

Natural Resources

EXERCISE [PAGE 112]

Exercise | Q 1.1 | Page 112

Describe natural resources with reference to the following

Mineral resources

Solution: Mineral resources: A mineral is a pure inorganic substance that occurs naturally in the Earth's crust. A large part of the Earth's crust is made up of minerals. A mineral deposit is a concentration of naturally occurring solid, liquid, or gaseous material, in or on the Earth's crust in such form and amount that its extraction and its conversion into useful materials or items are useful. Mineral resources are non-renewable and include metals, such as iron, copper, and aluminum; and non-metals, such as salt, gypsum, and clay.

Exercise | Q 1.2 | Page 112

Describe natural resources with reference to the following

Forest resources

Solution: Forest resources: A forest is defined as an extensive land which is covered by a variety of plants and is a habitat for various species of animals. We know that forests have an important role in the existence of life on earth. These are one of the precious resources which have various functions like:

- prevent soil erosion
- control floods
- reduce the rate of evaporation
- maintain a balance of atmospheric gases
- protect wildlife
- help percolation of water into the ground
- reduce the velocity of the wind
- provide food and shelter to various kinds of animals
- provide us with wood, essential oils, gums, fruits, etc.

Exercise | Q 1.3 | Page 112

Describe natural resources with reference to the following

Ocean resources



Solution: Ocean resources: Oceans are also important resources and this can be understood by the fact that they cover the greater part of the earth's surface than the land itself. The resources which can be obtained from oceans can be of two types-

Mineral resources- Most of the minerals are obtained from oceans, for example, thorium (used in atomic energy production), magnesium (used in flashbulb of a camera), sodium (used in the production of cloth and paper).

Bioresources- Examples of bioresources from oceans include fishes, shells, fungi, shark and codfish, sea cucumbers, etc.

Exercise | Q 2.1 | Page 112

Write an answer to the following question in your own words.

What is meant by fossil fuel?

Solution: The fuel that is obtained from fossils such as dead sea organisms, dead plants, and animals, etc is known as fossil fuel.

Exercise | Q 2.1 | Page 112

Write an answer to the following question in your own words.

What are fossil fuel types?

Solution: The different types of fossil fuels are:

- Coal- Also known as black gold, it is black in colour. It is as hard as stone and on burning, it releases a lot of energy.
- Petroleum: Also known as mineral oil, it is used in obtaining various other substances like gasoline, diesel, kerosene, etc.
- Natural gas: Found in association with petroleum and is used in the forms of CNG and LNG.

Exercise | Q 2.2 | Page 112

Write an answer to the following question in your own words.

Make a list of the components we obtain from mineral oil.

Solution: Components which can be obtained from mineral oil are:

- petroleum
- aviation petrol
- gasoline
- diesel

- kerosene
- naphtha
- lubricating oil
- tar
- also used in the production of dyes, pesticides, etc.

Exercise | Q 2.3 | Page 112

Write an answer to the following question in your own words.

What do we get from forests?

Solution: Forests provide numerous products to men.

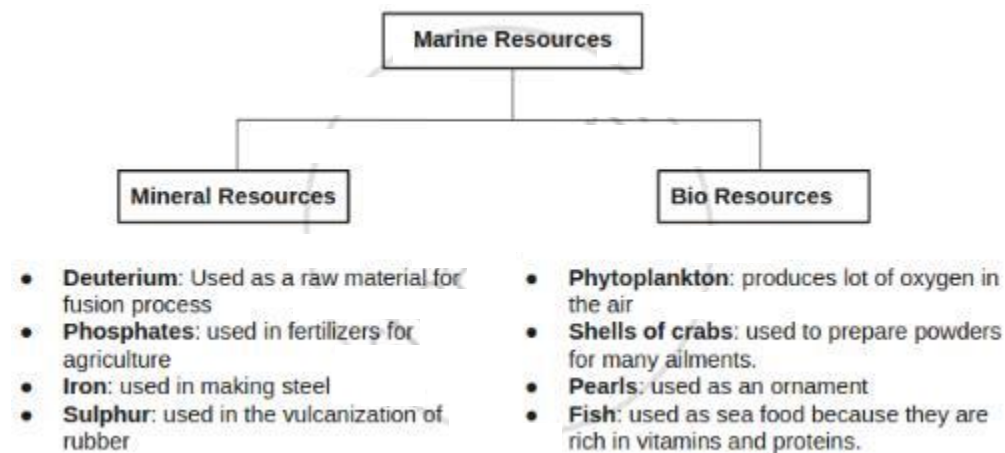
- The fruits and tubers from the forests are a source of nutritive food.
- The timber is used in various industries and in everyday human use like furniture.
- Herbs from forests are used as medicine.
- The leaves of certain trees are used in making disposable plates.
- The resin from the trees is used for manufacturing gum.

Exercise | Q 2.4 | Page 112

Write an answer to the following question in your own words.

What are the items included in ocean resources? What are their uses?

Solution: Oceans are also important resources and this can be understood by the fact that they cover the greater part of the earth's surface than the land itself. The resources which can be obtained from oceans can be of two types-



Exercise | Q 2.5 | Page 112

Write an answer to the following question in your own words.

Why should we prevent the wastage of fuel used for vehicles?



Solution: Coal and petroleum were formed from the degradation of biomass millions of years ago. The reserves of these resources are limited and they take a very long time to form. If these are not used judiciously, they will soon get exhausted.

Exercise | Q 2.6 | Page 112

Write an answer to the following question in your own words.

Why is the diversity of plants and animals in the forests declining?

Solution: The diversity of plants and animals is declining in the forests because of several reasons. These reasons can be summed up in the following factors:

- **Habitat loss and fragmentation:** This is the major cause of loss of biodiversity. Habitat destruction is caused by human activities such as deforestation and increasing pollution, leading to the loss of many plants and animals. Habitat fragmentation is the breaking up of the habitat of a particular species into fragments.
- **Over-exploitation:** Humans, because of their greed and increased exploitation of natural resources, have contributed to the endangerment of commercially important species of plants and animals. Species such as the Steller's sea cow and passenger pigeons have become extinct as a result of over-exploitation by humans.
- **Alien-species invasion:** The unintentional or deliberate introduction of alien species causes a decline in the number of indigenous species. Alien species prove invasive and affect the survival of native species in a grave manner. Also, sometimes they compete with native species that eventually lead to their destruction. For example, the Nile perch, introduced in Lake Victoria, led to the extinction of more than 200 species of cichlid fish in the lake.
- **Co-extinction:** When plants or animals become extinct, other plants or animals that are dependant on it in an obligatory way also become extinct.

Exercise | Q 2.7 | Page 112

Write an answer to the following question in your own words.



Write the names of five minerals and the useful substances obtained from them.

Solution: Minerals are naturally occurring solid substances that have a characteristic internal structure and properties. They are formed through geological processes that take millions of years. Examples of minerals are:

1. **Iron ore:** farming implements, rails of railway track
2. **Manganese:** medicines, electrical appliances
3. **Bauxite:** aeroplanes, transport vehicles, electric wires
4. **Copper:** radios, telephones, vehicles, kitchen utensils, statues
5. **Mica:** ayurvedic medicines, dyes, electric machines and equipment, wireless communication equipment.

Exercise | Q 2.8 | Page 112

Write an answer to the following question in your own words.

Name the two important stages in the process of obtaining metals from ores?

Solution: The two important stages in the process of obtaining metals from ore are extraction and concentration.

Exercise | Q 3 | Page 112

What steps taken for the protection and conservation of natural resources?

Solution: The following steps are taken/can be taken to conserve natural resources like:

Conservation of minerals:

- Improving the technology to allow the use of low-grade ores at low costs.
- Recycling of metals.
- Using scrap metals and other substitutes.
- Using the available minerals in a planned manner.

Conservation of forests:

- Indiscriminate deforestation should be prohibited.

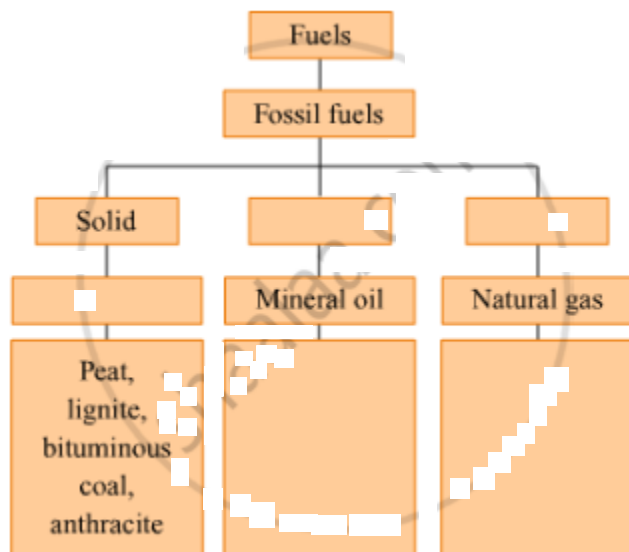
- Wastage of timber and firewood should be avoided.
- Forest fires should be prevented.
- Reforestation of deforested areas should be undertaken.
- Excessive grazing of cattle in forests should be discouraged.
- Pests and diseases affecting forest trees should be chemically and biologically controlled.

Conservation of water:

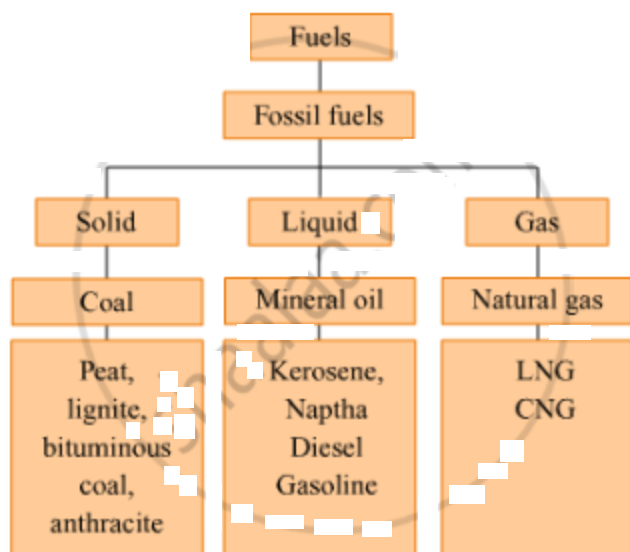
- Clothes should be washed in washing machines only when the machine is filled to its maximum loading capacity.
- Taps must be closed while washing utensils, brushing teeth, shaving, etc.
- Trees should be planted in the monsoon season when temperatures are lower and rainfall is sufficient.
- Promote rainwater harvesting and drip irrigation.

Exercise | Q 4 | Page 112

Complete the flow chart.



Solution:



Exercise | Q 5 | Page 112

How does the economic condition of a nation depend on its natural resources?

Solution: The economic condition of a nation depends on its natural resources and it can be explained from the following example of coal and petroleum. Natural resources such as coal, petroleum, and natural gas are engines of growth of a country. All the industrial projects are undertaken on the basis of the energy provided by these natural resources. They provide electricity to industrial establishments and households in the country. They are the only source of fuel for propelling vehicles, railways, and air transport. They are used as fuel for cooking food. A country's survival and development largely depend on these natural resources.

Exercise | Q 6 | Page 112

Which medicinal plants will you grow on your school premises and near your house?

Why?

Solution: The following medicinal plants can be grown in the school as they are easily available, easy to maintain, and have various health benefits:

- Cinchona – Quinine, a drug used in the treatment of malaria, is obtained from the bark of the Cinchona tree.
- Eucalyptus – The leaves of eucalyptus are used for extracting oil which is used in the treatment of blocked nose and throat infections. It is also used as a mosquito repellent.
- Neem - The leaves and stems can be used in the treatment of fever, cold, or oral hygiene.



- Cinnamon - It can be used in the treatment of diarrhea and nausea.