

Subject- S.S.T Class- 7 Topic- Inside Our Earth

Learn and Write

D. Long answer questions

1. Describe briefly the different layers of Earth.
2. How many types of rocks are there and how are they formed.
3. Explain the concept of Rock cycle.
4. Write some uses of minerals.

E. High Order Thinking Skill Questions

1. Why is Rock cycle considered as a cycle process?
2. How does the understanding about the interior of the Earth enhance our knowledge about the relief features of the Earth.

D. 1. The Earth consists of the following layers as follows.

- (a) Crust — This is the topmost and thinnest layer and is also called the lithosphere. There are two types of crust. The continental crust which is about 35 km thick, is made up mainly of the elements, silica and alumina. The oceanic crust is about 5 km thick and its main elements are silica and magnesium.
- (b) Mantle — This is the middle layer. It is 2,900 km thick and is made up of magnesium, iron and silica. It consists of two layers, the upper mantle and the lower mantle. Magma is found in this layer.
- (c) Core — This is the innermost layer of the Earth with a radius of 3,500 km. It is made up of heavy metals like nickel and iron. There are two layers in the core – the inner core and the outer core. The temperature is very high and so the material is in the molten form.

2. There are three types of rocks, igneous, sedimentary and metamorphic.

- (a) Igneous rocks are formed by the cooling of molten magma inside the Earth's crust or on the surface of the Earth.
- (b) Sedimentary rocks are formed when rocks roll down, crack and hit each other and are broken down into small fragments. These fragments are further broken into small particles called sediments. These sediments are carried away by wind and rivers and are deposited in lowlands, lakes and ocean beds. With the passage of time, these layers are hardened to form sedimentary rocks.
- (c) Metamorphic rocks are the changed rocks from igneous and sedimentary rocks due to high temperature and pressure over a long period. These rocks completely change their original form.

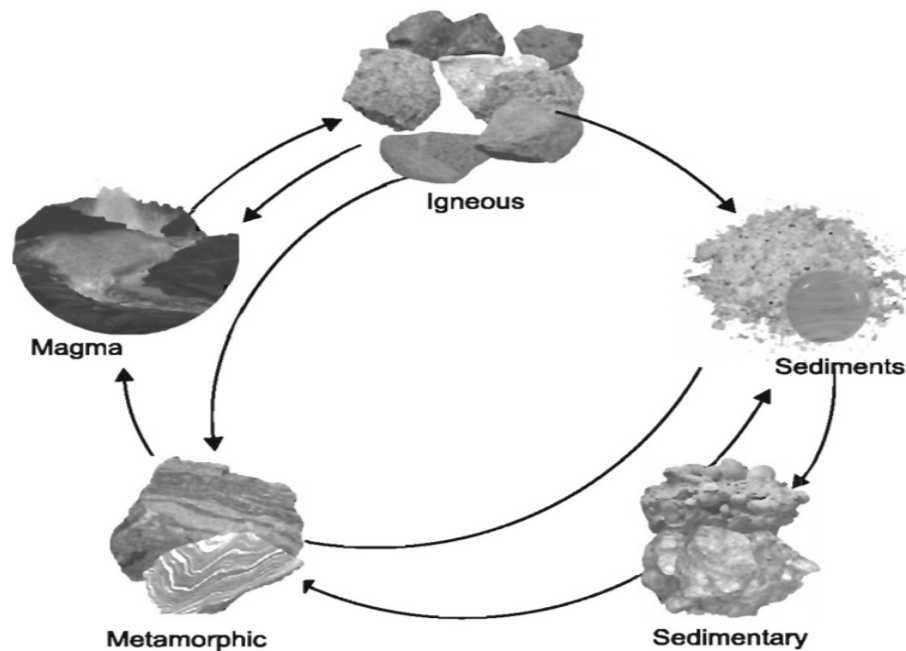
3. Rock cycle is a process in which one type of rock is changed into another type in a cyclic manner under certain conditions. Through this continuous process, older rocks are transformed into new rocks by means of erosion, deposition, pressure, melting and

cooling. It is an endless process by which rocks are formed, destroyed and formed again.

4. Different types of minerals have different uses. Coal, petroleum and natural gas are used as fuels and provide the source of electric power used in homes and industry. Iron, copper, lead, nickel, aluminium, etc., are metallic minerals which are used in manufacturing industries. Phosphate rock and potash are used in making fertilisers. Gold, platinum, diamond and silver are used in jewellery and crafts. Many minerals are also used to make different medicines.

E. HOTS (Higher Order Thinking Skills) Questions

1. In a cyclic process, the rock changes its form and then returns to the same form after a long period of time. Hot molten magma cools down to form igneous rocks. These igneous rocks break down by weathering and erosion to form sediments which turn into sedimentary rocks. These rocks under heat and pressure are transformed to metamorphic rocks. These metamorphic rocks get buried and ultimately melt to be transformed to magma once again. This cycle is repeated endlessly and therefore the rock cycle is considered a cyclic process.



2. The Earth is constantly subjected to internal and external forces which bring about changes to the surface of the Earth. The relief features of the Earth, i.e., the existence of mountains, hills, valleys, plains, plateaus, the formation of the continents and the oceans, etc., is the result of the internal forces of the Earth (plate movements, volcanoes, earthquakes, etc.) and external agents (wind, rain, temperatures, rivers, groundwater, lakes, glaciers, ice, etc.). The internal forces are responsible for the origin and the elevation of topography and external agents cause the erosion and formation of the Earth's relief features. Hence, it is very important to know about the interior of the Earth to know how the relief features of the Earth are formed.