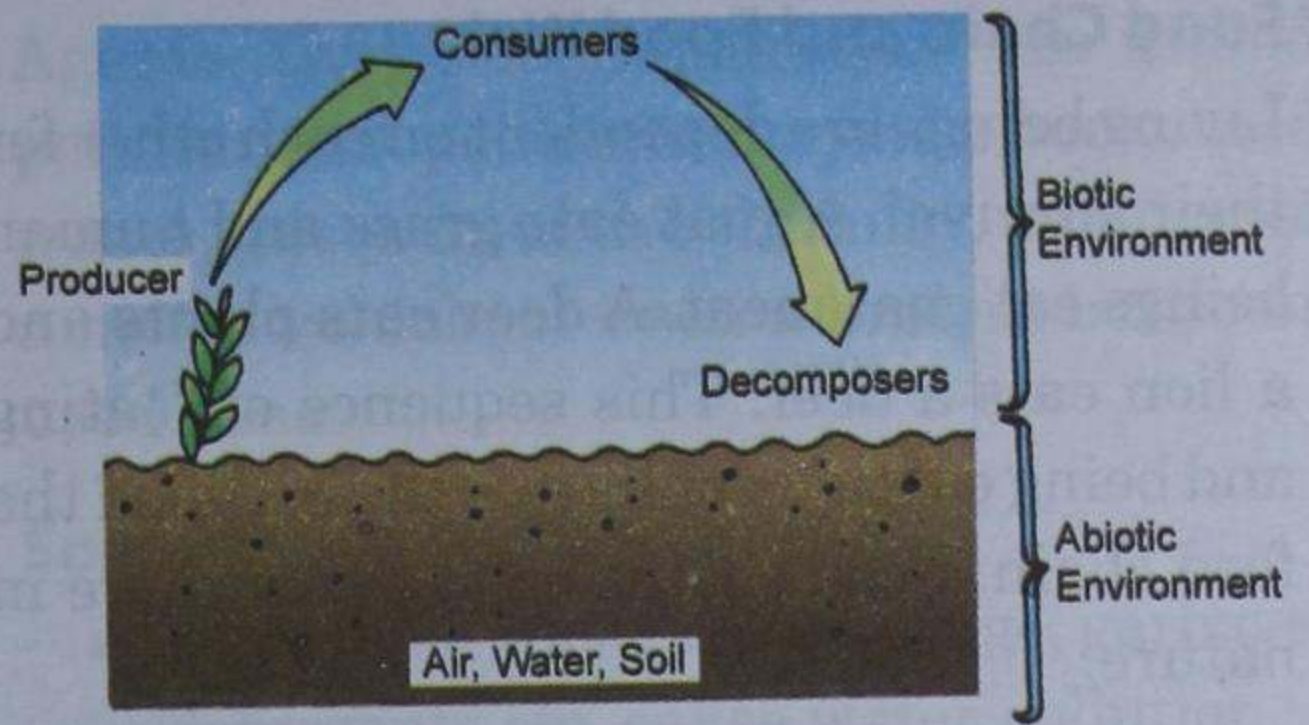


Fig. 6.9 Relationship among different components of environment.

Thus these interactions between biotic and abiotic components result in a complete energy cycle. This energy cycle brings forth many food chains in nature. The food chains which are, in fact, energy chains always start with the producers, the plants. Only plants in the food chain are capable of using the energy of the sun. Plants convert the solar energy into chemical energy through the process of photosynthesis. Thus we can say that the Sun is the source of energy for all food chains.

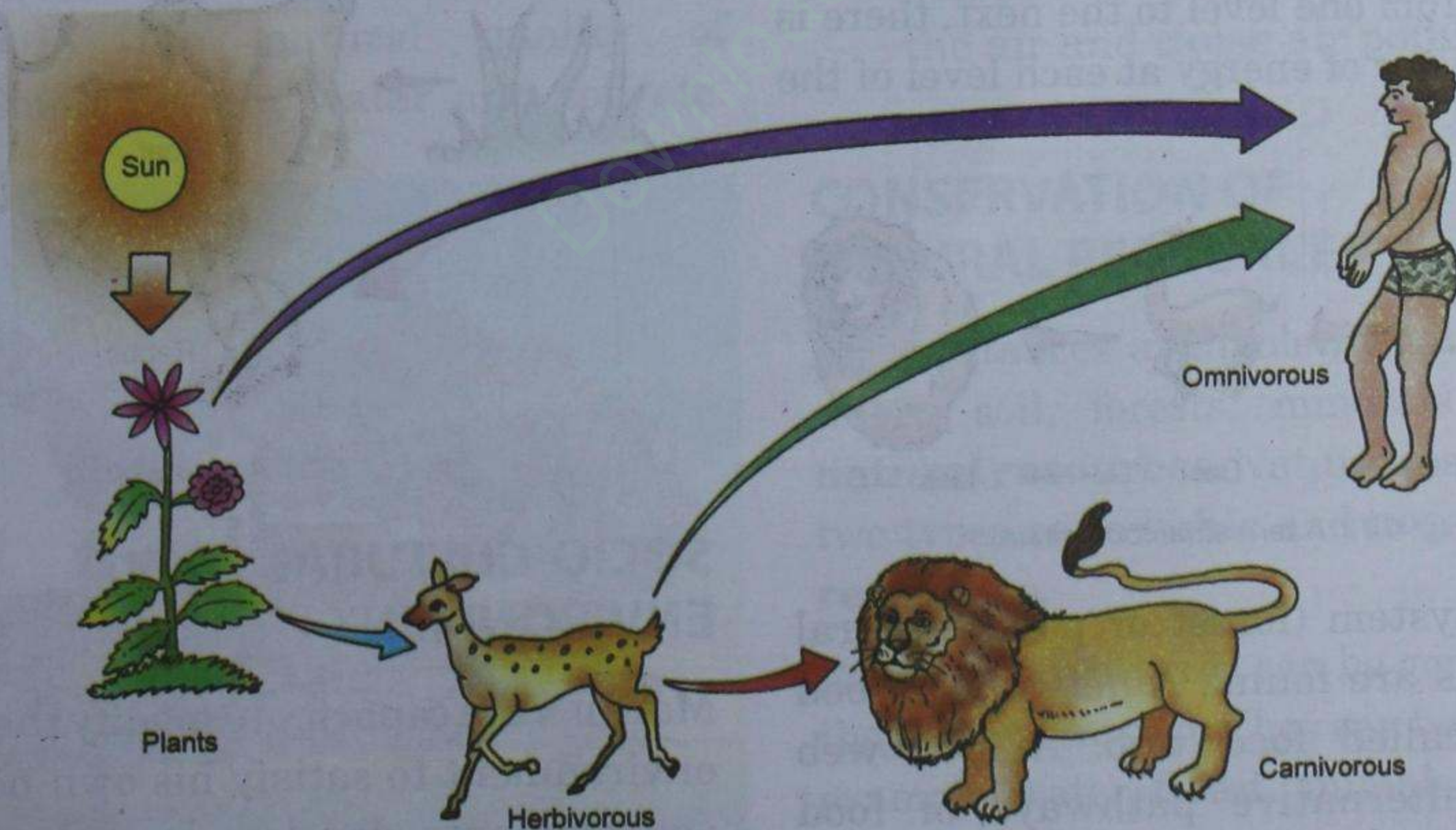


Fig. 6.10 Flow of food energy in the living world.

Food Chain and Food Web

Living beings are dependent on each other for their survival. A goat eats grass and human beings eat goat meat. A deer eats plants and a lion eats a deer. This sequence of “eating and being eaten” results in a chain called the food chain. Food chains exist everywhere in nature.

Aquatic Food Chain: The aquatic food chain given here suggests that weeds in the water are eaten by the small fish and a small fish, in turn, is eaten by a big fish. This makes a food chain.

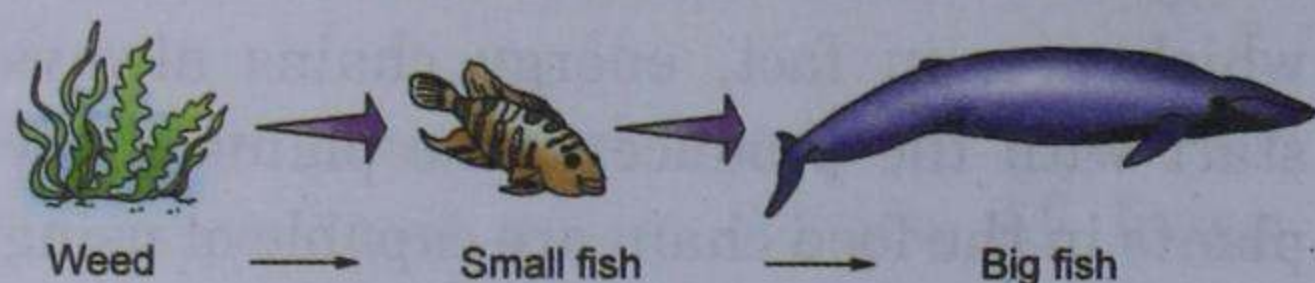


Fig. 6.11 An aquatic food chain

Terrestrial Food Chain: The terrestrial food chain given here suggests that the grass on land is eaten by a deer. A deer, in turn, is eaten by a lion. In a food chain, as the food goes from one level to the next, there is also a transfer of energy at each level of the chain.

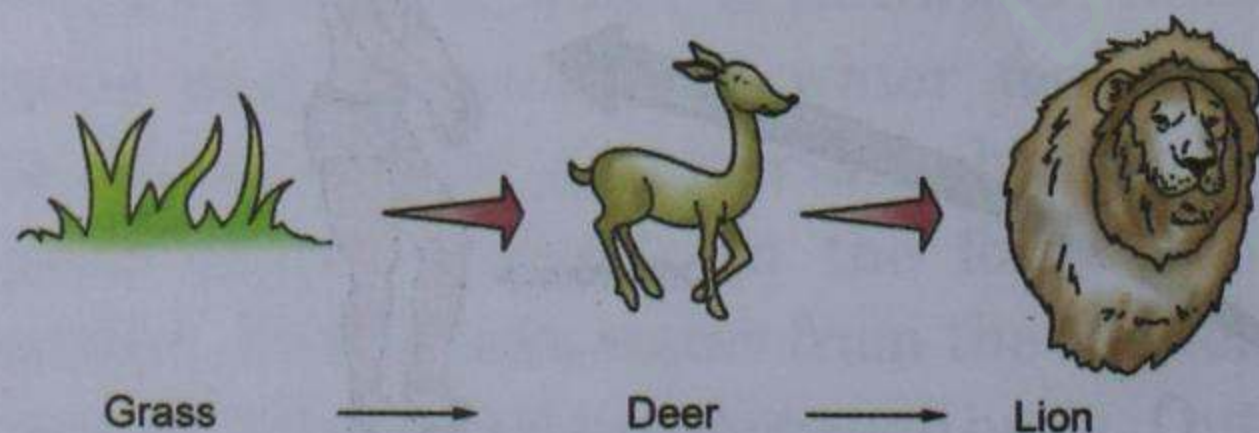


Fig. 6.12 A terrestrial food chain

a lion does not depend only on a deer for its food. It can eat many other types of animals like rabbits, buffaloes, sambar. Similarly most foods are eaten by more than one type of animals. For example, grass is not only eaten by a deer, it is also the food of cows, buffaloes and horses. Thus, many interconnected food chains exist in a community. A number of food chains connected with each other are called a **food web**.

Here is an example of a food web.

Plants and plant products are eaten by man, goats and rabbits. Goats and rabbits are eaten by man. All the three—man, goat and rabbit are eaten by lion.

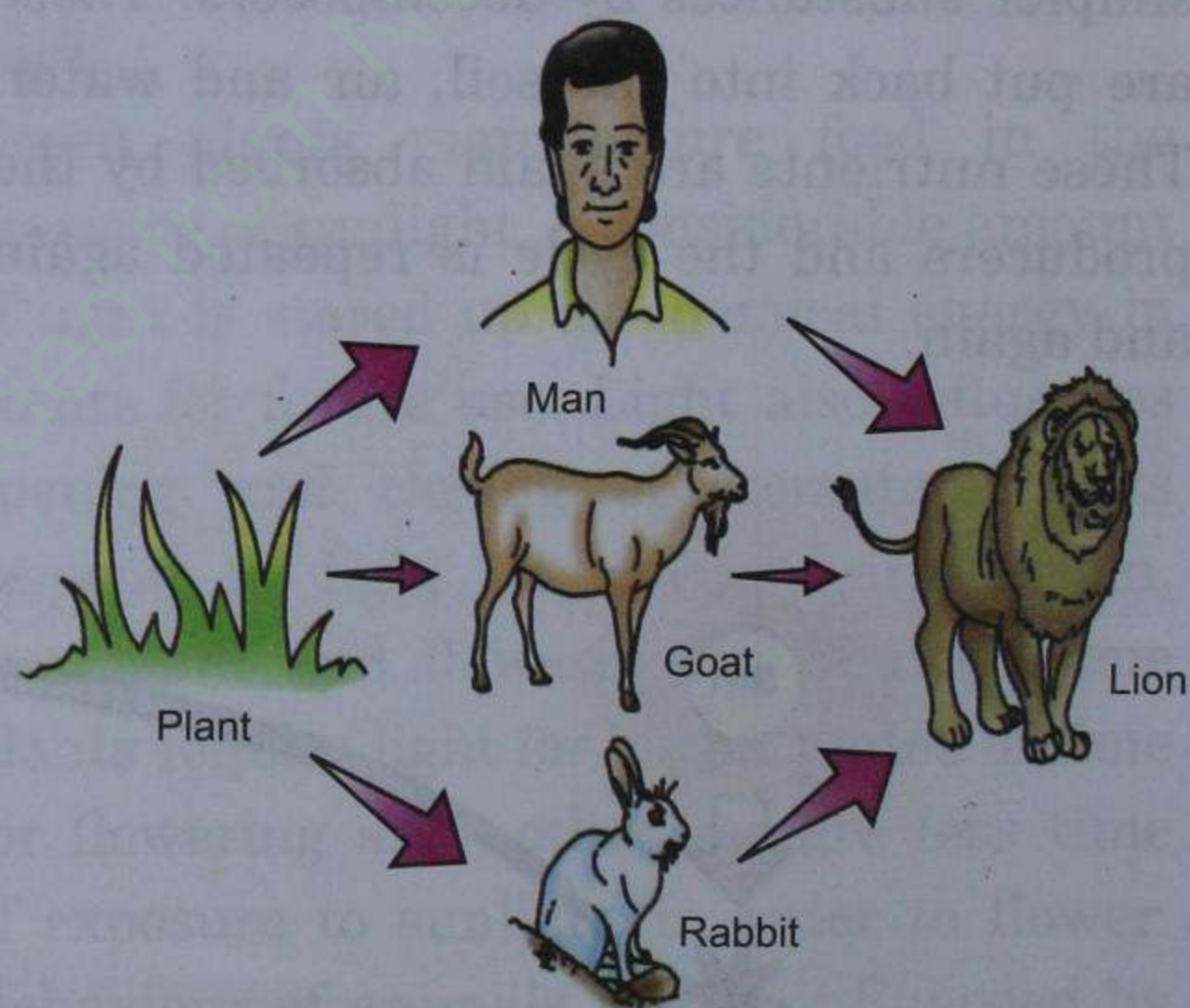


Fig. 6.13 A food web

SOCIO-CULTURAL ENVIRONMENT

Man has the capacity to modify the natural environment to satisfy his own need. The environment developed and modified by the human activities is called socio-

cultural environment. Man attains the highest position in the environment and has the capability to change the natural environment. Human beings can think, plan and communicate, therefore can change or modify the environment as per their requirement.

It is also due to the continuous and ever increasing demand for the basic needs of survival—food, shelter, clothes and water that forced man to exploit all possible natural resources without any planning. This resulted in the imbalance in nature.

The balance in nature was disturbed mainly due to the by-products of human development. Air and water pollutions are one of the factors that disturbed the balance. It affected both the flora and fauna of the environment.

Pollutants

Pollution can be defined as an undesirable change in the natural quality of environment i.e. air, water and soil etc.

Agents that cause pollution are called pollutants. A pollutant may be a household waste, gases from the chimney, exhaust of a motor vehicle or even a broken bottle or used cans.

Some Common Pollutants

- Household wastes like sewage, garbage, detergents etc. cause water pollution.
- Pesticides and insecticides used in the agriculture field are washed out with rainwater and drained off into the river and cause water pollution.
- Industrial wastes from paper, textile mills, refineries and other chemical plants pollute the water and the soil.
- Smoke is produced by burning a fuel like coal or wood.
- Gases emitted from the chimneys and the exhaust of the vehicles that consist of carbon monoxide, nitrogen dioxide, sulphur dioxide, methane, etc., pollute the air and cause air pollution.

CONSERVATION OF NATURAL RESOURCES

All substances available in nature like air, water, soil, forests, minerals are called **natural resources**. Natural resources are of two types **renewable** and **non-renewable resources**.

Renewable resources can be generated after they are exhausted. They can be recycled, for example—water, forest, animals and soil etc. All renewable resources are regenerated or

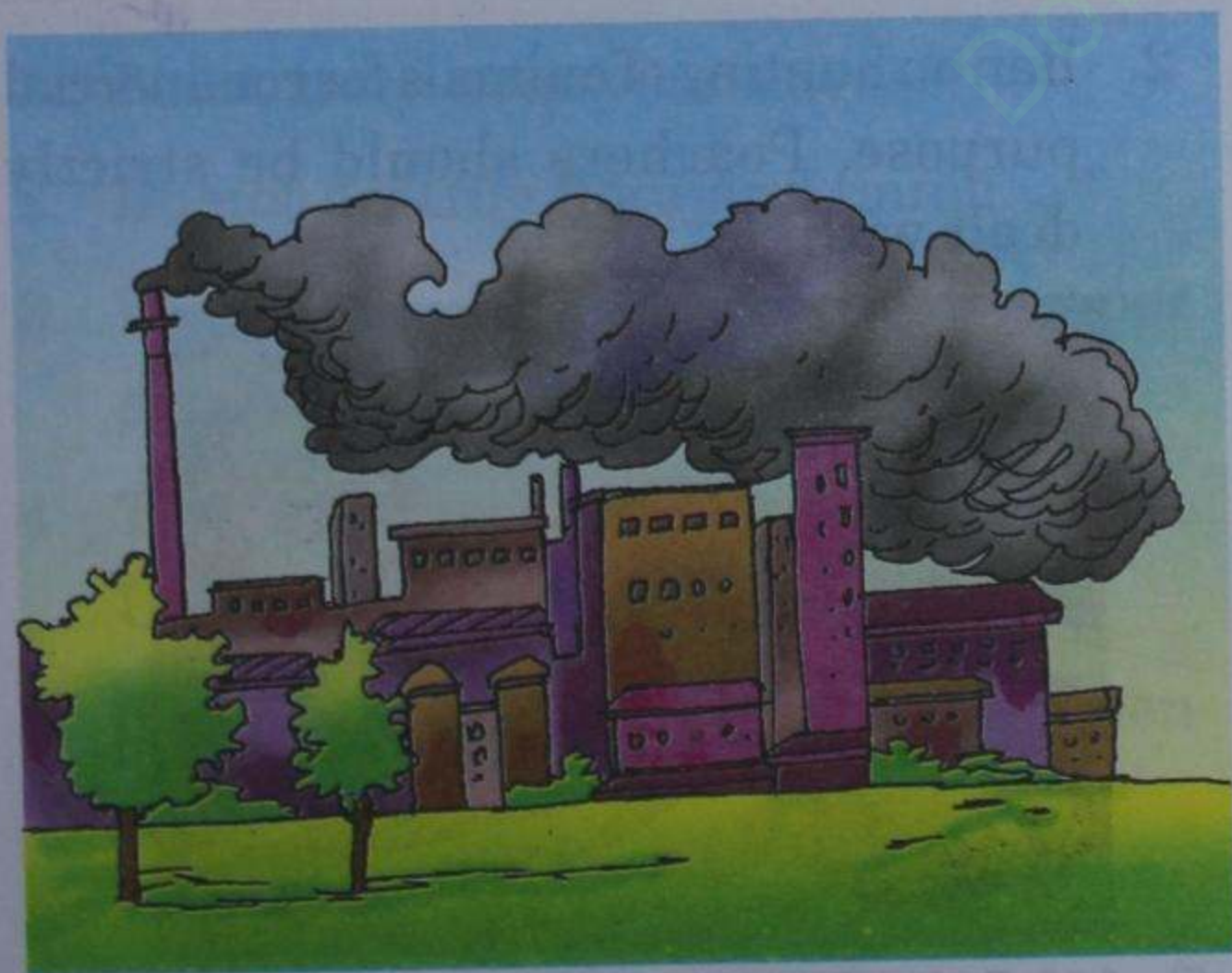


Fig. 6.14 Pollution of the environment

replenished through natural cycle. It should be noted that any resource if consumed at a faster rate than it is replenished, then it will come to an end over certain period of time.

Minerals, petroleum, coal, rock, time, stone etc. are **non-renewable resources**. They are not replenished and they are exhaustible. Once they are finished, they are finished forever.

Conservation of water

1. Constructing water reservoirs to store water.
2. Making bunds on the bank of the river to prevent the flow of water into the fields.
3. Growing more trees to prevent soil erosion.
4. By checking water pollution by the prevention of disposal of industrial wastes and garbage into the waterbodies.
5. Adopting water harvesting techniques.

Soil conservation

Maintaining the quality and fertility of soil is called conservation of soil. Following steps need to be taken for soil conservation.

1. Prevent soil erosion by planting more trees. The roots of the trees bind the soil particles to prevent erosion.
2. By growing trees on the boundaries of the fields to cut the speed of wind.
3. The field should not be left uncultivated for long.

4. Replenish the soil with fertilizers and manures to maintain its fertility.



Fig. 6.15 Deforestation causes soil erosion and also threatens wildlife

Wildlife conservation

Plants and animals living in a jungle are called **wildlife**. These animals are also very important but for the last two decades their life is in danger. The population of a few species has been decreasing continuously. Many more species have become extinct and it has disturbed the balance in nature.

The following steps may be taken for conservation of wildlife.

1. Ban on cutting of forest
2. Ban on hunting of animals for commercial purpose. Poachers should be strictly dealt with.



Fig. 6.16 Project Tiger was instrumental in saving the Indian tiger from extinction

3. Wildlife sanctuaries should be established to provide animals their natural habitats.

Conservation of Non-renewable Resources

The non-renewable resources are metals, minerals, coal, petroleum, etc. Their deposit in nature is limited. Once they are finished, they cannot be replenished. Therefore, it is required to use them carefully and their wasteful use should be avoided.

Thus following methods may be adopted for their conservation.

(a) Recycling: Recycling means to make a substance usable after treatment.

(b) Substitute: It means alternate sources. According to an estimate, the deposit of coal and petroleum etc. will last only for 50 years. Therefore alternate sources of energy like solar energy, wind energy and tidal energy need to be found.

Everyday practices to conserve resources

1. Plant trees near your houses.
2. Do not destroy flora and fauna.
3. Waste should be thrown at proper places.
4. Turn off water taps when not in use. Use a bucket while taking bath.
5. Switch off electrical appliances when not in use.
6. Use renewable crockery.

7. Do not use plastic bags. Use jute or paper bags in their place. They are made of biodegradable materials.

INTERDEPENDENCE OF PLANTS AND ANIMALS

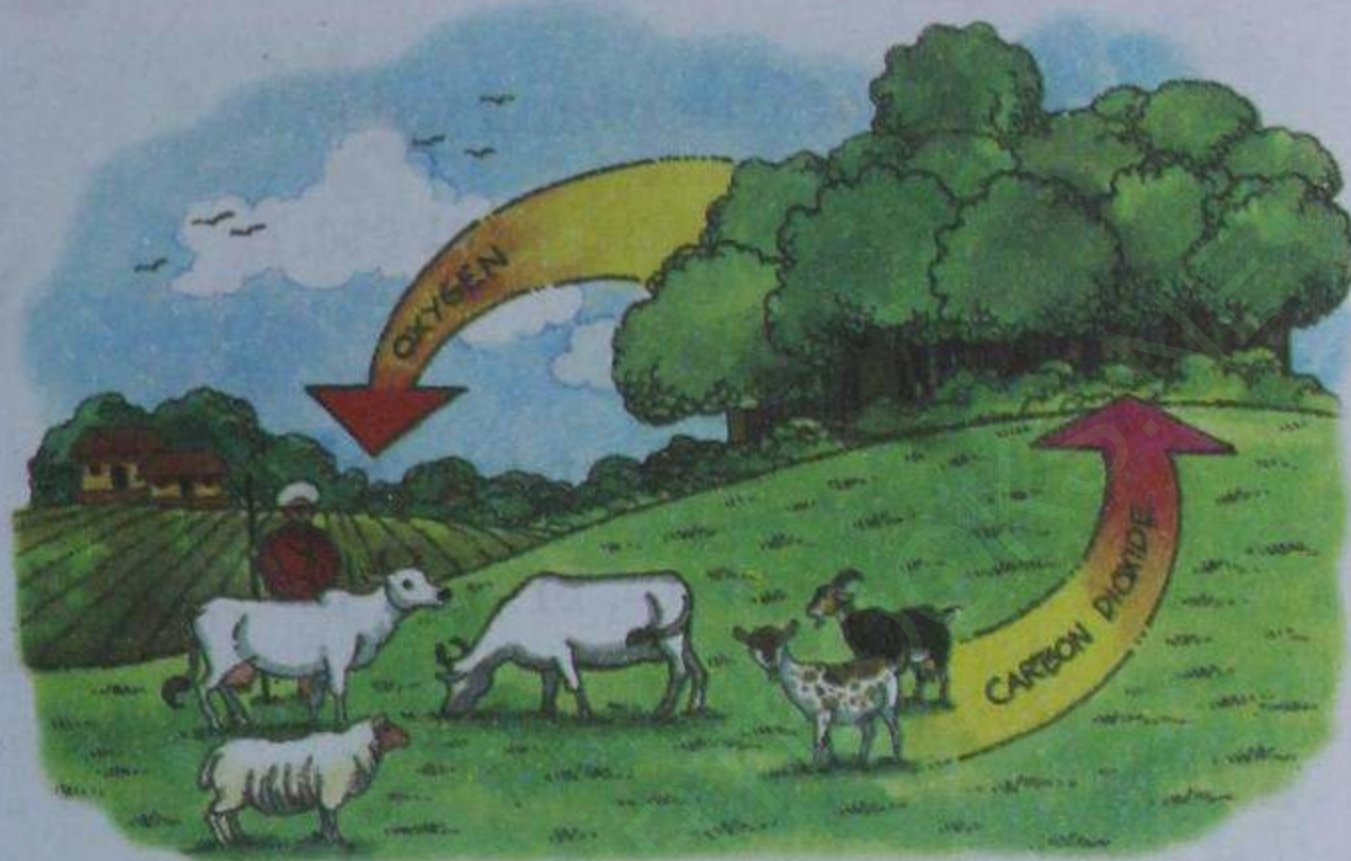


Fig. 6.17 Plants and animals are dependent on each other for survival

Dependence of Animals on Plants

- We consume food, produced by plants. All the vegetables, fruits, pulses and grains are the plant products. We consume every part of the plant. Certain non-green plants like mushroom are used as food. Besides food we obtain a number of plant products like oil, latex, resins, spices, etc.
- Microorganisms like bacteria, yeast and fungi are helpful to us in many ways. Non-green plants like yeast and penicillin help us in fermentation of food and preparing antibiotics respectively.
- The balance in the amount of oxygen and carbon dioxide in the environment is maintained by the plants.

- All herbivores like cows, goat, deer, etc. eat plants. Several animals make their shelters on trees. Birds and monkeys live on trees. They make their nests on the trees. Birds and bats eat fruits and grains. Plants provide food and shelter to many animals.

Parts of the plant we eat

Leaves : Spinach, mint etc.

Stem : Potato

Root : Radish and carrot

Fruits : Tomato, brinjal, mango

Seeds : All pulses, wheat and rice, etc.

Dependence of plants on animals

- Plants also depend on animals in several ways. Insects and squirrels help in pollination; grazing animals and birds help in the dispersal of seeds. Fruits are eaten by birds who carry them to distant places.
- Earthworms make the soil soft and airy for the growth of plants. The dead remains of the burrowing animals and insects make the soil fertile.
- The carbon dioxide released by animals during respiration is used by the plants for photosynthesis.

ANIMAL AND PLANT PRODUCTS

Animals and plants are integral part of our biotic components. Plants and animals

depend on each other. All animals depend on plants for various products.

Useful Plants and Plant Products

- Cereals are a rich source of carbohydrates and proteins, for example: wheat, rice and maize.
- Pulses are a rich source of proteins. For example: beans, pea, gram, moong, arhar, etc. are common pulses.
- Vegetables are a rich source of minerals and vitamins. They are obtained from stems, roots and leaves of the plants. Potato, onion, spinach, brinjal and lady finger are common vegetables.
- Fruits are sweet juicy and succulent plant products. They are eaten raw. Fruits are also used to make jam, jelly and pickles. Common fruits are mango, orange, guava, papaya, etc.
- Spices are used to give flavours to the food. Few common spices are cumin, coriander, clove, pepper, turmeric, etc.
- Oilseeds are very important plant products. Edible oil is extracted from these seeds. Mustard, etc, groundnut, soyabean are important oilseeds.
- Fibres are obtained from jute and cotton plants. Linen is obtained from flax plants. Fibers are used in making mats, bags, clothes and carpets, etc.
- Timber is a very important plant product. It is used to make houses, huts and furniture and many more



Sugarcane



Tulsi



Mint



Wheat



Paddy



Cauliflower



Spinach



Mustard



Groundnut



Neem



Tea plant

Fig. 6.18 Useful plants and plant products

other articles. Wood pulp is used in making papers. Some timber yielding trees are teak, deodar, sal, etc.

- Tea, coffee and cocoa are beverages obtained from plants.
- Various kinds of medicines and drugs are obtained from plants. Bark of a **chinchona** plant yields **quinine** which is used in the treatment of malaria. **Penicillin** is obtained from a fungus penicillin. Leaves of neem trees are used as antiseptic. Several plants and plant parts are used in Ayurvedic medicines. Neem, amla, turmeric, basil and clove are still used in preparing medicines. Fruits of poppy plant yield opium which is used to make morphine.
- Commercial rubber is obtained from latex of rubber plants. Rubber is used in making tyres, tubes, toys and erasers, etc.

Resins and perfumes are also obtained from plants.

- Several plants are grown for their beautiful and attractive flowers.

Useful Animals and Animal Products

Men also depend on animals for various products of daily use.

- Cows and buffaloes provide us with milk. Milk is used in making butter, cheese, ghee and many other food items.
- The hides of animals are used to prepare leather from which articles like shoes, suitcase, bags and belts are made.
- Goats and sheep are sheared for wool.
- Goat, sheep and pigs provide us with meat. Meat is a rich source of protein and fat.

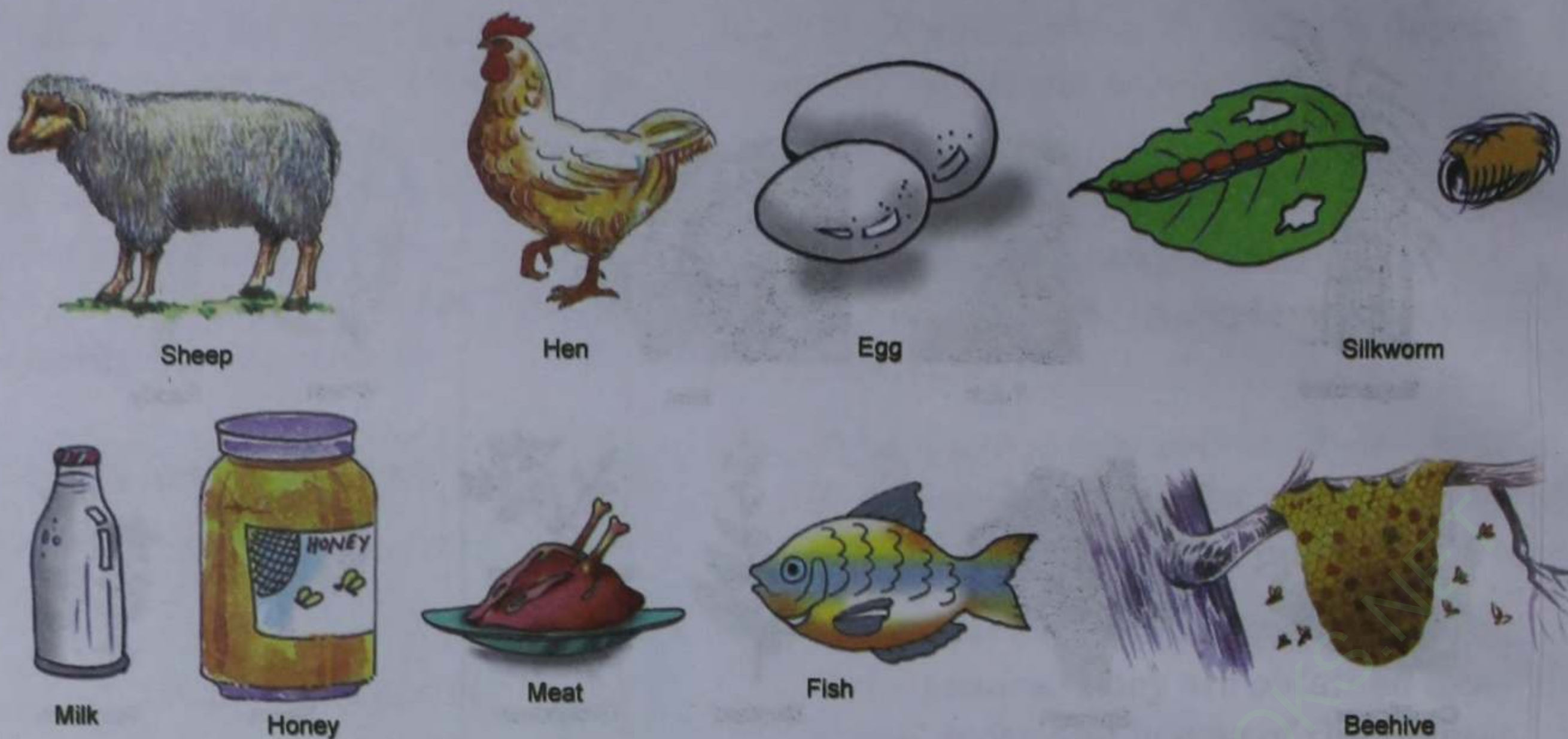


Fig. 6.19 Useful animals and animal products

- Silk is an animal product. It is obtained from silk moth.
- Hens and ducks provide eggs. Egg is a very nutritive food. It is a rich source of protein, fat and minerals. Turkey and fowls provide meat.
- A number of animals like bullock, ox, donkey are used for transportation and for ploughing fields.
- Honey bees are a source of two important products honey and the wax. Honey consists of water, sugar and minerals and it is a nutritious and valuable food.

LET US SUMMARISE

1. Earth is a unique planet.
2. The lithosphere supports plants life.
3. The planet earth has such conditions which support life.
4. Earth has living and non-living components.
5. The biotic and abiotic components interact with one another.
6. Green plants are producers. Animals are consumers.
7. Microorganisms are decomposers.
8. The abiotic components are light, temperature, air and water.
9. Man-made environment is called socio-cultural environment.
10. The activities of human beings have disturbed the balance of nature.

Subjective Evaluation

A. Name the following:

1. The outer layer of the earth which supports life.
2. The gas which prevents the entry of ultraviolet rays to the earth.
3. A scavenger.
4. Abiotic components.
5. The process by which green plants make their food.

B. Answer briefly:

1. Why are green plants called producers?
2. Write down a food chain using at least four organisms.
3. Name any two natural resources which are replenished by natural cycle.
4. Name two gaseous pollutants.
5. Name any two non-biodegradable pollutants.
6. Name any two activities by which soil is polluted.
7. Name any two methods by which soil fertility can be maintained.
8. Mention any two benefits of forests.
9. Why should wildlife be conserved?

C. Give reasons:

1. Life depends on plants.
2. Decomposers are important.
3. Light is an important factor.

D. Answer the following questions in detail:

1. Write down three conditions of the earth which support life.
2. What do you mean by food web?
3. Write down a few activities of human beings which have disturbed nature.
4. What do you mean by socio-cultural component?
5. What do you mean by energy flow?

E. Distinguish between:

1. Mantle and core.
2. Herbivore and carnivore.
3. Producers and consumers.
4. Food chain and food web.

F. Define the following:

1. Food web.
2. Herbivores.

3. Decomposers
4. Non-renewable resources.
5. Scavengers.

Objective Evaluation

G. Fill in the blanks:

1. Microorganisms act as in the environment.
2. The primary source of energy in nature is
3. The green plants are called as
4. The man-made environment is also called as
5. The food chains are linked to make a
6. Two major components in an environment are (i) (ii)

H. Tick (✓) the most appropriate answer:

1. Which is not a renewable resource?

(a) animal	(b) forest
(c) air	(d) coal
2. Which of the following cannot be recycled?

(a) newspaper	(b) metals
(c) bottles	(d) coal
3. During photosynthesis plants give out

(a) carbon dioxide	(b) oxygen
(c) water	(d) nitrogen
4. Soil erosion is caused by

(a) overgrazing	(b) improper cultivation
(c) deforestation	(d) all the above
5. All natural resources are

(a) renewable	(b) non-renewable
(c) renewable or non-renewable	(d) none of these

Glossary

Abiotic: Non-living part of the environment.

Angiosperms: Plants bearing seeds enclosed inside the fruit.

Annuals: Plants which complete their lifecycle in one season only.

Apiculture: The rearing of honeybees.

Atmosphere: The envelope of gases surrounding the earth.

Balanced diet: A diet that provides the proper amount and proportion of calories, proteins, vitamins, minerals, roughage and water to maintain a healthy body.

Biennials: Plants which complete their lifecycle in two years.

Carbohydrate: An energy-giving nutrient made up of carbon, hydrogen and oxygen.

Carbonization: The process of formation of coal. It is a very slow process.

Carnivore: Flesh-eating animals.

Chlorination: A method by which water is made safe by adding tablets of chlorine or bleaching powder.

Cleanliness: Not dirty or messy.

Consumer (Heterotrophs): Organisms which eat food prepared by producers.

Decomposer: Organisms which break down the complex organic compounds present in dead bodies of plants and animals.

Deforestation: Cutting down of trees.

Dicot: Seeds having two cotyledons.

Dispersal: Distribution of fruits and seeds away from the parent plant.

Fertilization: Fusion of the nuclei of male and female gametes to form a zygote.

Flower: Specialized reproductive shoot.

Fossil fuels: These are minerals rich in combustible hydrocarbons; the residue of plant material laid down in the distant past.

Fossils: Remains of organism or direct evidence of its presence, preserved in rocks.

Fruit: A ripened ovary.

Germination: Development of an embryo of a seed into a new plant.

Gymnosperms: They are naked-seeded plants and their seeds are not enclosed in the fruits.

Health: It is a state of complete physical, mental and social well-being and not merely the absence of disease.

Herbivores: Animals that feed on plants.

Herbs: Plants with soft, green and perishable stems.

Hermaphrodite flower: A Flower having both the essential whorls (Bisexual flower).

Homoeothermic: Warm-blooded animals.

Humus: Decomposed organic matter in the soil.

Hydrosphere: A large body of water commonly known as ocean.

Hygiene: Clean and free from germs,

Insectivore: Insect eating (Plants and Animals)

Invertebrate: Animals without backbone.

Lifespan: The period from birth of an organism till its natural death.

Lithosphere: It is the outer crust on the surface of the earth.

Loam: A top soil which is a mixture of sand, silt, clay and humus.

Mineral: Inorganic chemical needed by the body in small amounts.

Monocot: Seeds which have only one cotyledon.

Multicellular: Organism formed of many cells.

Nutrient: Chemicals in food that our body needs to stay healthy.

Nutrition: Taking food for growth and energy.

Omnivores: Animals that feed on plants and animals.

Ovary: Swollen base of pistil in a flower.

Ovule: The future seed of a plant.

Parasite: Animals and plants, which depend for their food on other animals and plants.

Perennials: Plants which live for several years.

Poikilothermic: Cold-blooded animals.

Pisciculture: The rearing of fish on a large scale.

Planets: Heavenly bodies which revolve around the sun.

Pollination: Transfer of pollen grains from the anther to the stigma.

Pollutants: Additional constituents of water, land and air that alter the natural quality of the environment.

Producers (Autotrophs): Green plants which can prepare their own food by the process of photosynthesis.

Protein: Compound made up mainly of carbon, hydrogen, oxygen and nitrogen which our body needs for growth and repair.

Reproduction: To give birth to young ones of its kind.

Respiration: Oxidation of food to release energy.

Saprophyte: Animals that get their nourishment from dead and decaying matter.

Sericulture: The rearing of silk moth larvae for its silk thread.

Shrubs: Plants with woody stem; branches are of equal size.

Soil conservation: Protection of top soil (fertility of soil)

Soil erosion: Removal of top soil by wind and water which ultimately affects the fertility of the soil.

Stamen: Male part of a flower.

Style: Part of pistil above the ovary.

Tuberous roots: Roots become swollen due to food storage.

Taxonomy: The branch of Science which deals with the classification of living things.

Tension: A feeling of wrong.

Thalamus: The flattened part of the stalk of a flower.

Unicellular: Organism formed of only one cell.

Unisexual: Flower in which either of the essential whorls is lacking.

Venation: Arrangement of veins in a leaf.

Vertebrate: Animals with backbone.

Zygote: A fertilized egg cell.

