

**CBSE Class 10 Social Science Geography Notes Chapter 5:** You have learned that the many minerals that have been absorbed in the rocks make up the crust of the earth. After these minerals are refined, other metals are recovered from them. Humans have used minerals for decoration, celebration, subsistence, and religious and ritual ceremonies at all phases of evolution.

This chapter will teach you about minerals, their classification, mineral conservation techniques, and various energy resource kinds and conservation strategies. All of these significant subjects are covered in detail in CBSE Class 10 Social Science Geography Notes Chapter 5 Minerals and Energy Resources. Examine them to gain a better understanding of the chapter.

## **CBSE Class 10 Social Science Geography Notes Chapter 5**

Below we have provided CBSE Class 10 Social Science Geography Notes Chapter 5 for students to help them understand the chapter better and to score good marks in their examination.

### **What is a Mineral?**

A "homogenous, naturally occurring substance with a definable internal structure" is referred to as a mineral. Nature contains a wide variety of minerals, from the softest talc to the hardest diamonds. Minerals are homogenous substance combinations that make up rocks.

### **Mode of Occurrence of Minerals**

Minerals are usually found in "ores". The term ore is used to describe an accumulation of any mineral mixed with other elements. Minerals generally occur in the following forms:

- Minerals can be found in the joints, fractures, fissures, and cracks of igneous and metamorphic rocks.
- Several minerals are found in beds or layers in sedimentary rocks.
- The minerals are also formed by the breakdown of surface rocks and the extraction of soluble components.
- Alluvial deposits of minerals can also be found in the sands at the foot of hills and on valley floors.
- There is a tonne of minerals in the ocean.

### **Ferrous Minerals**

Ferrous minerals account for about three-fourths of the total value of the production of metallic minerals.

## Iron Ore

1. India is endowed with fairly abundant resources of iron ore.
2. **Magnetite** is the finest iron ore with a very high content of iron, up to 70%. It has excellent magnetic qualities.
3. **Hematite** ore is the most important industrial iron ore. It contains 50 to 60% iron.

The major iron ore belts in India are:

- Odisha-Jharkhand belt
- Durg-Bastar-Chandrapur belt
- Ballari-Chitradurga-Chikkamagaluru-Tumakuru belt
- Maharashtra-Goa belt

## Manganese

1. It is mainly used in the manufacturing of **steel and ferromanganese** alloy.
2. Nearly 10 kg of manganese is required to manufacture 1 tonne of steel.
3. It is also used in manufacturing bleaching powder, insecticides, and paints.

## Non-Ferrous Minerals

Non-ferrous minerals include copper, bauxite, lead, zinc and gold. These minerals play a vital role in several metallurgical, engineering and electrical industries.

### Copper

1. A malleable, ductile and good conductor of heat and electricity.
2. Mainly used in electrical cables, electronics and chemical industries.
3. The Balaghat mines in Madhya Pradesh, the Khetri mines in Rajasthan and the Singhbhum district of Jharkhand are leading producers of copper.

### Bauxite

1. Bauxite deposits are formed by the decomposition of a wide variety of rocks rich in aluminum silicates.
2. Aluminium is obtained from bauxite. Aluminium has good conductivity and great malleability.
3. Deposits are mainly found in the Amarkantak plateau, Maikal hills and the plateau region of Bilaspur-Katni.

## Non-Metallic Minerals

1. **Mica** is a mineral made up of a series of plates or leaves. It can be clear, black, green, red, yellow or brown.
2. Mica is the most indispensable mineral used in the electric and electronic industries.
3. It has excellent di-electric strength, low power loss factor, insulating properties and resistance to high voltage.
4. Mica deposits are found on the northern edge of the Chota Nagpur plateau.

## Rock Minerals

1. Limestone is found in rocks composed of calcium carbonates or calcium and magnesium carbonates.
2. It is the basic raw material for the cement industry and essential for smelting iron ore in the blast furnace.

## Conservation of Minerals

One non-renewable resource is mineral wealth. The creation and concentration of minerals take thousands of years.

Mineral reserves are depleted as ores are extracted further. Therefore, it's critical to take the required actions to enable the planned and sustainable use of mineral resources.

## Energy Resources

Energy resources can be classified as

1. **Conventional Sources:** These includes firewood, cattle dung cake, coal, petroleum, natural gas, and electricity.
2. **Non-Conventional Sources:** These includes solar, wind, tidal, geothermal, biogas and atomic energy.

Let us discuss each of them in detail.

### Conventional Sources of Energy

#### Coal:

1. It is the most abundantly available fossil fuel.
2. It is used for power generation, to supply energy to the industry as well as for domestic needs.
3. **Lignite** is a low-grade brown coal, which is soft with high moisture content.
4. Coal that has been buried deep and subjected to increased temperatures is **bituminous coal**.
5. **Anthracite** is the highest quality of hard coal.
6. Jharia, Raniganj, and Bokaro are important coalfields.

#### Petroleum

1. It provides fuel for heat and lighting, lubricants for machinery and raw materials for a number of manufacturing industries.
2. Petroleum refineries act as a “nodal industry” for synthetic textile, fertilizer and numerous chemical industries.
3. Mumbai High, Gujarat and Assam are major petroleum production areas in India.

#### Natural Gas

1. Natural gas is an important clean energy resource. It is considered an environment-friendly fuel.
2. The power and fertilizer industries are the key users of natural gas.
3. Compressed Natural Gas (CNG) is used in vehicles to replace liquid fuels.
4. Large reserves of natural gas have been discovered in the Krishna-Godavari basin.

## **Electricity**

Electricity is generated mainly in 2 ways:

1. By running water which drives hydro turbines to generate **Hydro Electricity**. It is a renewable resource of energy. India has a number of multi-purpose projects like the Bhakra Nangal, Damodar Valley Corporation, the Kopili Hydel Project.
2. By burning other fuels such as coal, petroleum and natural gas to drive turbines to produce **Thermal Power**. It uses non-renewable fossil fuels for generating electricity.

## **Non-Conventional Sources of Energy**

Renewable energy sources like solar energy, wind, tide, biomass and energy from waste material are called **Non-Conventional Energy Sources**. Let's discuss them one by one.

### **Nuclear or Atomic Energy**

Nuclear Energy is obtained by altering the structure of atoms. Uranium and Thorium are used for generating atomic or nuclear power.

### **Solar Energy**

Solar energy is produced by the Sun's light. Photovoltaic technology converts sunlight directly into electricity.

### **Wind Power**

Wind Energy or Power is the use of wind to generate electricity. Wind turbines are used for this purpose. The largest wind farm cluster is located in Tamil Nadu from Nagercoil to Madurai.

### **Biogas**

One kind of biofuel that is naturally produced when organic waste breaks down is called biogas. The most effective way to use cow dung is to create biogas. It raises the manure's quality.

### **Tidal Energy**

Tidal energy is the form of hydropower that converts the energy obtained from tides into useful forms of power, mainly electricity.

In India, the Gulf of Khambhat, the Gulf of Kachchh in Gujarat on the western coast and the Gangetic Delta in the Sunderban regions of West Bengal provide ideal conditions for utilising tidal energy.

### **Geo-Thermal Energy**

Geo-thermal energy is the term used to describe the process of producing heat and power from the earth's interior.

Geothermal energy is extracted in India from Puga Valley in Ladakh and Parvati Valley in Manikarn in Himachal Pradesh.

### **Conservation of Energy Resources**

Energy inputs are required by all areas of the national economy, including agriculture, industry, transportation, commerce, and domestic use. Creating a sustainable course for energy development is important.

The following are some methods that each of us may help conserve energy resources:

- Using public transport systems instead of individual vehicles
- Switching off electricity when not in use
- Using power-saving devices.
- Using non-conventional sources of energy