

Class VII

Social Science (Geo.)

Chapter 2 Inside Our Earth (Part II)

ROCKS and MINERALS

MINERALS

Minerals are naturally occurring substances. They are not made up by human beings. They have a chemical composition. Minerals are solid and have a definite structure and physical properties. Even the edible salt is a mineral. Diamond is the hardest mineral.

There are two types of minerals:

1. ORGANIC MINERALS: - Minerals that are formed from the remains of dead and decomposed animals and plants trapped inside the earth long, long ago are called Organic Minerals. Eg. Coal, Petroleum and Natural gas.

These minerals are important sources of energy and are also called Fossil Fuels. They are non-renewable resources of energy.

2. INORGANIC MINERALS

(a) Metallic Inorganic Minerals include minerals like gold, silver, iron, aluminium, copper, lead etc.

(b) Non - Metallic Inorganic Minerals include minerals like sulphur, silicon, phosphorus.

IMPORTANCE OF MINERALS: - Iron and gold are minerals which are used in industry. Coal is used as a fuel. Some minerals are used in making various chemicals and medicines.

ROCKS

The term Rock refers to the materials that forms the crust of the earth. Since rocks are composed of one or more minerals, they do not have a definite chemical composition. Certain rocks contains metals which can be extracted economically. These rocks are called Ores. For example, bauxite is an ore of aluminium. Haematite is an ore of iron.

On the basis of their origin, rocks can be classified into three main types:

1. IGNEOUS ROCKS

Igneous rocks are formed from molten magma found abundantly in the interior of the earth. Magma cools and solidifies into rock. Igneous rocks were the first to be formed on the surface of the earth so they are called Primary Rocks. All other rocks are formed from them.

On the basis of their formation, igneous rocks be divided into two types:

(a) Extrusive Rocks: - Igneous rocks which are formed when lava coming out of a volcano reaches the surface of the earth, cools rapidly and solidifies into a rock are called Extrusive Rocks. Eg. Basalt rocks found in the Deccan Plateau.

(b) Intrusive Rocks: - The rocks which are formed when the molten magma gets trapped deep inside the earth and cools and solidifies below the earth are called Intrusive Rocks or Plutonic Rocks. Eg. Granite and dolerite.

2. SEDIMENTARY ROCKS

Sedimentary rocks are formed from the fragments of other rocks.

When igneous rocks are exposed on the surface, due to the action of wind, water, plants or animals, they often break down into small pieces called sediments. Over a period of time the sediments get buried and compressed and become cemented together and form layers of rocks. These layered rocks with wave like patterns are called sedimentary rocks or stratified rocks.

Sedimentary rocks are called secondary rocks because they are formed from other rocks. Eg. Limestone and sandstone.

These rocks are good sources of Fossil Fuels like coal, petroleum and natural gas because plants and animals fossils get embedded and compressed in the layers of these rocks.

3. METAMORPHIC ROCKS

The word metamorphic is derived from the Greek word 'metamorphose' meaning 'change of form'. They are formed when the sedimentary or igneous rocks get buried deep into the earth. Heat and pressure inside the earth bakes the rock, changing it into something new. Eg. Limestone changes into marble, Sandstone into quartzite and Clay into slate.

ROCK CYCLE

The continuous process in which a rock changes from one kind to another is called rock cycle.