*Enhanced Edition
NEP 2020 Guidelines

# OUR HABITAT

## *Teacher's Support*

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# Lesson-1
# (The Changing Families)

**Objectives**

- To make students understand the concept of migration.
- To enable students to understand the difference between migration and displacement.
- To make students learn about the reasons behind changing families.
- To make students understand the meaning of migrants and emigrants.

**Overview**

- Migration and its causes
- Displacement of people
- Reasons behind changing families

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask the students about their hometown. There will be surely some students whose parents might have shifted from one place to the other for some valid reason. With reference to those students, explain the meaning of migration.
- Now, write on the board 'Causes for migration' and ask the students to answer. Check whether they are able to answer correctly. If not, once again explain them and write its causes on the board. Its causes include new job, education, urbanisation, financial problems etc.
- After brief discussion about migration shift your topic to forced movement of people from one place to the other which is known as displacement. Explain to them that migration is not done forcefully whereas displacement is done due to construction work like factories, dam, roads etc. Many a times, natural disasters such as earthquakes, floods, cyclones etc also result in displacing families and shifting homes.
- Explain the students that it is not only migration or displacement which brings shifting of people from one place to other rather it also includes changing of families. These changes in families structure are caused due to relationships, trend of nuclear family, industrialisation and large size of families.
- Now, ask the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine Point' and help them to complete them correctly.
- Discuss and help the students to solve the exercises given in task 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.

- Make students do 'Think and Answer' 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing this in class.

**Recapitulation**

- What is migration?
- What are the causes of migration?
- Who are migrants?
- What is displacement?
- What are the causes of displacement?
- What are the reasons behind the changing families?

**Home Assignment**

- Find out few more reasons for migration and displacement of people except the ones given in the textbook.
- Do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in class.

## Teacher's Support

**Gear up**

- I would miss my grandparents and cousins very much.
- I would miss my aunt's bedtime stories.
- I would miss going on picnic on weekends with my family and cousins.

**Question Time**

**A.** 1. a) job 2. c) displacement 3. c) Education

**B.** 1. emigrant 2. displacement 3. industrialisation

**C.** 1. False 2. False 3. True 4. True

**D.** 1. Some people may get a new job in another city. Some people get transferred in the jobs they do. Some shift to different city to get better education. Such movement of people from one place to another in search of work or shelter is called migration The people who migrate are called migrants.

2. People are forced to move from their places many a times. Such a forced movement is called displacement. People get displaced due to construction work like factories, dams, words, flyovers etc. Many a times, natural disasters such as earthquakes, floods, cyclones and so on also result in displacing families and shifting homes.

3. The reasons for changing families are-
**Relationships**- All of us have some relatives who live in different cities for various reasons. In

India, when a marriage happens, the girl moves permanently to the boys place.

**Industrialisation**- When income from agriculture could not meet the expenses and youth got better education, people moved to cities in search of better jobs. This led to the breakdown of traditional joint family.

**Large Size**- When the size of a joint family becomes unmanageable, few members generally move out and establish nuclear families.

**Think and Answer**

Yes, it is a good idea to keep in touch with your relatives, wherever they may be because they are our extended family and will always be there to help us when we are in need.

**Fun Time**

1. migrant 2. education 3. marriage 4. displacement

**Things to do**

Do it yourself.

**Life Skills**

- The family values which we adopt from our families are-
- to obey our elders
- to respect everyone
- to treat everyone with great love and affection
- to help others when in need
- to inculcate good manners
- to live life with happiness and positivity.

**Cluster Task**

Do it yourself.

# Lesson-2
# (Parts of Our Body )

**Objectives**

- To enable the students to understand different organ systems of our body.
- To make students learn about the digestive system and the organs involved in it.
- To make students learn about the respiratory or breathing system and the organs involved in it.
- To make students learn about the circulatory system and the organs involved in it.
- To make students learn about the nervous system and the organs involved in it.
- To make students learn about the excretory system and the organs involved in it.

**Overview**

- Internal organs and External organs
- Working of Digestive system
- Working of Respiratory system
- Working of Circulatory system
- Working of the Nervous system
- Working of Excretory system

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students to name different organs of our body. Explain them that our body. Explain them that our body do not work on each organ individually rather our body works and perform many crucial functions with the help of group of organs working together constituting organ system.
- Once you have given the introduction of the chapter to the students ask them to read the chapter turn by turn. Tell them to go steadily so that each and every line is clearly heard by all. Explain each organ system soon after the reading is done by the students.
- After completion of each organ system draw flowchart on the board for better understanding of the students. Given below are the examples of flowcharts that can be drawn.

  **Digestive System**

  **Organs-** Mouth, stomach, small intestine, Liver, pancreas, Large intestine, Anus

  (Digestion of food)

  **Respiratory or Breathing System**

  **Organs-** Nose, Wind pipe, Lungs (Energy production and helps in breathing)

  **Circulatory System**

  **Organs-** Heart, Blood vessels (Arteries, Veins, Capillaries)

  (Pumping of blood throughout the body)

  **Nervous system**

  **Organs**- Brain, Spinal cord, Nerves (Controls the other functions of the body)

  Excretory system

  **Organs**- Kidneys, Ureters, Urinary bladder, Urethra.

  (Filtering of liquid waste from the blood)
- Now, ask the students to do 'Gear up' and 'Examine Point' themselves and help them to complete them correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.

  Make students do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' themselves after discussing them in class.

**Recapitulation**

- What are sense organs?
- How does digestive system work?
- How does respiratory system work?
- How does circulatory system work?
- How does nervous system work?
- How does excretory system work?

**Home Assignment**

- Write briefly about any one organ system in your notebook. Also, draw a well labelled diagram of it.
- Do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get then checked later in class.

# Teacher's Support

**Gear up**

1. Stomach
2. Organ system
3. Mouth
4. Small intestine

**Examine Point**

1. Food pipe — c) digestive system
2. spinal cord — d) nervous system
3. Trachea — a) respiratory system
4. Capillaries — e) circulatory system
5. Kidneys — b) excretory system

**Question Time**

**A.** 1. c) organ system 2. b) mouth 3. a) kidney 4. c) involuntary 5. b) nervous system

**B.** 1. pancreas 2. trachea 3. two 4. ureter

**C.** 1. False 2. True 3. True 4. True

**D.** 1. There are more than 100 different kinds of processes take place inside the liver. The liver is concerned with the digestion of food, excretion of wastes, storage and conversion of food materials addition of components of the blood and destination of poisonous substances.

2. In respiratory system, the main organs are nose, wind pipe and lungs. Wind pipe is also called trachea.

3. The heart and blood vessels work in coordination to form a system called the circulatory system. Heart is the main organ that pumps the blood around the body.
4. In the lungs blood absorbs the oxygen from the air and breaths out carbon dioxide. Blood with oxygen goes to all parts of the body. This oxygen is used by the body cells to burn the food, on which energy is produced. Burning of food releases carbon dioxide which is carried back to the lungs by the blood. Energy is used by the body for growth and fighting against diseases.
5. Our body has two kidneys. These are reddish brown bean shaped organs. The kidneys filter the wastes from the blood producing urine.

**Think and Answer**

The nervous system controls all the functions of the body. The system connects the brain to all parts of the body through the spinal cord. The brain receives messages from different sense organs and other parts of the body.

**Fun Time**

1. Stomach, liver, foodpipe
2. arteries, veins, capillaries
3. nose, windpipe, lungs
4. kidneys, ureter, urinary bladder

**Things to do**

Do it yourself.

**Life Skills**

Do it yourself.

**Cluster Task**

Do it yourself.

# Lesson-3
# (Growing Food)

**Objectives**

- To enable students to understand the processes involved in growing of food.
- To make students understand various stages involved in farming.
- To teach the students how do we get food grains?

**Overview**

- Agriculture and its importance
- Various stages in farming
- Preparation of soil: ploughing and leveling
- Sowing seeds
- Transplantation
- Irrigation: furrow irrigation, sprinkler irrigation, tubewell irrigation
- Weeding
- Adding manure and fertilisers
- Crop protection
- Harvesting
- Threshing
- Winnowing
- Storage of grains
- How do we get food grains?

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Initiate the discussion by asking students about life and work done by the farmers. Relate their work with agriculture, and explain the students the meaning of agriculture. In India, more than half of the population lives in villages, so agriculture practices are followed at a large scale in India.
- Now, shift your discussion towards various stages involved in farming. Farming is not that easy as it looks. It takes great efforts of the farmers to grow crops and sell them in the market for us.
- Explain the students it is not the sowing of seeds which comes first rather it is preparation of soil. Giving this statement write each stage on the board and make students read the chapter turn by turn. Explain each and every line carefully and define the difficult words mentioned in the chapter.
- Once the reading and explanation of the chapter has been done the flowchart on the board will look similar to the one given below.

**Agriculture**

(Growing of crops by farmers )

Various stages involved in Farming

1. Preparation of soil

   Ploughing (loosening and turning of soil)

   Levelling (helps in water distribution uniformly)
2. Sowing seeds (Planting of seeds)
3. Transplantation (Shifting of plants from nurseries to the field)
4. Irrigation (Watering of plants)
5. Weeding (Removal of weeds)
6. Adding manure and fertiliser (To restore soil fertility)
7. Crop Protection (Use of Pesticides and Insecticides)
8. Harvesting (Cutting of grown crops)
9. Threshing (Separating of grains from crops )
10 Winnowing (Separating husk from seeds)
11. Storage of grains (Silos or Granaries)

- Once this all this is done tell the students to try 'Gear up' and 'Examine Point' and help them to complete them correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.
- Make students do 'Think ans Answer', 'Fun Time', 'Things to do', 'Life skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- What is agriculture?
- What are various steps involved in agriculture?
- What is irrigation?
- What is weeding?
- Why is there a need add manure and fertilisers?
- How do we get food grains?

**Home Assignment**

- Write briefly various steps involved is farming in your notebook.
- Do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in class.

# Teacher's Support

**Gear up**

Ploughing, spraying fertilisers, sowing seeds

**Examine Point**

| | |
|---|---|
| 1. Ploughing | e) loosening and turning the soil |
| 2. Sowing | c) planting seeds |
| 3. Weeds | a) unwanted plants |
| 4. Irrigation | f) watering the plants |
| 5. Harvesting | d) cutting and gathering nature (ripe) crops |
| 6. Threshing | b) separating the grains from the harvested crop |

**Question Time**

**A.** 1. a) sowing 2. c) irrigation 3. b) soil 4. b) sickle
5. c) seeds 6. c) silos

**B.** 1. bullocks 2. nutrients 3. ploughing 4. weeding
5. food grains

**C.** 1. True 2. False 3. False 4. False
5. False

**D.** 1. Threshing is the process of separating the grains from the harvested crop.

2. There are many unwanted plants that grow along the main crop. These unwanted plants are known as weeds.

3. When the crop becomes nature, it has to be cut close to the ground. The process of cutting nature crop is called harvesting. It is done either by sickles or machine called harvesters.

4. The harvested gains are dried is the sun and dried grains are put in gunny bags. These bags are transported to godowns known as silos or granaries. It is a dry, cool place protected from rats, birds, insects etc.

5. The seeds of certain crops are not directly sown in the field. Instead they are first sown in nurseries. Later, the seedling is transferred to the field this is known as transplantation. Plants like rice, chillies and tomatoes are grown by the transplantation method.

**Think and Answer**

Changes in equipment have made a large impact on the way farmers are able to farm and grow food. In the past, farmers would do field work by hand or with animals drawn equipment. This work would take a long time to complete, which meant that farms were smaller because farmers could only work on small land. Tody, most farmers use tractors and other motorized equipment to help with the field work. Tractors, combines, harvesters etc. are much larger to move and much faster

than animals, so farmers are able to produce more food in a shorter amount of time.

**Fun Time**

a. LEVELLER b. WEEDING c. INSECTICIDES d. SOWING

**Things to do**

Do it yourself.

**Life Skills**

5, 3, 7, 1, 4, 8, 2, 6

**Cluster Task**

Do it yourself.

# Lesson-4
# (Food and Its Kind)

**Objectives**

- To make students learn more about the food we eat.
- To make student understand the different types of food we eat.
- To teach students about importance of minerals, vitamins, fibres and water in our diet.
- To make students know more about balanced diet and eating healthy food items.
- To give knowledge to the students about food spoilage and its prevention.
- To enable the students to understand the importance of eating clean food.

**Overview**

- Importance of food
- Types of food: energy-giving food, body- building food and protective food
- Minerals
- Vitamins
- Fibres and water
- Balanced diet
- Eat Right
- Food Spoilage: bacteria, protozoa, fungi, temperature
- Preservation: pickling, sweetening, refrigeration, dehydration, canning, tetra packing
- Clean food

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students about their previous knowledge of different kinds of food. Also, ask them to give examples of body building foods, energy giving foods and protective foods. Write the correct examples on the board so that the students who did not remember or know can understand easily.
- After this, discuss about different kinds of minerals, vitamins, fibres and water present in our food and their functions.
  - **Minerals-** (Vegetables)
    * **Iron**-Enriches blood
    * **Calcium, phosphorus**- Building our bones
    * **Common Salts** - Production of gastric juices
  - **Vitamins**- Repair worn out body and helps in digestion (milk, fruits etc)
  - **Fibres or Roughage**- Adds bulk to our food and helps in digestion (pumpkin, orange, sweet lemon etc.)
  - **Water**- Proper digestion of food and normal functioning of the body.
- Now, talk about balanced diet and food pyramid according to which one should plan his/her diet
- Draw a food pyramid on the board in descending order.

  Cereals- Fruits and Vegetables-Milk products-Meat, Fish and eggs-Fats.
- Ask students if they know about food spoilage. If food items are kept for a long period of time, they get spoiled due to action of bacteria, protozoa, fungi and temperature. And signs of food spoilage include:
  * change in colour
  * Protozoa
  * Fungi
  * Temperature
- Shift the discussion towards preservation of food and its method.
- Now, ask the students to read the chapter turn by turn. Guide them to understand meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine Point' and help them to complete them correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.
- Make students do 'Think and Answer' 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- What are different types of food?
- What is the importance of food?
- What are energy-giving food?
- What are body-building food?
- What are protective food?
- Why are vitamins and mineral necessary for us?
- Why are fibres and water necessary for us?
- What is a balanced diet?
- What is food spoilage? How can we preserve it?

**Home Assignment**

- Write briefly about different ways of preservation in your notebook.
- Do 'Think and Answer', 'Fun time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in class.

# Teacher's Support

**Gear up**

Energy-giving food- millets, maize, sugar, patatoes

Body-building food- milk, cheese, pulses, nut

Protective food- fruits, milk, grean-leafy vegetables, milk products

**Examine Point**

1. Plate B, because it consists of fruits which are rich sources of vitamins and minerals.
2. Do it yourself.

**Question Time**

**A.** 1. a) growth 2. c) nutrients 3. a) protective food
4. b) clean water 5. b) roughage 6. c) healthy

**B.** 1. energy 2. vitamins and minerals
3. carbohydrates 4. digestive system 5. Pickling

**C.** 1. True 2. True 3. False 4. False

**D.** 1. Salts of iron enrich the blood. Salts of calcium and phosphorus help in building our bones. Some other common salts are used in the production of gastric juices. Those gastric juices, i.e, digestive acids help in the digestion of our food.

2. Water is needed for the proper digestion of food. It is also needed for normal functioning of the body.
3. When food items are kept for a long time, they get spoiled as germs start growing on it.
4. Cooked or uncooked food can be preserved in different ways.
    - Pickling
    - Sweetening
    - Refrigeration
    - Dehydration
    - Canning
    - Tetra packing

**Think and Answer**

Cooked food can also start to rot, if it is kept for too long because germs like bacteria, protoza, and fungi start growing on it.

**Fun Time**

Orange, Cheese, Spinach, Rice

**Things to do**

Do it yourself.

**Life Skills**

1. 3 2. 3 3. 3 4. 3

**Cluster Task**

Do it yourself.

# Lesson-5
# (Diseases)

**Objectives**

- To make students aware of different kinds of diseases.
- To teach students about non-communicable diseases and their causes.
- To teach students about communicable diseases and their causes.
- To enable the students to learn the preventive measures of communication diseases.
- To explain the students the importance of vaccination or immunisation.

**Overview**

- Types of Diseases: Non Communicable diseases and Communicable diseases
- Non-communicable diseases: Protein calorie malnutrition, Mineral deficiency diseases and Vitamin deficiency diseases.
- Communicable diseases: Bacterial diseases, Protozoan diseases, Viral diseases
- How do communicable diseases spread?
- Prevention of communicable diseases
- Pasteurisation
- Vaccination or immunisation or inoculation

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students to give reasons behind a person falling sick. With reference to their answers explain them that a person falls sick due to disease. Disease is the deviation of the body from its normal or healthy state.
- Then, discuss about different types of diseases i.e. non-communicable diseases and communicable diseases. Make students read the chapter turn by turn. Guide them to understand each and every line carefully. For explaining types of diseases you can make a flowchart on the board as given below.

  * **<u>Types of Diseases</u>**

    Non-Communicable Diseases

    Communicable Diseases

  * **Non-Communicable Diseases**

    (Do not spread from are person to another)

    Protein calorie malnutrition (caused due to lack of protein)

Diseases- marasmus, kwashiorkor etc.

**Mineral deficiency diseases**

(Caused due to lack of minerals)

Goitre, anaemia etc.

**Vitamin deficiency diseases**

(Caused due to lack of vitamins)

Night blindness, scurvy, beri-beri, pellagra, rickets etc.

**Communicable Diseases a**

(Spread from are person to another)

- Bacterial diseases- plague, tuberculosis, tuberculosis, typhoid, pneumomia
- Protozoan Diseases- malaria, amoebic dysentery.
- Viral diseases- polio, chickenpox, measles and common cold
- Once, you have gone through types of diseases and there causes, now talk about preventive measures to be taken by the student to avoid spreading of communicable diseases which are given in the book.
- After discussing preventive measures, make students understand the importance of vaccination to develop resistance against the disease causing germs. It is done before the occurrence of a disease in a person.
- Tell the students to 'Gear up' and 'Examine Point' and help them to complete it correctly.
- Discuss and help the students to solve 'Question Time'.
- Make students do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- What are diseases?
- What are different types of diseases?
- What are different types of non-communicable diseases?
- What are different types of communicable diseases?
- How can we prevent communicable diseases?
- Why is there a need for vaccination?

**Home Assignment**

- Write briefly about importance of vaccination and draw a table to show vaccination for the various diseases that should be taken at particular age.
- Do 'Think and Answer', 'Fun time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in class.

# Teacher's Support

**Gear up**

Kwashiorkor, Rickets, Marasmus, Goitre

**Examine Point**

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| | |
|---|---|
| 1. Anaemia | d) Iron |
| 2. Scurvy | c) Vitamin C |
| 3. Rickets | e) Vitamin D |
| 4. Night Blindness | b) Vitamin A |
| 5. Goitre | a) Iodine |

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| | |
|---|---|
| Tuberculosis | Bacteria |
| Typhoid | Bacteria |
| Malaria | Protozoa |
| Influenza | Virus |

**Question Time**

**A.** 1. c) germs 2. a) beri-beri 3. c) Proteins 4. b) Vitamin D

**B.** 1. night blindness 2. Vitamin C 3. Food and water
4. anopheles mosquito 5. Pasteurisation

**C.** 1. True 2. False 3. False 4. True

**D.** 1. The diseases which are caused due to the lack of nutrients such as carbohydrates, facts, proteins, vitamins or minerals, fats, proteins, vitamins or minerals in our food are called deficiency diseases.

2. Deficiency diseases can be divided into three groups.

(a) **Protein calorie malnutrition**

Protein calorie malnutrition- The children less than five years of age are prone to protein calorie malnutrition diseases like marasmus and kwashiorkor.

(b) **Mineral deficiency diseases**

Mineral deficiency diseases- Minerals are essential for carrying out various metabolic and functional activities in our body. Lack of minerals causes mineral deficiency diseases like goitre, unhealthy growth of bones etc.

(c) **Vitamin deficiency diseases**

Vitamin deficiency diseases- Vitamins are needed in our body in very small quantity. They are needed to carry out some vital chemical reactions inside our body. Some of the

diseases that are caused due to the deficiency of vitamins in our body are might blindness, scurvy, beri-beri, pellagra and rickets.

3. Diseases which spread from one person to another through air are called communicable diseases or infectious diseases. These diseases are caused by microorganisms called germs.
4. We can prevent communicable disease by following several methods like -
   - We should cover our mouth and nose while coughing and sneezing.
   - The patient should be kept in a separate room.
   - The room of the patient should be kept clean.
   - The patient should be made to vomit or spit in a separate bowl or in the toilet.
   - The bedding in the house should be neat and clean.
   - Drinking water should be neat and clean.
5. Vaccination means to develop resistance against the disease causing germs. It is done before the occurrence of a disease in a person.

**Think and Answer**

I will ask my maid to consult a doctor and take proper medication for curing it. I will also ask my mother to give food to my maid so that the child gets proper nutrition in future.

**Fun Time**

1. Through air- ChickenPox, Viral fever
2. Lack of vitamin A- Night Blindness, Liver disorder.
3. Through insect bite- Plague, Malaria
4. Through direct contact- Leprosy, Ringworm

**Things to do**

Do it yourself.

**Life Skills**

1. Drinking water should be neat and clean.
2. We should cover our mouth and nose while coughing and sneezing.
3. All drains should be clean and covered to prevent the breeding of flies and mosquitoes.
4. The bedding in the house should be neat and clean.
5. The safe way of preventing the disease is vaccination.

**Cluster Task**

Do it yourself.

# Lesson-6
# (First Aid)

**Objectives**

- To enable the students to understand the importance of first aid.
- To teach the students about the things which first-aid box should contain.
- To give knowledge to the students about some emergency cases and their home remedies.

**Overview**

- Occurrence of accidents
- Things which a first-aid box must contain
- First aid for cuts and wounds.
- First aid for fracture
- First aid for poisoning
- First aid for insect bite
- First and for snake bite
- First aid for drawing
- First aid for nose bleeding
- First aid for diarrhoea
- First aid for burns
- First aid in case of fire

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students about their previous knowledge of first aid. What are the situations known by them to provide first aid? Explain to them the importance of providing first aid to an injured person.
- Highlight the three main aims of first aid by writing them on the board.
  * Preserve life
  * Prevent further injury
  * Promote recovery
- Once you have discussed about first aid and its importance talk about the first-aid box. There should be a first-aid box in every house, school, office, etc. At the time of emergency when you need to give first aid then a first-aid box is very important.

A first aid box should contain:

Cut and wounds

Fracture

Poisoning

Insect Bite

Snake Bite

Drowning

Nose bleeding

Diarrhoea

Burns

In case of Fire

- Now, ask the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine Point' and help them to complete it correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.
- Make students do 'Think and Answer', 'Fun Time', 'Things to do' 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- What is first aid?
- What should a first-aid box contain?
- What first aid would you give in case of cuts and wounds?
- What first aid would you give in case of poisoning?
- What first aid would you give in case of an insect bite?
- What first aid would you give in case of snake bite?
- What first aid would you give to a drowning person?
- How will you help a person whose nose is bleeding?
- What do you do in case of burns?
- What do you do in case of fire?

**Home Assignment**

- Prepare a first-aid box for home and show it to your teacher.
- Do 'Think and Answer', 'Fun time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in the class.

# Teacher's Support

**Gear up**

7 3 3 7

**Examine Point**

| | |
|---|---|
| 1. Poisoning | d) Vomiting |
| 2. Burns | a) Antiseptic ointment |
| 3. Diarrhoea | b) ORS |
| 4. Drowning | c) Artificial respiration |

**Question Time**

**A**. 1. a) first aid 2. c) ground 3. a) circuit 4. b) diarrhoea

**B**. 1. Burns 2. Poison 3. bones 4. contaminated

**C**. 1. False 2. True 3. False 4. True

**D.** 1. Some aid may be given to the patient to reduce the suffering before the doctor comes. At such times, the aid or treatment given to the accident victim is called first aid.

2. A first aid box should contain:
   - scissors or blade
   - antiseptic cream
   - cotton
   - dettol
   - burnol
   - bandages

3. In case of a snake bite, immediate first aid is required because the poison of a snake moves very fast through the blood and affects the heart and brain causing death.
   - Apply a tourniquet just above the bite to stop the flow of blood to heart.
   - Cross the bitten side with the clean knife to about half centimeter deep and press that area to release the poisoned blood from that part of body.
   - Wash the wound with potassium permanganate.
   - Take the victim to doctor as soon as possible.

4. We should not ponic at that time. we should follow the following steps.
   - Make the patient sit upright with her/his hand held back.
   - Press the bleeding side of the nose firmly.
   - Apply on ice-pack or a wet cloth to the nose of the patient.
   - Ask the patient to breathe through the mouth and not blow the nose.

5. If anybody is drowning in water, bring him out of the water, Then, follow the given steps.
    - Make the victim to lie upside down with his stomach resting on the ground.
    - Press his/her back to bring out.
6. Diarrhoea is a symptom of an intestinal disorder. When a person eats contaminated food or drinks polluted water, he falls sick. ORS can be prepared at home also. Take a pinch of salt and a teaspoonful of sugar for one glass of water stir it well. It helps to replace the lost fluid from the patient's body.

**Think and Answer**

I will follow the following steps.

- I will make him sit upright with his head held back.
- I will press the bleeding side of the nose firmly.
- I will apply an ice-pack or a wet cloth to the nose of the patient.
- I will ask the patient to breathe through the mouth and not blow the nose.

**Fun Time**

Do it yourself.

**Things to do**

Do it yourself.

**Life Skills**

Do it yourself.

**Cluster Task**

Do it yourself.

# Lesson-7
# (Fuel for Vehicles)

**Objectives**

- To enable the students to know importance of fuel in our daily lives.
- To make students learn more about fossil fuels.
- To teach students about alternate fuel that can be used other than fossil fuels.
- To explain the students reason behind increasing prices of the fossil fuels.

**Overview**

- What are fossil fuels?
- Coal as a fuel

- Petroleum as a fuel
- Natural gas as a fuel
- Alternate fuels
- Rising prices of fuels

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students the reason behind considering coal, petroleum, diesel as fuel. They will give you answers like they are used in vehicles therefore called as fuels correct them and make them understand that the turn fuel comes from the word fossil fuels.
- The curiosity of the students will rise which will help you to explain them in much interesting way. Any material that is burnt to obtain energy in called fuel. But every material do not burn with the same fuel. Fuels can be divided into two groups-
  * Fossil fuels
  * Alternate fuels
- Discuss about fossil fuels with the students. Explain the nature fuel such as coal, petroleum, and natural gas are obtained from underground deposit that were formed millions of years ago from the remains of plants and animals. Write on the board the main points of fossil fuels as given below.

  **Fossil fuels**

  * Formed millions of years ago available in a limited quantity
  * We cannot crate it by ourselves
  * Exhaustible resources
  * non-renewable resources
- Once you have made students understand what fossil fuels are discuss individually about different kinds of fossil like coal, petroleum and natural gas. Draw flowcharts on the board for easy and effective understanding.

  **Coal**

  * Used for cooking, heating, generating electricity
  * Plany years ago used to produce steam for steam engines
  * Used in our homes too

  **Petroleum**

  * Known as black gold
  * Used mainly for transportation
  * Formed by dead and decay of maine plants and animals.

* Refined in refineries.
* Distilled to give petrol, diesel, kerosene, etc.

**Natural gas**

* Found along with petrolum
* LPG (Liquified Petroleum Gas)
* CNG (Compressed Natural Gas)
* Eco-friendly and cause less pollution
* Used majorly by public transport

**Alternate Fuels**

(Materials other than fossil fuels, that can be used as fuel are called alternate fuels)

* Liquified hydrogen
* Alcohol fuel
* Bio diesel
* Electricity
* Animals or Human energy

- Now, ask the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine Point' and help them to complete it correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.
- Make students do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- What are fossil fuels?
- How is coal used as a fuel?
- How is petroleum used as a fuel?
- How do we use natural gas?
- What are alternate fuels?
- Why is the cost of fuels increasing day by day?

**Home Assignment**

- Write a short note on 'Conservation of fossil fuels' in your notebook.
- Do 'Think and Answer' 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in class.

# Teacher's Support

**Gear up**

Electricity, Coal, Gasoline, Diesel

**Examine Point**

| | | | |
|---|---|---|---|
| 1. | Petroleum | c) | black gold |
| 2. | Bio-diesel | a) | made from vegetable oil |
| 3. | Fossil fuel | d) | coal |
| 4. | Compressed natural gas | b) | CNG |

**Question Time**

**A.** 1. c) Bokaro 2. b) Petroleum 3. a) cars 4. c) electricity

**B.** 1. energy 2. Fossil 3. spacecrafts 4. Bio-diesel

**C**. 1. False 2. True 3. True 4. True

**D.** 1. Any material that is burned to obtain energy is called fuel. Fuel can be divided into two groups: fossil fuels and alternate fuels.

2. Natural fuel such as coal, petroleum, and natural gas are obtained from underground deposit that were formed millions of years ago from the remains of plants and animals. These fuels are called fossil fuels.

3. Hydrogen, biofuels like alcohol fuel and bio-diesel, battery operated vehicles and electricity are some alternate sources of fuel for vehicles.

4. Bio fuels are not very popular because they are not used in normal vehicles rather they are used only in specialised vehicles.

5. The demand of fuel is increasing day by day due to increasing population. With the increase in population there is increase in number of vehicles. Due to this the demand of fuel increases.

**Think and Answer**

Diesel is cheaper than petrol because diesel is used as fuel in heavy vehicles like buses, trucks, ships, motor boats and tractors.

**Fun Time**

1. Non-Renewable
2. Black gold
3. Air Pollution
4. Liquified Hydrogen

**Things to do**

Gasoline, petroleum, diesel etc. - Essential for transportation

Natural gas- Heating and cooking

Coal-Electric power

**Life Skills**

- Avoid long idling
- Speed limit for enhanced efficiency
- Avoid aggressive driving
- Use right gear for right speed
- Do not waste fuels at home
- Switch off the stove when not in use

**Cluster Task**

Do it yourself.

# Lesson-8
# (Reproduction in Plants)

**Objectives**

- To enable the students to understand the reproduction in plants.
- To teach the students about three different ways through which plants reproduce.
- To explain the students the process of dispersal of seeds in plants.
- To make students learn more about gemination of seeds.

**Overview**

- How do plants grow?
- Growing of plants through seeds:
  * Dispersal of seeds(wind, water, animals, explosion)
- Growing of plants through vegetative parts (stems, underground stem, roots, bulbs of mother plants, leaves)
- Germination of seeds

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Initiate the discussion about the chapter by asking students whether plants are living things or non-living things. Students will answer and classify plants in living things. You can further ask them to describe the characteristics of living things which will include reproduction. This discussion will conclude that plants reproduce as they are living things.
- Explain the student that plants do not give birth or lay eggs like animals or humans. Plants reproduce in three different ways.
  * Through seeds
  * Through spores
  * Through body parts of the mother plant.
- Now, explain each way of reproduction of plants with the help of flowchart drawn on the board. This will enable students to understand different ways of reproduction in plants in an easy way.

**Reproduction in plants**

**<u>Through seeds</u>**

- Dispersal of seeds (scattering of seeds away from the parent plant)
- Agents: Wind, water, animals, explosion
  * Wind-cotton seed, hiptage seed
  * Water-water lily, coconut
  * Animals- xanthium seed, tiger nail seed
  * Explosion- pea, balsam

**<u>Through spores</u>**

Fern, moss, and fungi do not bear flowers. They produce tiny spores.

**<u>Through Vegetative Parts</u>**

* Stems- hibiscus, sugarcane, rose
* Underground stem- potato, ginger
* Roots- sweet potatoes, beetroot
* Bulbs of mother plants - water lily, onion
* Leaves- bryophyllum

- Once this is done, explain the process of germination of seeds. There are some conditions which are necessary for the germination of seeds. Air, water, soil and sunlight are required for germination.

**Germination of seeds**

* Air, water, soil and sunlight.
* Tiny roots come out of soft seed coat.
* Shoots also come out later.
* Roots grow downwards underground.

* Seedling grows fully and develop into a plant.

- Now, ask the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine Point' and help them to completer it correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.
- Make students do 'Think and Answer' 'Fun Time','Things to do','Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- How do plants reproduce?
- How do plants grow through seeds?
- What is dispersal of seeds?
- What are agents of dispersal?
- How do plants grow through spores?
- How do plants grow through vegetative parts?
- How do plants grow from stem?
- How do plants grow from the underground stem?
- How do plants grow from roots?
- How do plants grow from bulbs of mother plants?
- How do plants grow from leaves?
- What is germination of seeds?
- What are the conditions necessary for germination of seeds?

**Home Assignment**

Write briefly about 'Germination of seeds' and draw a diagram to show how a seed germinates to form a plant.

Do 'Think and Answer', 'Fun time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in class.

## Teacher's Support

**Gear up**

The seed germinated to form a plant in presence of water, sunlight and air.

**Examine Point**

a) Seed dispersal- The scattering of seeds away from the parent plant is known as dispersal of seeds.

b) Vegetative propagation- Some plants reproduce from their body parts such as the root, leaf or stem. This type of reproduction is called vegetable propogation.

**Question Time**

**A.** 1. b) germs 2. d) beri-beri 3. d) Proteins 4. b) Vitamin D
5. c) water

**B.** 1. dispersal 2. spores 3. germination
4. Air, water, sunlight

**C**. 1. All living things give birth to their young ones for continuing their species on the earth. Plants reproduce in three different ways-

- Through seeds
- Through spores
- Through body parts of the mother plant.

2. Wind, water, animals and explosion are the agents dispersal of seeds.
3. a. Roots - sweet potato, beetroot
   b. Spores - moss, fern
   c. Stem - rose, hibiscus
4. Some plants reproduce from their body parts such as the root, leaf or stem. This type of reproduction is called vegetative reproduction.
5. The development process of a seed into a new plant (seedling) is known as germination. which are necessary for the germination of seed. Air, water, soil and sunlight are required for germination.

**Think and Answer**

Artificial vegetative propagation is a type of plant reproduction that is accomplished through artificial means involving human intervention.

**Fun Time**

Do it yourself.

**Things to do**

Do it yourself.

**Life Skills**

Do it yourself.

**Cluster Task**

Do it yourself.

# Lesson-9
# (Plants and Animals Food)

**Objectives**

- To enable the students understand the process of photosynthesis.
- To explain the students how non green plants obtain their food.
- To enable students to understand that animals are dependent on plants for there food.
- To teach students about food chain and its importance.
- To explain the concept of food with to the students.
- To make students understand that every component is interdependent on each other in a ecosystem.

**Overview**

- Process of photosynthesis
- Food for moulds and mushrooms
- Food for insectivorous plants
- How do animals get their food?
- Food chain
- Food web
- Interdependence in Ecosystem

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students about their previous knowledge of photosynthesis and its uses for plants. Add up to their knowledge by explaining them in detail about the process of photosynthesis. Chlorophyll present in the leaves of the plants helps the plant to prepare their food and gives green colour to the leaves.
- Discuss about non green plant, which do not have chlorophyll. Talk about moulds and mushrooms, they cannot make their food. They get their food from dead and decaying plant and animals. There are some plants like pitcher plant and venus flytrap, which eat insects and generally grow in areas where the soil lacks nutrients, especially nitrogen.
- Now, shift the discussion from plants to animals. Explain that all animals are dependent on plants for their food. Write important points on the board as given below.
  * Consumers- obtain food from plants or animals sources.
  * Producers-prepare there own food (plants).

* Herbivores- Animals that eat only plants or plant products. Eg. camels, giraffe etc.
* Carnivores- Animals that eat only the flesh of other animals. Eg. lion, fox etc.
* Scavengers- Eat the dead bodies of other animals. Eg. jackals, hyenas etc.

- Explain students the concept of food chain in which each living thing is interdependent. The process of eating and being eaten up is called a food chain. Write on the board an example of food chain to make students understand it in a better way.

  Plants Ý Grasshopper Ý Frog Ý Snake Ý Hawk
- Discuss that in nature, one particular kind of food is not eaten only by one particular animal species. In short, the different food chains are connected to each other like the web of a spider. these food chains together form a complete feeding relationship called a food web.
- Elaborate the interdependence of every component in an ecosystem. Plants are dependent on animals and animals are dependent on plants for their food and survival.
- Now, ask the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine point' by themselves and help them to complete them correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.
- Make students do 'Think and Answer' 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- How do green plants make their food?
- How do non-green plants get their food?
- How do animals get them food?
- What is a food chain?
- What is a food web?
- What do you mean by interdependence in an ecosystem?

**Home Assignment**

- Write few lines on consumers, producers, carnivores, omnivores, herbivores in your notebook. Also, paste pictures to give examples of each.
- Do 'Think and Answer', 'Fun Time', 'Things to do', 'Life skills' and 'Cluster Task' at home and get them checked later in class.

# Teacher's Support

**Gear up**

3, 1, 5, 2, 4

**Examine Point**

| | |
|---|---|
| 1. Green plants | d) producers |
| 2. Deer | f) herbivore |
| 3. Roundworm | e) parasite |
| 4. Bear | b) omnivore |
| 5. Vulture | c) scavenger |
| 6. Tiger | a) carnivore |

**Question Time**

**A**. 1. c) mushroom 2. d) insectivores 3. b) carnivores 4. a) food

**B**. 1. photosynthesis 2. sundew 3. food chain 4. ecosystem

**C**. 1. False 2. True 3. False 4. True

5. True

**D.** 1. Plants make food with the help of carbon dioxide, water and chlorophyll in the presence of sunlight.

2. The process by which green plants make food is called photosynthesis. The word 'photosynthesis is derived from two words, 'photo' means light and 'synthesis' means 'Putting together. 'Plants also need energy for this as they make their own food.

3. There are some plants which eat insects. Such plants are called insectivorous plants. They generally grow is areas where the soil lacks nutrients, especially nitrogen. For eg. venus flytrap, pitcher plant etc.

4. The animals that eat only the flesh of other animals are called carnivores. Lion, fox, wolf etc are some examples of carnivores.

   Whereas, the animals which eat all types of food (plants and animals) are called omnivores. For eg. cranes, rats, dogs etc.

5. Each living things in an ecosystem is interdependent. The process of eating and being eaten up is called a food chain. For eg. we see that the grass is the producer, the grasshopper eats the grass, the frog eats the grasshopper, the snake eats the frog and the eagle eats the snake. Thus, all the components of the environment depend upon each other for their survival.

6. Plants also need energy, for this they make their own food. Therefore, they are called producers unlike plants, animals cannot make their own food. They obtain food from plants or animals sources. Therefore, they are called consumers.

**Think and Answer**

Every component depends on other for many reason in an ecosystem. The plants use the sun's energy to make their food. The primary consumers eat the plant. The herbivores become the food of carnivores. When animal die, they are decomposed by the decomposers. The decomposers release nutrients into the soil. The nutrients are useful for the growth of the plants. Thus, all the components of an ecosystem are interdependent on one another.

**Fun Time**

1. Chlorophyll
2. Photosynthesis
3. Nutrients
4. food web

**Things to do**

Do it yourself.

**Life Skills**

Do it yourself.

**Cluster Task**

Do it yourself**.**

# Lesson-10
# (Aquatic Plants and Animals)

**Objectives**

- To enable the students to learn more about aquatic plants and animals.
- To make students learn about different kinds of aquatic plants.
- To make students learn about different kinds of aquatic animals.

**Overview**

- Aquatic Animals
- Different kinds of aquatic plants: free floating plants, fixed plants or rooted floating plants, submerged plants
- Aquatic Animals
- Different kinds of aquatic animals: fish, crustaceans, water birds, mammal

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students about their previous knowledge of aquatic plants and aquatic animals.
- Draw flowcharts on the board to explain different kinds of aquatic plants and aquatic animals.

**Aquatic Plants**

(Hydrophytic plants, hydrophytes)

- Free-floating plants- plants that float on water. Eg. wolffia, duckweed
- Fixed plants or Rooted plant-plants which have their roots fixed to the water bed. Eg. lotus, water lily etc.
- Submerged plants- remain submerged in water. Eg. hydrilla, vallisneria etc.

**Aquatic Animals**

- Fish- streamlined body and fins. Eg. goldfish, rohu etc.
- Crustaceans- shell on their body. They have special limbs that help them to swim. Eg. lobsters, shrimps etc.
- Water birds- webbed feet, breathe through lungs. Eg. ducks, swans etc.
- Mammals- streamlined bodies and fins, breathe through lungs. Eg. dolphin-whale
- Shift the attention of students towards human activities which are mainly responsible for making rivers and seas dirty. The process of making water dirty is called water pollution. It is a big threat to the existence of aquatic plants and animals.

**Causes of water pollution**

- Harmful wastes from factories.
- Sewage is thrown into rivers and seas.
- Leakage of oil on other toxic waste.
- Now, ask the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine Point' by themselves and help them to complete them correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.
- Make students do 'Think and Answer, 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- What are aquatic plants?
- What are different kinds of aquatic plants?
- What are free-floating plants?
- What are fixed plants?
- What are submerged plants?

- What are aquatic animals?
- What are crustaceans?
- What are water birds?
- What are mammals?
- How are human beings a threat to aquatic life?

**Home Assignment**

Paste pictures and write the names of ten aquatic animals and plants in your notebook.

Do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in the class.

# Teacher's Support

**Gear up**

Wolffia, Dolphin, Lobster, Lotus

**Examine Point**

1. Hydrilla
2. Shrimp, Crayfish
3. Ducks, Swans

**Question Time**

**A.** 1. c) aquatic 2. c) submerged plants 3. c) gills
4. c) fins 5. b) mammal

**B.** 1. aquatic 2. submerged 3. fixed 4. streamlined
5. shell

**C**. 1. True 2. False 3. True 4. False

**D**. 1. On the basis of their growing habits, aquatic plants can be divided into three group:
   - Free-floating plants- wolffia, duckweed
   - Fixed plants or rooted floating plants-lotus and water lily
   - Submerged plants-hydrilla, vallisneria

2. Free-floating plants are small in size. They have spongy stems or air filled parts that help them to float freely. Such plants are mostly found in ponds and lakes where the water remains stagnant.
3. Different types of aquatic animals are-

   Fish- rohu, goldfish etc.

   Crustaceans- lobsters, shrimps etc.

   Water birds-ducks, swans etc.

   Mammals- whales, dolphins etc.

4. Humans are mainly responsible for making rivers and seas dirty. The process of making water dirty is called water pollution. It is a big threat to the existence of aquatic plants and animals. Water pollution is caused when:
   - Harmful waste from factories are thrown into river and seas.
   - Sewage is thrown into rivers and seas.
   - There is leakage of oil or other tonic waste into the sea.

**Think and Answer**

Fish breathe underwater through gills.

**Fun Time**

Lotus, Duck, Penguin, Crab, Pistia, Turtle, Hydrilla, Dolphin, Weed

**Things to do**

Do it yourself.

**Life Skills**

A lot of water pollution comes from human activity. Some human causes include sewage, pesticides and fertilisers from farm, waste water from factories, chemical discharge in rivers, silt from construction sites and trash from people littering.

**Cluster Task**

Do it yourself.

# Lesson-11
# (Conservation of Natural Resources)

**Objectives**

- To enable the students to understand the importance of conservation of natural resources.
- To make students learn various methods of conserving soil.
- To make students learn various methods of conserving water.
- To make students learn various methods of conserving air.
- To make students learn various methods of conserving forests.
- To make students learn various methods of conserving wildlife.

**Overview**

- Meaning of conservation.
- Soil conservation: planting trees or afforestation, terrace farming, crop rotation

- Conservation of water and its measures
- Conservation of air
- Conservation of forest: afforestation, preventing overgrazing, protection from diseases and pests, special efforts.
- Conservation of wildlife.
- Conservation of coal and petroleum

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Talk about the things that nature has given us and we use them in our daily life. Write few things on the board like air, water soil, forests and minerals. Once you have written these on the board, label them as natural resources.
- Explain students that non-judicious use of resources will eventually result in environmental catastrophe and economical disaster. A careful and economical use of all natural resources is called conservation. Make flowcharts o the conversations of natural resources on the board.

  **Soil conservation**

  **(essential for growth of plants)**

  * Planting trees or afforestation (Reduce soil erosion)
  * Terrace farming (hill slopes are cut into steps or terraces)
  * Crop rotation (sowing crops on relation basis)

  **Conservation of water**

  * Never leave taps running
  * Cattle bathing should be avoided.
  * Building of dams and barrage
  * Harvesting of rain water
  * Do not pollute source of water
  * Untreated sewage and waste should not be drained

  **Conservation of Air**

  * Avoiding release of smoke from the factories.
  * Getting vehicles checked at regular intervals and keep them pollution free.
  * Use environment friendly fuels such as LPG, CNG, unleaded petrol etc.
  * Planting of more trees.

  **Conservation of Forests**

  * Afforestation

* Preventing overgrazing
* Protection from diseases and pests
* Special efforts

**Conservation of Wildlife**

* Building of wildlife sanctuaries
* Strict laws by government
* Now, ask the students to read the chapter turn by turn. Guide them to understand meaning of difficult or new words.
* Tell them to try 'Gear up' and 'Examine Point' and help them to complete them correctly.
* Discuss and help the students to solve 'Question Time'.
* Write spellings of difficult words on the board to avoid spelling errors.
* Make students do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

· What is conservation?
· How can we conserve soil?
· How can we conserve water?
· How can we conserve air?
· How can we conserve forests?
· How can we conserve wildlife?

**Home Assignment**

· Write briefly about Chipko movement in your notebook.
· Do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in the class.

## Teacher's Support

**Gear up**

1. Soil - By planting more trees
2. Water - By avoiding wastage of water
3. Air - By reducing use of vehicles
4. Forest - By avoiding deforestation
5. Coal - By burning less coal

**Examine Point**

1. Corbett National Park- Uttarakhand
2. Ranthambore National Park- Rajasthan

3. Bandipur National Park - Karnataka
4. Keoladeo Ghana National Park - Bharatpur, Rajasthan
5. Nagarhole National Park - Karnataka

**Question Time**

**A.** 1. d) all of these 2. b) industries 3. c) afforestation 4. d) all of these
5. b) Uttarakhand

**B.** 1. conservation 2. erosion 3. rotation 4. untreated

**C**. 1. True 2. False 3. False 4. True

**D**. 1. Nature has given us many precious things that we use in our daily life. Some of these are air, water, soil, forest and minerals. They are caused natural resources.

2. To conserve the soil we should do the following-
   - Planting of more trees
   - By following terrace farming is hilly areas.

3. Chipko Movement in Uttarakhand and Appiko movement in Karnataka are special efforts made by people to protect trees.

4. Wildlife is a precious gift of nature to us. Our wildlife consists of animals like lion, tiger, loopand, shino etc. Some of these animals are facing extinction because man started killing them for their fur, bones, horns, hides and tusks. A number of wildlife and bird sanctuaries and national parks have been set up in India to protect the natural habitat of birds and animals.

5. We can conserve coal and petroleum in following ways:
   - While going to small distances, we should use a bicycle or travel on foot instead of a car.
   - We should use a solar cooker at home on bright sunny days for preparing food.
   - Use public transport rather than personal means of transport.

**Think and Answer**

Bholu is a sensible shepherd. He is conserving soil by avoiding overgrazing which leads to soil erosion.

**Fun Time**

1. Tehri Dam 2. Ore 3. Mines 4. Kariba Dam

**Things to do**

Do it yourself.

**Life Skills**

1. 3 2. 7 3. 3 4. 3 5. 7

**Cluster Task**

Do it yourself.

# Lesson-12
# (Sources of Water)

**Objectives**

- To enable students to understand the importance of water in one's life.
- To make students learn about different sources of water.
- To teach the students about the difference between rain fed rivers and snow fed rivers.
- To make students understand the process of condensation and evaporation.
- To explain the process of water cycle to the students.

**Overview**

- Importance of water
- Source of water
- Surface water: Lake, Pond, Rivers
- Rivers: Rain rivers and Snow fed rivers
- Sea and Oceans
- Dams, Reservoirs and Canals
- Underground water: Well, Tubewell, Handpump
- Evaporation and Condensation
- Factors affecting evaporation
- The Water Cycle

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask the students about their previous knowledge of different sources of water. They will be able to tell about well, tubewell, handpump, river, lakes, pond, oceans.
- Once the students start interacting on the topic write on the board, the different names of the sources told by the students. Also, write the names of the ones which are left behind by the students. The flowchart will look as given below.

  **Sources of water**

  Rain, surface water, seas, oceans, dams, reservoirs, canals, snowfall, underground water

  After the discuss of sources of water, describe in detail about surface water and underground water with the help of the flowchart.

**Surface water**

- Lake- large area surrounded by land.
- Pond- smaller than land
- Rivers- rain fed and snow fed (Rain fed depends on rainfall, dry up during summers; snowfed carries water from melting snow, throughout the year)

**Underground Water**

- Well- oldest means of taking out water
- Tube well- works with help of a powerful motor.
- Handpump- human power is used.
- Now, discuss about evaporation and condensation. Explain the students that the process of changing water into water vapour is called evaporation, whereas, when the water vapour becomes cool it changes into water. Also, point out different factors affecting evaporation.

**Evaporation**

Water (on heating) Ý Water vapour

**Condensation**

Water vapour (on cooling) Ý Water

- Explain the process of water cycle with reference to condensation and evaporation.

  Ground water Ý Water vapour Ý Rain and snow Ý Ground water (cyclic process)
- Now, ask the students to read the chapter. Guide them to understand the meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine Point' by themselves and help them to complete them correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.
- Make students do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- What are different sources of water?
- How do we get underground water?
- What is the difference between rain fed rivers and snow fed rivers?
- What are different sources of underground water?
- What is evaporation?
- What is condensation?
- What are factors affecting evaporation?
- What do you mean by water cycle?

**Home Assignment**

- With the help of a well labelled diagram write briefly about water cycle in your notebook.
- Do 'Think and Answer', 'Fun time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in class.

# Teacher's Support

**Gear up**

Well, Rain, Handpump, River, Tubewell

**Examine Point**

1. water
2. safe
3. Snow fed
4. evaporates

**Question Time**

**A**. 1. c)underground 2. c) underground 3. b) condensation 4. b) evaporation

**B.** 1. Rain 2. Yamuna and Brahmaputra 3. five
4. condensation

**C**. 1. True 2. False 3. False 4. True

**D**. 1. The different sources of water are rain, underground water, rivers, lakes, ponds, seas and oceans.

2. Some of the rain water seeps into the ground. It passes through the layers of soil, sub soil and porous rocks. This water gets filtered in the process. This is known as underground water.

3. Rain fed rivers-Godavari, Krishna, Narmada and Mahanadi

   Snow fed rivers- Ganga, Yamuna and Brahmaputra

4. Water cycle is the change of water into vapour and back to water. It involves evaporation followed by condensation.

5. a) Some rivers carry mostly rain water. These are called rain fed rivers.

   Some other rivers carry water from the melting ice and snow in high mountains like the Himalayas. These are called snow fed rivers.

   b) Seas and oceans are the huge reservoirs of water. Most rivers fall into seas. When a number of seas combine together, they merge to form an ocean.

   c) On heating, water changes to water vapour. The process of changing of water into water vapour is called evaporation. The process of water vapour changing into water, is called condensation.

**Think and Answer**

Armaan noticed that his clothes took longer to dry on a cloudy day than on a sunny day because evaporation is faster when the temperature is high.

**Fun Time**

1. Pond
2. Rain
3. Sea
4. Lake
5. Ocean
6. Dam
7. Handpump

**Things to do**

Do it yourself.

**Life Skills**

Do it yourself.

**Cluster Task**

Do it yourself.

# Lesson-13
# (States of Matter)

**Objectives**

- To enable the students to understand different states of matter.
- To make students learn the properties of solids, liquids and gases.
- To explain the students that matters change their state on heating and cooling.
- To explain the concept of solubility.
- To make students understand why some object float and some sink down in water.

**Overview**

- Defination of matter
- States of Matter: Solids, Liquids and Gases
- Changes of state: Solid into liquid, Liquids into gas, Gas into liquid, Liquid into solid.
- Solubility
- Floating and Sinking Objects

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Point out different things around you and ask the students to identify whether they are solid, liquid or gas. For eg. you can point out water, table, air, juice, duster etc.
- Once the students understand the difference and identification of different states of matter, explain them about matter and give properties of different states of matter. Prepare a flowchart on the board to explain them well.

**Matter**

(Anything that occupies space and has weight)

**Solids**

Hard, definite shape, definite volume Eg. table, blackboard, brick, etc.

**Liquids**

No definite shape, no definite volume, occupy entire space given to them. Eg. oxygen, nitrogen, carbon dioxide etc.

Now, explain the students how matters can change their state on heating and cooling.

| | | |
|---|---|---|
| Solids | Ý | Liquid |
| (on heating) | | (Melting) |
| Eg. Ice | Ý | water |
| Liquids | Ý | Water vapour |
| (on heating) | | (Evaporation) |
| Eg. water` | Ý | steam |
| Gas | Ý | Liquid |
| (on cooling) | | (condensation) |
| Eg. steam | Ý | water |
| Liquid | Ý | Solid |
| (on cooling) | | (Freezing) |
| Eg. water | Ý | ice |

- Now, shift the attention of students towards the concept of solubility.

  **Soluble substances** - salt, sugar, turmeric powder etc.

  **Insoluble substances -** mud, sand, tea, leaves etc.
- Also, explain to the students that large, hollow and light objects such as apple and balloon float on water whereas hard and heavy objects as key, stone and eraser easily sink in water.
- Now, ask the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine Point' by themselves and help them to complete them correctly.
- Discuss and help the students to solve 'Question Time'.
- Write spellings of difficult words on the board to avoid spelling errors.
- Make students do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- What is matter?
- What are different states of matter?

- What are the properties of solids, liquids and gases?
- How can you say that matter changes state?
- What do you mean by solubility?
- What are soluble substances?
- What are insoluble substances?
- Why do some objects sink and some objects float on water?

**Home Assignment**

- Paste pictures and write names of ten soluble substances and insoluble substances in your notebook.
- Do 'Think and Answer', 'Fun Time', 'Things to do', 'Life skills' and 'Cluster Task' at home and get them checked later in class.

# Teacher's Support

**Gear up**

1. a) wood b) plastic c) store
2. a) milk b) water c) juice
3. a) oxygen b) nitrogen c) helium

**Examine Point**

1 Soluble 2. Soluble 3. Soluble 4. Insoluble
5. Soluble 6. Soluble 7. Insoluble 8. Soluble

**Question Time**

**A.** 1. b) solids 2. c) gases 3. a) volume 4. c) freezing
**B.** 1. matter 2. Solid 3. Condensation 4. ice
**C.** 1. False 2. False 3. True 4. True

**D.** 1. Anything that occupies spaces and has weight is called matter. There are three different states of matter. They are solid, liquid and gas.

2. Solids are hard and have definite shape and volumes. The space which solid occupies does not change whereas, gases do not have a definite shape or volume. They occupy the entire space available to them.
3. Soluble substance- salt, sugar
   Insoluble substances- mud, sand
4. Some large hollow and light objects such as apple and balloon float whereas hard and heavy objects such as key, store and eraser sink in water.
5. When solids are heated, they turn into liquids. This is called melting.

Water changes into water vapours (gas) when it is heated; we call it steam. Thus, heating a liquid can turn into a gas. This is called evaporation.

When the water vapour cool, they change into water. Thus, cooling a gas can turn into liquid. This is called condensation.

When water is cooled in a freezer, it becomes ice. Thus, cooling a liquid can turn it into a solid This is called freezing.

**Think and Answer**

No, the volume of water will remain same after adding sugar to it.

**Fun Time**

Do it yourself.

**Things to do**

Do it yourself.

**Life Skills**

- Always swim with same adult.
- Always wear a rubber tube if you do not know how to swim.
- Don't push someone while swimming.
- Don't play breath-holding games.

**Cluster Task**

Do it yourself**.**

# Lesson-14
# (Force, Work and Energy)

**Objectives**

- To enable students to understand important of force, work and energy in our daily life.
- To make students learn about different types of force.
- To make students learn about work done.
- To teach the students about different types of energy.

**Overview**

- Force.
- Types of force: Gravitational force, Frictional force, Elastic force, Magnetic force, Buoyant force, Mascular force.
- Work
- Types of Energy: Wind energy, Hydro power, Electrical energy, Chemical energy, Sound energy, Nuclear energy, Mechanical energy, Solar energy, Geo-thermal energy

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students to push their benches forward and backward. This activity will help them to understand push and pull. A push or a pull which generally results is the movement or stops the movement of an object is called force.
- Once students have understood about force explain to them, force is used to-
  * move a body
  * stop a moving body
  * change the direction of movement of the moving body.

  Push a table forward, ask one student to stop it. Tell another student to stop it. Tell another student to push it sideways, this will prove all the above points to the students.
- Now, ask the student to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Explain to them different types of forces and their applications in our day to day lives.
  * Gravitational force- falling of apple
  * Frictorial force- stopping of a car
  * Elastic force- stretching of rubber band
  * Magnetic force-attracting objects made of iron

* Buoyant force- help in floating objects
* Muscular force- pushing of chair

· Now, shift the discussion towards work done when a force is applied on an object and it moves from its position.

Work done-force X distance moved

· The ability to do work is called energy. There are two types of energy. Natural Energy and human made energy. The different types of energy are-
  * Wind energy (moving wind)
  * Hydropower (moving water)
  * Electrical energy (used to run machines)
  * Chemical energy (stored in batteries )
  * Sound energy (distubance in any medium)
  * Nuclear energy (trapped inside each atom)
  * Mechanical energy (kinetic energy, potential energy)
  * Solar Energy (energy from the sun)
  * Geo-thermal energy (heat of the earth)
· Tell the students to do 'Gear up' and 'Examine Point' by themselves and help them to complete them correctly.
· Discuss and help the students to solve 'Question Time'.
· Write spellings of difficult words on the board to avoid spelling errors.
· Make students do 'Think and Answer', 'Fun Time', 'Things to do' 'Life Skills' and 'Cluster Task' by themselves after discussing them is class.

**Recapitulation**

· What is force?
· What are different types of force?
· When do you say work is done?
· What is energy?
· What are different types of energy?

**Home Assignment**

· Write about any five types of force and energy in your notebook.
· Do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in the class.

# Teacher's Support

**Gear up**

Gravitational force- falling of apple from the tree

Frictional force-stopping of a car

Solar energy- green plants prepare their food in presence of sunlight

Wind Energy- used for pumping out water

**Examine Point**

Pg 105

1. F 2. T 3. F 4. T

Pg 108

1. Force 2. Solar energy 3. Atomic energy 4. Hydropower

**Question Time**

**A.** 1. moving 2. Frictional 3. Muscular 4. attracting
5. Buoyant 6. Kinetic

**B.** 1. True 2. False 3. False 4. True

**C.** 1. A push or a pull which generally results in the movement or stops the movement of an object is called force. Force is used to (a) move a body (b) stop a moving body (c) change the direction of movement of the moving body. Force can be used to push or pull.

2. The different types of forces are-
   - Gravitational force
   - Frictional force
   - Elastic force
   - Magnetic force
   - Buoyant force
   - Muscular force

3. We apply force on objects when we try to pull, push or move them when an object changes its position from one place to another on applying force, work is said to be done.

4. The ability to do work is called energy. The different types of energy are wind energy, water energy, electrical energy, chemical energy, sound energy, nuclear energy, mechanical energy, solar energy, geo-thermal energy.

**Think and Answer**

The energy that we get from the sun is called solar energy. The energy can be changed into heat energy, electrical energy, light energy, electrical energy, light energy and muscular energy.

**Fun Time**
Do it yourself.

**Things to do**
Do it yourself.

**Life Skills**
Do it yourself.

**Cluster Task**
Do it yourself.

# Lesson-15
# (Exploring Heights)

**Objectives**

- To make students learn about different people who have made their way to space.
- To make students learn few things about mountaineering.
- To make students understand the use of artificial satellites.
- To give knowledge about famous astronauts and their achievements.

**Overview**

- Mt. Everest
- Mountaineering
- Space and its exploration
- Artificial satellites
- Use of Artificial satellites
- Astronauts in space
- Indians in space

**Teaching / Learning Material**
Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students to express their thoughts after reading the name of the chapter 'Exploring Heights'. Relate to their answers and explain the gist of the chapter to them. Tell them that chapter is concerned with the study of mountaineering, space exploration and artificial satellite.

· Once you have introduced the students with the theme of the chapter, draw flowcharts on the board to explain different topics covered in the chapter in short and easy way.

**Mt. Everest**

* Nepal
* 8, 848 meters high
* Worlds highest mountain peak
* Sir Edmund Hilary and Sherpar Tenzing norgay were first to climb it
* Bachendri Pal was first woman to climb it in 1984.
* Santosh Yadav is only woman to climb it twice.

**Mountaineering**

* Requires strength and endurance
* Training is very hard
* Sound physical condition
* Development of nuscles
* Key muscle is thigh
* Swimming, cycling, running and sowing are some great exercises.

**Space and its Exploration**

* Planets, stars, moons, Satellites, Sun, Asteroids, Comets, Meteors
* Planets (Mercury, Venurs, Earth, Mars, Jupiter, Saturn, Uranus, Neptune)
* Moon (Natural Stellite of the earth)

**Artificial Satellites**

* Human made
* Move around planets
* 1957, Sputnik I was first artificial Satellite Launched by Russian.
* Uses includes sending messages, weather forecasting live programmes, telephone calls, military activities.

**Astronauts in Space**

* A person who is trained to travel in space.
* Valentina Tereshkova was first woman to go to space.
* Yuri Gagarin was first man to go to space.

**Indians in Space**

* Rakesh sharma went with two Soviet Cosmonauts in space craft named Soyuz T-11.
* Kalpana chawla was first indian women to go to space.
* Sunita Williams holds record for longest stay in space.
* Now, tell the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
* Tell them to do 'Gear up' by themselves and help them to complete it correctly.

- Discuss and help the students to solve 'Question Time'.
- Make students do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills', and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- Write short note on Mt. Everest
- What is mountaineering?
- What do you mean by space exploration?
- What are artificial satellites?
- What are the uses of artificial satellite?
- Who are astronauts?
- Name the Indians that went to space.

**Home Assignment**

- Write five space facts in your notebook.
- Do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in the class.

# Teacher's Support

**Gear up**

Do it yourself.

**Question Time**

**A.** 1. c) Mt. Everest 2. c) Bachendri pal 3. a) Tenzing and Hillary
4. a) Rakesh Sharma

**B.** 1. Nepal 2. Mountaineering 3. Moon 4. astronaut

**C**. 1. True 2. True 3. True 4. False

**D**. 1. Mountaineering involves the set of activities that help one ascending mountains. Mountaineering requires strength and endurance. Being in sound physical condition is the most important requirement. Mountaineers have to train very hard before starting to climb.
2. Swimming, cycling, running and rowing are some great exercise for this purpose.
3. A satellite is a body that revolves around a planet. Moon is the natural stellite of the earth.
4. The uses of artificial satellite are-
   - It helps to send messages from one country to another.
   - It helps in the weather forecasting.
   - It helps us to see live programmes, happening anywhere in the world.
   - It helps support the military activities.

5. Kalpana Chawla was born on 1 July 1961 at Karnal, Haryana. She was first Indian woman to go into space.
   Sunita Williams holds the record of Indian-born astronaut for the longest stay in space.

**Think and Answer**

Kalpana Chawla and Sunita Williams are Indian women that have succefully reached the other space.

**Fun Time**

Do it yourself.

**Things to do**

Do it yourself.

**Life Skills**

Do it yourself.

**Cluster Task**

Do it yourself

# Lesson-16
# (History Buildings and Monuments)

**Objectives**

- To enable the students to understand the importance of historical. buildings and monuments.
- To make students learn more about monuments of India.
- To teach students ways of preserving our monuments.

**Overview**

- Red Fort
- Qutab Minar
- Taj Mahal
- Hawa Mahal
- Meenakshi Temple
- Gateway of India
- Preservation of Monuments

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students to name few monuments of India. Tell them to describe their beauty and historical importance.
- Now, ask the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Hiighligh the importance points of each monument described in the chapter as given below.

**Red Fort**

* Delhi
* Built by Shah Jahan in 1618.
* Beautiful structure inside include Diwan e- Aam, Diwan-e-Khas, Rang Mahal and the Moti Masjid.
* Prime Minister hoists flag on Independence Day
* World Heritage site by UNESCO

**Qutub Minar**

* Commencement of Muslim Era
* Qutub-ud-din-Aibak built it in 1193 A.D.
* Tallest monument in India

* 73 metre high
* Iltutmish completed it in 1200 A.D
* UNESCO World Heritage site.

**Taj Mahal**

* Most splendid masterpiece India
* Stands on Southern bank of river Yamuna
* Took 22 years to complete the construction
* Ustad ISA was master architect of Taj Mahal
* Taj sparkles in moonlight when semi-precious stones island into the white marble on main mausoleum.

**Hawa Mahal**

* Palace of winds in Jaipur
* Small balconies to maintain constant flow
* Women of royal houses watched the processions and parades
* Maharaja Sawai Pratap Singh buit it

**Meenakshi Temple**

* Most famous temple of Madurai
* Two shrines dedicated to Meenakshi and Lord Shiva
* A hall has thousand pillar in it
* Brightly colored gopuram can be seen from distance

**Gateway of India**

* Principle landmark of Mumbai
* at Apollo Bundar
* George Wittet designed the Gateway
* built of commemorate visit of King George-V
* 26 m high structure
* Explain the students that historical monuments are special buildings. They are a part of our heritage. We should preserve them.
* Tell them to try 'Gear up' and 'Examine Point' themselves and help them to complete them correctly.
* Discuss and help the students to solve 'Question Time'.
* Make students do 'Think and Answer', 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' by themselves after discussing them in class.

**Recapitulation**

- Write briefly about different monuments in India.
- How can we preserve our monuments?

**Home Assignment**

- Write few lines on any one historical monument in your notebook.
- Do 'Think and Answer', 'Fun time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in class.

# Teacher's Support

**Gear up**

Taj Mahal

Char Minar

India Gate

Qutab Minar

**Examine Point**

1. Hawa Mahal is situated in Jaipur.
2. Gateway of India is situated in Mumbai.
3. Meenakshi Temple is situated in Madurai.
4. Qutab Minar is situated in Delhi.

**Question Time**

| | | | | |
|---|---|---|---|---|
| **A.** | 1. a) 1618 | 2. c) Qutab Minar | 3. c) Taj Mahal | 4. b) Jaipur |
| **B.** | 1. Prime Minister, nation | 2. Victory | 3. Madurai | 4. Mumbai |
| **C.** | 1. True | 2. True | 3. False | 4. False |

**D.** 1. Movements are building of historical importance.

2. The United Nations Educational, Scientific and Cultural Organization (UNESCO)
3. The Mughal Emperor, Shah Jahan, after ruling from Agra for eleven years, decided to shift to Delhi and laid the foundation stone of the Red Fort in 1618. The fort has two hall. One is the Diwan-e-Aam for public audiences, where the emperor would set to hear the complaints and problem of the common people. There is another hall as the Diwan-e-Khas which is the hall of private audiences, where the emperor held private meetings.
4. Gateway of India, the principle landmark of Mumbai is a huge archway on the water's edge at Apollo Bundar. British architect, George Wittet designed the Gateway. It was built to commerate the visit of king Geroge-V to India. The construction started on 31 March, 1931 was formally opened in 1924. This 26m high structure has four turrets and intricate lattice

work carved into the yellow basalt stone.

5. We conserve our movements in the following ways:
   - We should never scratch, write or draw on the walls of monuments.
   - We should not throw any garbage in and around a monument.
   - We should discourage anybody who tries to disfigure them.
   - We should do our best to reduce air pollution in the area surrounding a monument or at least make people aware of it.

**Think and Answer**

Monuments are buildings that tell us about the society, religious and the culture of the time in which they were built.

**Fun Time**

1. Taj Mahal-Agra, white platform, Shah Jahan
2. Meenakshi Temple- Madurai, brightly coloured gopuram, King Kulasekara Pandya.
3. Red Fort- Delhi, red bricks, Shah Jahan
4. Golden Temple- Amritsar, gold and marble, Guru Ram Das
5. Victoria Memorial- Kolkata, white marble, William emerson

**Things to do**

Do it yourself.

**Life Skills**

Do it yourself.

**Cluster Task**

Do it yourself.

# Lesson-17
# (Natural Disasters)

**Objectives**

- To enable student to deal with natural disasters or calamities.
- To make the students learn the role of community during natural calamities.

**Overview**

- Define disasters

- Natural disasters: Earthquakes, Food, Cyclones, Drought, Volcanic Eruption, Landslide, Tsunami, Epidemics
- Role of community during natural disasters.

**Teaching / Learning Material**

Textbook, blackboard, chalk etc.

**Teaching / Learning Strategies**

- Ask students to name some natural disaster. Have they ever witnessed one? How did they cope up with it? Tell them to share their experience in the class.
- Explain the meaning of disasters caused due to nature. It causes a great loss of life and property at a specific or particular place The disaster may be

  Ý Natural Disaster

  Ý Man-made Disaster
- Now, one by one describe natural disaster given in the textbook.

  **Earthquakes**

  * Disturbance in the motion of one plate may result in it colliding with other plate.

  **Flood**

  * Overflow of the huge amount of water into the normally dry land.

  **Cyclones**

  * Severe storm that originates in the sea and causes heavy destruction.

  **Drought**

  * Opposite to floods, caused due to scanty or no rainfall at all.

  **Volcanic Eruption**

  * People residing in nearby areas come in contact of the red hot lava and are burnt to death.

  **Landslide**

  * When a massive rock breaks off and slides down a hillside or mountain side it is called landslide.

  **Tsunami**

  * Long wavelength of is generated by a sudden displacement of the seabed or disruption of any body of standing water.

  **Epidemics**

  * Spread of a communicable diseases on a large scale turns the disease into an epidemic. Eg. Plague, Malaria, Tuberculosis etc.
- Discuss the role of community during natural calamities. Community organisation, self-help groups, voluntary organisations, non-governmental organisations (NGOS), local and central

government agencies play a major role in bringing relief to the victims.

- Now, ask the students to read the chapter turn by turn. Guide them to understand the meaning of difficult or new words.
- Tell them to try 'Gear up' and 'Examine Point' by themselves and help them to complete them correctly.
- Discuss and help the students to solve 'Question Time'.
- Make students do 'Think and Answer' 'Fun Time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in the class.

**Recapitulation**

- What are natural calamities?
- What is an earthquake?
- What is a flood?
- What are cyclones?
- What is a drought?
- What are volcanic eruptions?
- What is a landslide?
- What is a tsunami?
- What do you mean by epidemics?
- What role does a community play during natural calamities?

**Home Assignment**

- What role do mobile clinics play during the time of natural calamities? Explain briefly in your notebook .
- Do 'Think and Answer', 'Fun time', 'Things to do', 'Life Skills' and 'Cluster Task' at home and get them checked later in the class.

## Teacher's Support

**Gear up**

Earthquake, Flood, Volcanic eruptions

**Examine Point**

1. Orissa
2. Drought, Cyclone, Tsunami
3. Flood occurs when the overflowing water submerges the land.

**Question Time**

**A**. 1. b) floods 2. a) lava 3. a) Epidemics

**B** 1. 18 2. Drought 3. hillslides 4. lava 5. doctors

**C.** 1. True 2. True 3. False 4. False

**D**. 1. It is believed that the surface of our earth is made up of 18 big plates which keep moving continuously in relation to each other. Any disturbance in the motion of one plate may result in it colliding with some other plate.

2. A cyclone is a severe storm that originates in the sea and causes heavy destruction. When it strikes the coastal areas very high waves destroy the ships and boats. Winds blow at a very high speed. Trees are uprooted and roofs of houses blow away. The fishermen in the deep sea find it difficult to escape.
3. It is a situation just opposite to the floods but equally or sometimes even more destructive. Drought is caused due to scanty or no rainfall at all. Crops are destroyed, scarcity of food and water drives cattle and even humans into the jaws of death.
4. Spread of a communicable diseases on a large scale turns the disease into an epidemic. Plague, malaria, tuberculosis, cholera, dengue etc are the diseases, if not properly taken care of, can turn into epidemic in no time killing a large number of people.
5. People can provide money, medicines etc to the victims.
   - Community can help the government agencies in providing relief to the victims and making arrangements for their rehabilitation.
   - The community groups can also provide consultancy to the people to build earthquake-proof, flood- proof or cyclone- proof houses.

**Think and Answer**

An ambulance is a medically equipped vehicle which transports patients to treatment facilities.

**Fun Time**

Do it yourself.

**Things to do**

Do it yourself.

**Life Skills**

1. 3 2. 7 3. 7 4. 3 5. 3

**Cluster Task**

Do it yourself.