

# Minerals And Mining

---

## Exercise Pg. 63

**Q. 1. Classify the following natural objects into renewable and non-renewable resources. Put a tick (✓) against those which are minerals and cross (×) against those which are not minerals.**

**Bamboo, Coal, Sea water, Mud, Ants, Sand, Iron Ore, Diamond, Trees, Petroleum, Grass, Air, Marble rock, Fishes, Well water, Sunshine.**

**Answer :**

Natural objects	Renewable Resources	Non-renewable Resources	Mineral (✓) Not a mineral (×)
Bamboo	✓	×	✓
Coal	×	✓	✓
Sea Water	✓	×	✓
Mud	✓	×	✓
Ants	×	×	×
Sand	✓	×	✓
Iron Ore	×	✓	✓
Diamond	×	✓	✓
Trees	×	✓	✓
Petroleum	×	✓	✓
Grass	✓	×	✓
Air	✓	×	✓
Marble Rock	×	✓	✓
Fishes	✓	×	✓
Well Water	✓	×	✓
Sunshine	✓	×	✓

**Q. 2. Can you classify the following minerals into metallic, non-metallic and energy source?**

**Iron ore, bauxite (aluminium ore), coal, copper ore, limestone, gypsum, mica, groundwater, petroleum, rock salt, sand, gem stones.**

**Answer :**

Mineral	Metallic	Non-metallic	Energy source
Iron Ore	√	-	-
Bauxite (aluminium ore)	√	-	-
Coal	-	√	-
Copper Ore	√	-	-
Limestone	-	√	-
Gypsum	-	√	-
Mica	-	√	-
Groundwater	-	-	√
Petroleum	√	-	-
Rock Salt	-	√	-
Sand	-	√	-
Gem stones	√	-	-

### Exercise Pg. 66

**Q. 1. How does the government use the minerals?**

**Answer :** The government uses the minerals in a judicious manner so as to meet the needs and common interests of the society. The government works for the benefit and betterment of all because resources are not the sole property of a particular person or community but they belong to everyone.

### Exercise Pg. 67

**Q. 1. Discuss the pros and cons of allowing private companies to mine our minerals. How do you think can they be regulated? How do you think can the environmental concerns be taken care off?**

**Answer :** 1. Although private companies are ready to invest in newer technologies in order to enhance productivity, they tend to work for profit and therefore exploit resources to their level best so as to reap high amount of benefits.

2. In the due course, they often neglect the impact of their actions on environment as well as the labour force involved. Therefore, there is a need for regulatory mechanism in order to keep their activities in check.

3. Regulation can be adopted through government policies related to the no. of mines under private companies as well as environmental friendly policies with certain fixed rules and regulations regarding cleanliness and proper waste disposal.

**Q. 2. If all the people of the country are the real owners of the mineral resources, how can we ensure that these resources are used for the benefit of all?**

**Answer :** The government plays the most important role in ensuring equitable distribution of resources across the country because it is the government which has maximum control over the extraction and use of these resources.

People, by participating, in awareness drives and campaigns can highlight the needs and demands of the society in a constructive manner.

Moreover, the democratic systems in place allows the citizens of our country to question the government and ensure transparency through various mechanisms.

**Q. 3. Do you think that the generations to come, that is our children and our grandchildren, too should be able to use these resources? How can we ensure that they are available to them too and not exhausted?**

**Answer :** Yes, it is very important to ensure that the future generations have adequate access to these resources. We can ensure this by following a path of sustainable development.

Sustainable development, put simply, refers to a unique path of development in which development is carried out keeping in mind the needs of the future generations i.e. development takes place in a judicious manner.

### **Exercise Pg. 73**

**Q. 1. Why do you think SSCL employs contract workers?**

**Answer :** The employment of contract workers is a way to cut on costs since such employees are employed only for a particular time, say for example, the peak season.

**Q. 2. What could have happened to farmers who left their lands in the mining area?**

**Answer :** The farmers who left their lands in the mining area were compensated by either giving them lands in some other areas or by giving them jobs in mines.

**Q. 3. Do you think it is necessary to use heavy machinery and equipment's in open cast mine?**

**Answer :** The use of machinery in mining is a technique of reducing manual labour work by employing machines instead of work force. This method also helps in saving time by speeding up tasks to be done. Therefore, it helps in smooth functioning of mining activities.

**Q. 4. Why only males are employed in open cast mine?**

**Answer :** The employment of males in open cast mining is probably related to the hazardous nature of activities which are involved in mining.

**Q. 5. What is more important - reduce cost of production or protect the environment from pollution?**

**Answer :** Protection of environment from pollution is more important than reducing cost of production. This is because any compromise with the environment will eventually prove to be harmful to us in the long run as the impact of pollution would tremendously affect human life and its sustenance.

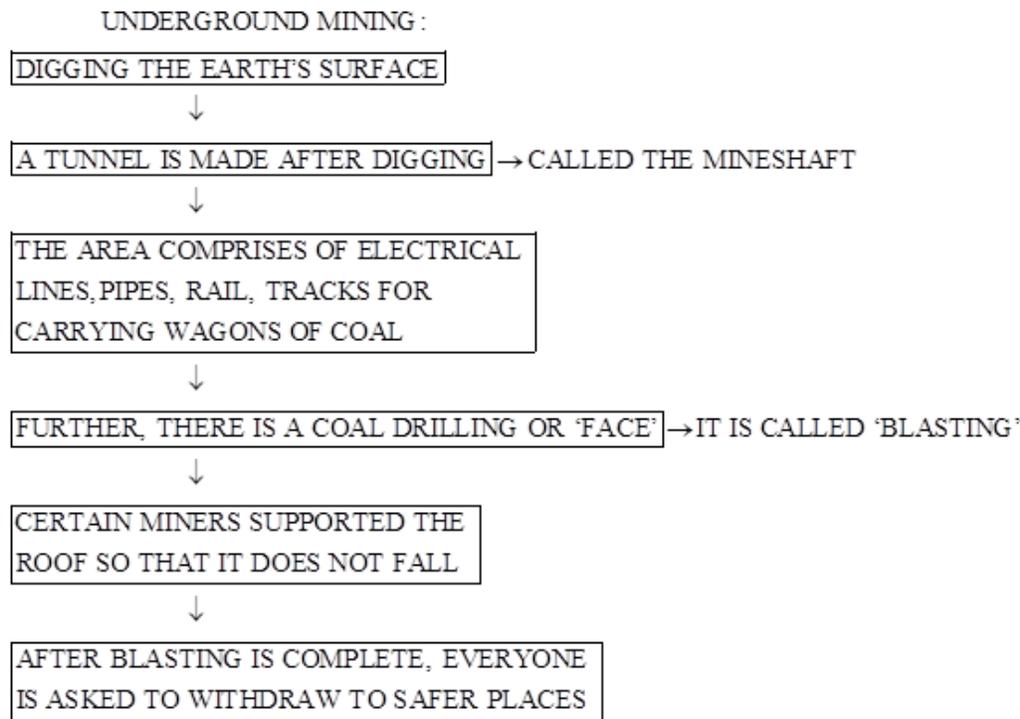
**Q. 6. What would have happened if only regular employees are recruited in this mine?**

**Answer :** The recruitment of permanent employees only would lead to unemployment for many contract workers who are employed on the basis of a contract of a certain period of time. Since involving contractual workers gives a boost to employment aspects, the employment of only regular employees would be a setback for the contractual labour.

### **Improve your learning**

**Q. 1. Draw a flow chart showing the visit to the underground mining.**

**Answer :**



**Q. 2. Create a table to classify major health challenges; precautions; and care taken towards protecting mine workers as follows:**

**1. While working in the mines 2. While being employed.**

**Answer :**

	Major health challenges	Precautions	Protection of mine workers
1. While working in the mines	Accidents may occur: -tunnel may fall down.	-elaborate safety arrangements have been developed to prevent accidents.	-There are detailed guidelines for medical check-up of the miners and their treatment.
2. While being employed	-tunnel may get flooded by water. -there can be fire and suffocation due to poisonous gases. -exposure to coal dust causes the dreaded 'Black lung disease'	-a safety kit has been designed.	-Employees below and above 45 years have to undergo thorough routine checkups every 5 years and 3 years respectively. -Miners with Black lung disease is usually transferred to a different department on the ground.

**Q. 3. Janaki is currently a farm labourer. She wants to become a miner. Can you explain what changes will occur in her nature of work; employment scenario; health risks etc.**

**Answer :** A mine worker performs different kinds of activities as per the requirement of their job. Employment at the mining sites can either be permanent or on contractual basis.

Working inside the mine is a hazardous job as the miner is exposed to various kinds of risks. These include accidents due to falling of the tunnel, flooding of the tunnel, or suffocation due to fire and poisonous gases. Additionally, there is also a risk of catching the dreaded 'Black lung disease' via exposure to coal dust.

**Q. 4. Narrate the difference in requirement of labour in mine while using machines and human labour.**

**Answer :** There is significant difference in requirement of labour in mines and while using machines and human labour because machines to a great extent are able to complete the work of human labour. For instance, shovels and bulldozers are used to remove top soil or overburden and rocks. After mining, coal is lifted using shovels and dumpers and then transported via tipper trucks.

In different ways, a lot of jobs which were previously done by manual labour are now performed with the help of heavy machinery.

**Q. 5. How has been the contribution of mining to economy identified in this chapter?**

**Answer :** 1. Minerals that usually occur deep inside the earth's surface do not belong any particular owner but belong to all the people of a country and therefore are to be used in everyone's interest.

2. At the time of independence, most of the mines were owned and operated by private owners and companies. They used the resources, keeping only profit in mind and in the process also did not care for proper development and safety of the workers.

3. It was in the 1970s that the government took over the mines and the responsibility of circulating, selling and exporting minerals. This step was directly aimed at an equitable distribution of resources without any compromises towards the environment as well as the safety of the workers.

4. It was, however, realised that the government failed to advance its systems by introducing newer technologies. It was then realised that the role of private companies was crucial in this sphere. Consequently, a new National Mineral Policy was announced in 1993 in order to lease mines to private companies. Also, a special royalty mechanism was placed so that government could regulate the mining activities.

5. The new policy gave a boost to the mining industry with the no. of mines, minerals mined as well as the employment in the mining sector has highly increased.

**Q. 6. What aspects of regulations in the mining by the government do you agree with? And why?**

**Answer :** A New National Mineral Policy was announced in 1993, and the government allowed private companies to lease mines and operate them. The companies were to pay a royalty to the government for the minerals they extracted and sold. In this way the government could retain regulatory control over the mining, get income from them and at the same time encourage private companies to invest money and bring in new technologies. However, the government continues to control mining of all minerals relating to atomic energy.

As a result of this policy there has been a boom in mining during the last twenty years. There has been a major increase in the number of mines, the minerals mined, and the employment in the mining sector.

**Q. 7. See the map of Andhra Pradesh showing minerals in this chapter and identify the minerals found in your district.**

**Answer :** I live in Vishakapatnam and the minerals found here are heavy mineral beach sands, bauxite and graphite.

**Q. 8. Read the paragraph under the heading 'To whom do the minerals belong' and answer the following:**

**The minerals do not belong to any particular person but they belong to all people. How do you justify?**

**Answer :** Minerals are resources which are extracted from within the earth's surface. Since they are present in different parts of the world in different proportions, they belong to all the people and everyone has a right to use these resources. As a result, minerals do not belong to a particular person or community but belong to the larger public and therefore should be used, keeping in mind the interests of all.

**Q. 9. Look at the image below. There are two different statements made by two different people. What aspect of mining are they talking about?**



**Answer :** The person standing on the left side in the image is talking about the reasons that are impacting the lives of the mine workers. As he says, “We cannot live because of minerals”, he attempts to highlight the hazardous processes that are involved in mining activities. These processes tend to affect the health of the workers in different ways which poses a great threat to their lives.

For instance, while mining, the workers are highly exposed to coal dust which causes the dread ‘black lung disease.’ Also, accidents are very common inside the mine shafts that lead to the mine, being responsible for deaths of mine workers on a large scale.

The person standing on the right side in the image is talking about the fundamental need and numerous uses of minerals in our day-to-day lives. As he says, “We cannot live without minerals”, he focuses on the necessity of minerals which are of immense significance in the lives of human beings. From the consumption of minerals to their use in construction sites and building roads, bridges, houses etc., they are of immense importance.