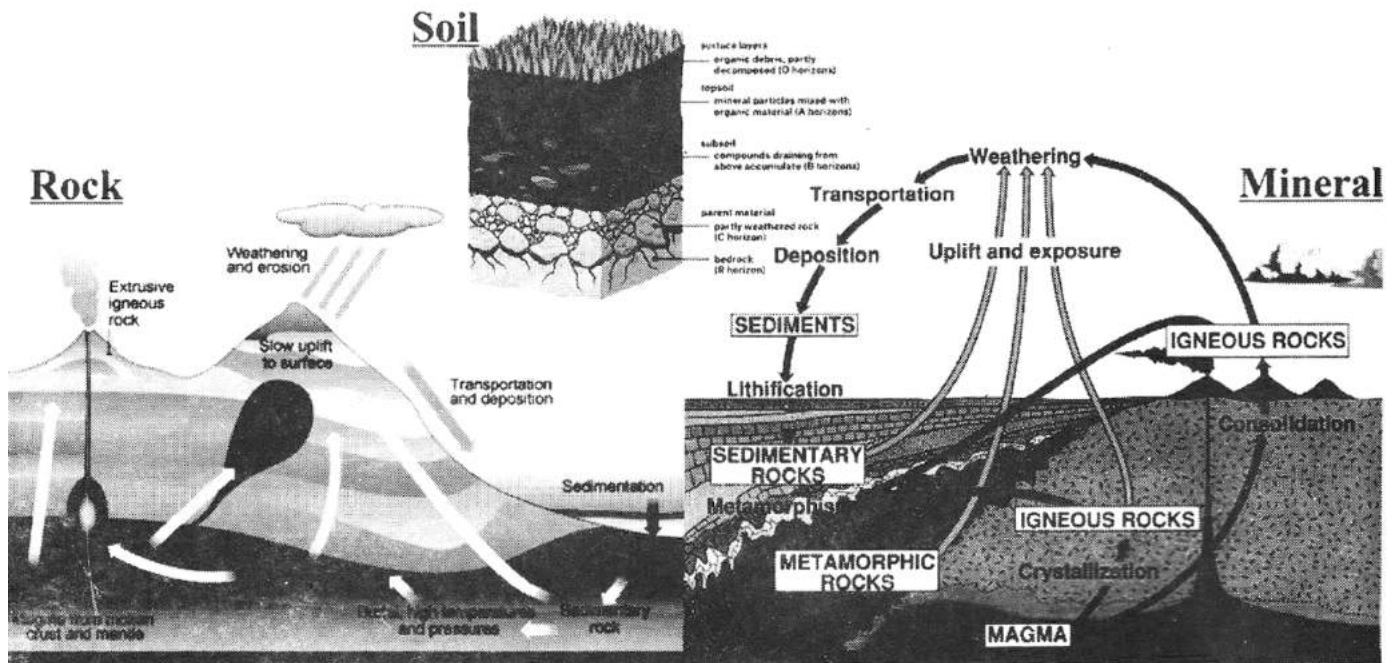


Soil Rocks and Monerals

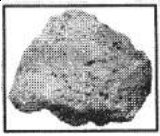
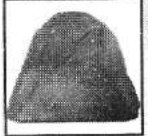


FUNDAMENTAL

Lithosphere of the earth is mainly made up of rocks and soils (natural resources).

- Rocks are made up of grains called minerals. One or more than one minerals are present in one kind of rock.
- Minerals can be seen or can't be seen with naked eyes. Minerals contains ores, from which metals and non-metals can be obtained profitably.
- Rocks are formed
 - (i) Inside the earth under very high temperature.
 - (ii) From mud and sand under high temperature and pressures.
- There are three kinds of rocks.
 - (i) Igneous
 - (ii) Sedimentary
 - (iii) Metamorphic

Comparison between different types of rocks

		Figure
Igneous Rock	Formed as a result of volcanic eruptions when magma reach the surface of the earth due to high pressure and gets solidified e.g., Basalt.	
Sedimentary Rock	Formed from materials swept into rivers, lakes and seas and deposited there. e. g. sandstone is formed from sand.	

Metamorphic Rock	Metamorphic means change. These rocks are actually igneous and sedimentary rocks which are chemically changed under high temperature and pressure inside the earth. e.g., high heat turns limestone into marble.	
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- Granite rock is made up of Mica, quartzs, feldspar.
- Sand stone is made up of quartz.
- Limestone is made up of calcites

Some important rocks:

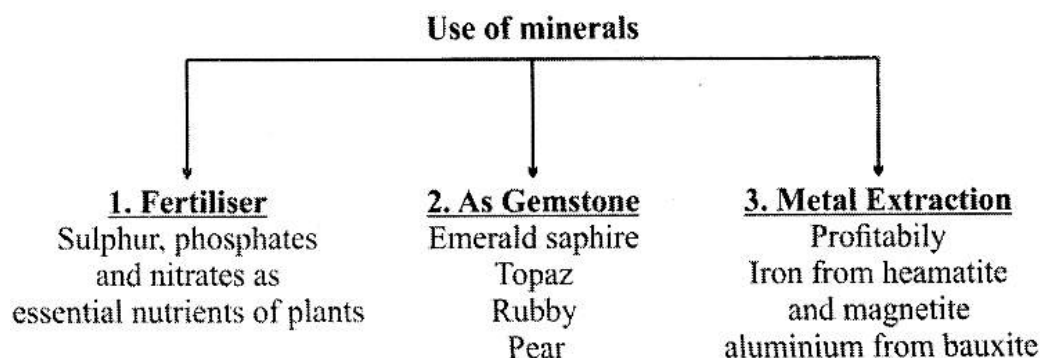
S. No.	Rock Type	Example	Property	Uses
1.	Igneous	Basalt	Dense and dark fine grains	Used in construction
2.	Igneous	Granite	Light colored, large grains	Constructing building and roads, statues
3.	Igneous	Pumice	Light colored containing dissolved gas	Scrubber
4.	Sedimentary	Sandstone	Grains of sand cemented together	Building construction
5.	Sedimentary	Conglomerate	Mass of pebbles cemented together	Used in architecture, construction and medical industry.
6.	Sedimentary	Shale	Smooth made up of clay	Tiles and bricks
7.	Sedimentary	Limestone	Thick sediments of chalk	Cement and brick metallurgy
8.	Metamorphic	Slate	Low grade metamorphic rock	Slate, black board, building
9.	Metamorphic	Marble	Colorful, can polished and carved	Statues and building
10.	Metamorphic	Gneiss	Formed from granite	Ornamental stones
11.	Metamorphic	Quartzite	Made from metamorphic of sandstone	Construction of building

MINERALS

A mineral is composed of an element or a chemical combination of elements. Silica is a mineral consisting oxygen, silicon and small amount of other elements.

Gem stone is a naturally occurring beautiful and attractive mineral which has got immense demand in jewelry making. These minerals are cut and polished to make jewelry.

e.g., Diamond, Ruby, Sapphire,



S. No.	Mineral	Rock
1.	Pure in state	Contain more than one mineral
2.	Look attractive	Not attractive
3.	Have definite shape	No definite shape
4.	Same color through cut	Different colors, as contains different minerals of different color
5.	Have single crystal	Not single crystal
6.	e.g. Bauxite	e.g., Basalt

COAL

Is an organic rock sedimentary which is formed from dead plant- fossil fuel.

PETROLEUM

Are formed when plants and dead animals in the sea form in the sea from a layer of sediment on after another.
The process takes millions of years.

SOIL

Soil is the upper most layer of earth's surface, which is made up of the particles of rocks humus air and water. Soil contains minerals and water for survival of plants. Soil is formed from rocks by weathering. It is very slow process.

COMPONENTS OF A SOIL

- Living organism
- Air and water
- Inorganic matter
- Organic matter
- Humus
- Minerals

TYPES OF SOIL

Clayey	Loamy	Sandy
Size of particle less than 0.002mm;	Particle size between 0.002-0.05mm;	Particle size greater than 0.05-0.10mm;
Water holding capacity is good;	Hold sufficient air and water;	Water holding capacity is less;
Little amount of air is passed	Best suited for plants growth;	Not suitable for plant growth
Not suitable for plant growth.	Consists of clay and humus in proper amount.	

RESIDUAL SOIL

Soil which remains at the place of its formation.

TRANSPORTED SOIL

- Colluvial soil: Formed due to gravity forces.
- Alluvial- soil is transported by flowing water.

MOUNTAINOUS SOIL

This type of soil is found in mountain regions formed by clay, shale, lime stone and sandstone.

SOIL EROSION

Removal of the upper fertile soil layer due to weathering is called soil erosion.

CAUSES OF SOIL EROSION

- Heavy rain fall
- Wind
- Due to overgrazing of grass
- Cutting down of trees (deforestation)
- Deep ploughing

PREVENTION OF SOIL EROSION

- Afforestation
- By making embankment and dam.
- Terrance faming
- By strip farming
- Contour ploughing
- Excessive grazing prevention.