

GEOGRAPHY  
CHAPTER 2  
INSIDE OUR EARTH

CLASS VII

(SOCIAL SCIENCE)

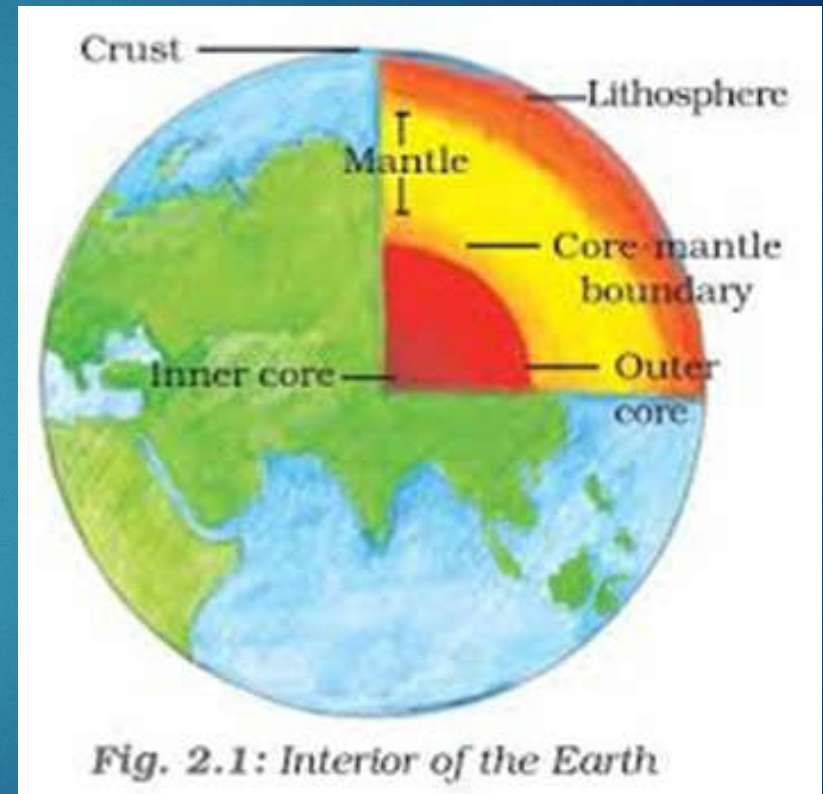
# INTERIOR OF THE EARTH

- ▶ Just like an onion, the earth is made up of several concentric layers with one inside another



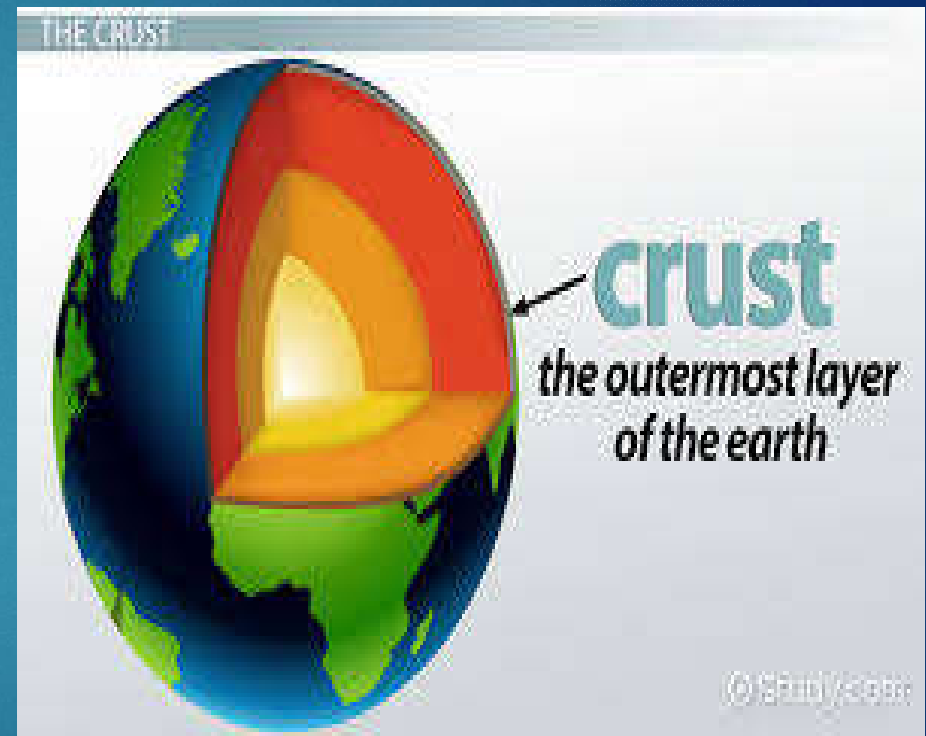
# INTERIORS OF THE EARTH

- ▶ CRUST : The uppermost layer over the earth's surface is called the crust.
- ▶ MANTLE : Just beneath the crust is the mantle which extends up to a depth of 2900 km. below the crust.
- ▶ CORE : The innermost layer is the core with a radius of about 3500 km. It is mainly made up of nickel and iron and is called nife



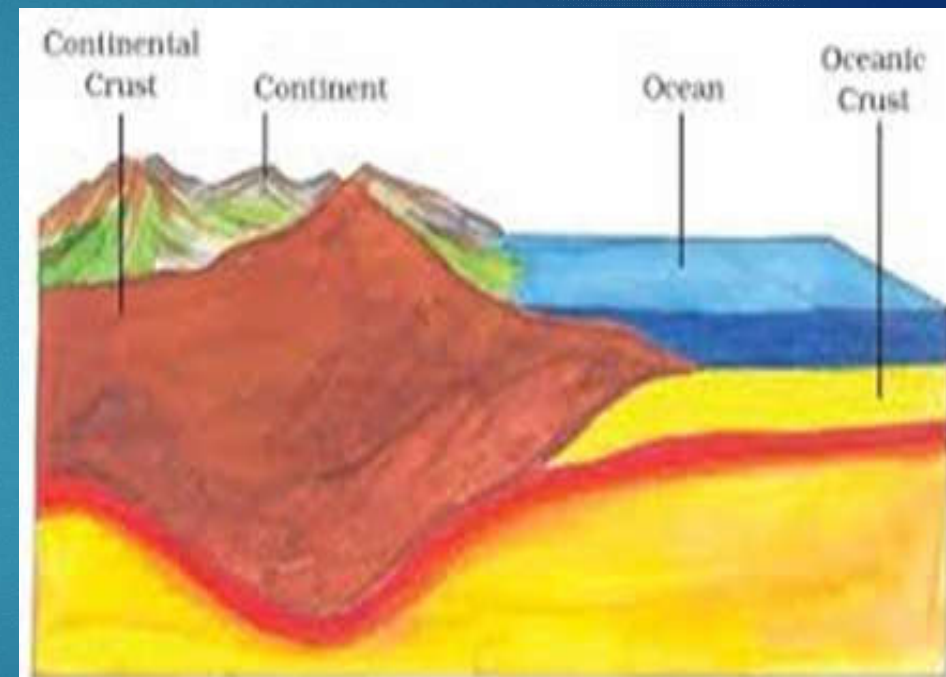
# CRUST

- ▶ The uppermost layer over the earth's surface is called the crust.
- ▶ It is the thinnest of all the layers.
- ▶ It is about 35 km. on the continental masses and only 5 km. on the ocean floors.



# CONTINENTAL CRUST AND OCEANIC CRUST

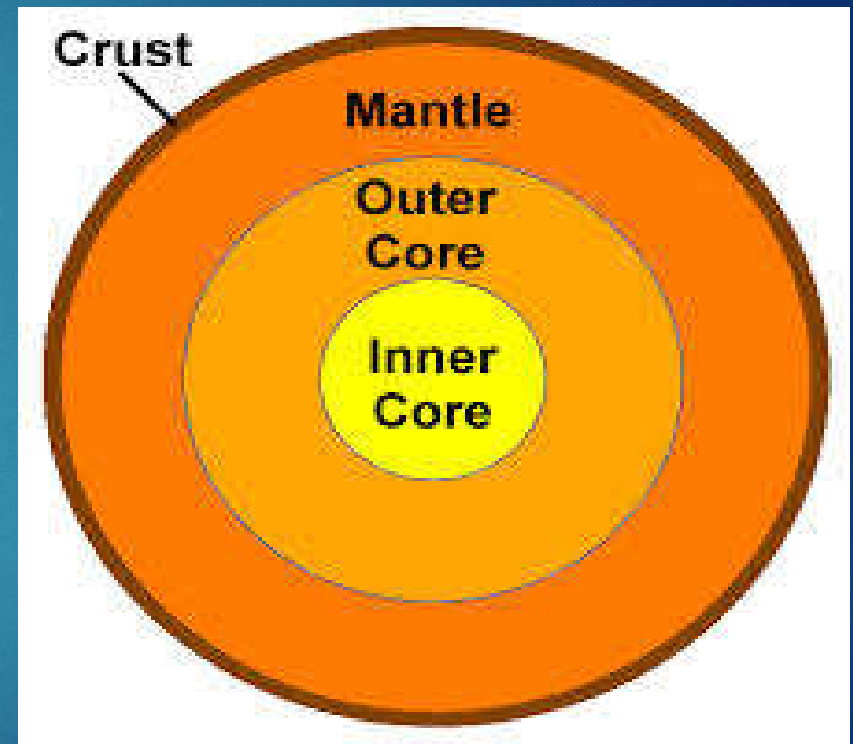
- ▶ The main mineral constituents of the continental mass are silica and alumina.
- ▶ It is thus called sial (si-silica and al-alumina).
- ▶ The oceanic crust mainly consists of silica and magnesium.
- ▶ it is therefore called sima (si-silica and ma-magnesium)



*Fig. 2.2: Continental Crust and Oceanic Crust*

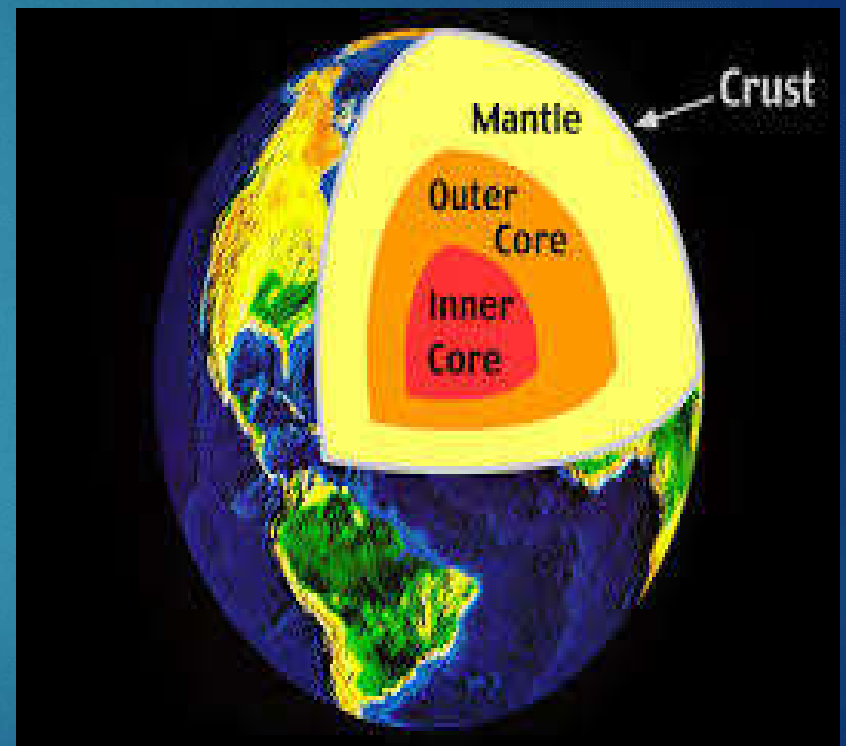
# MANTLE

Just beneath the crust is the mantle which extends up to a depth of 2900 km. below the crust.



# CORE

- ▶ The innermost layer is the core with a radius of about 3500 km.
- ▶ It is mainly made up of nickel and iron and is called nife  
(ni – nickel and fe – ferrous ).
- ▶ The central core has very high temperature and pressure



# ROCKS AND MINERALS



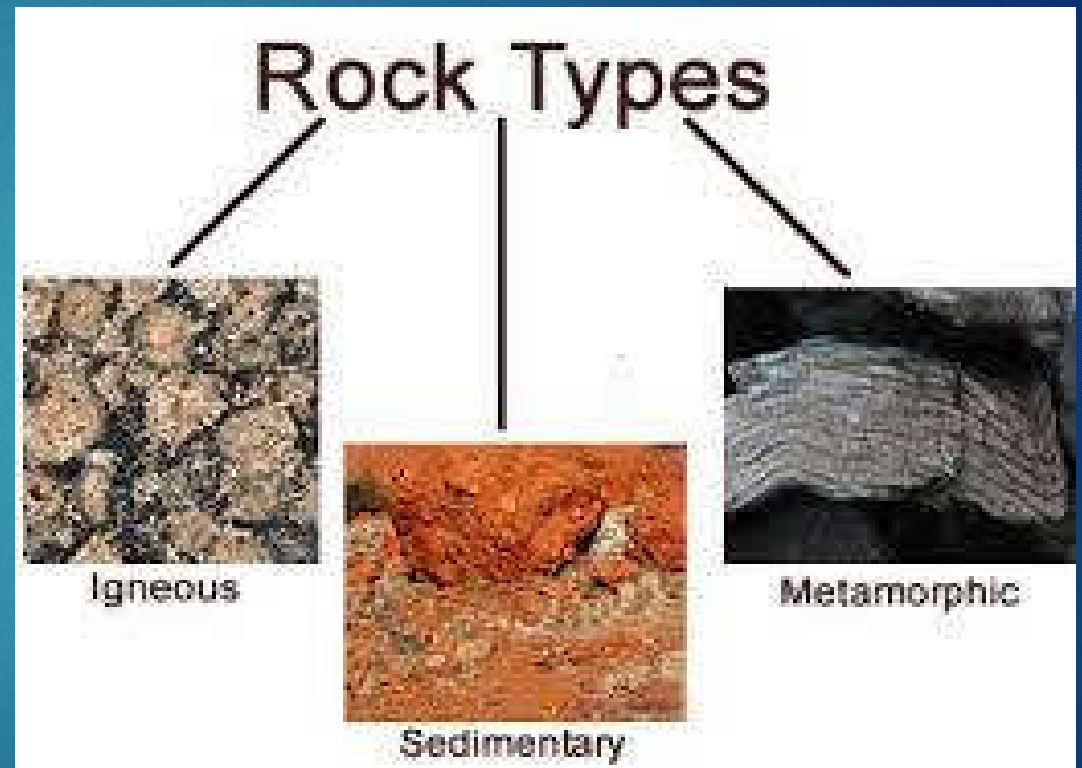
- ▶ The earth's crust is made up of various types of rocks.
- ▶ Any natural mass of mineral matter that makes up the earth's crust is called a rock.
- ▶ Rocks can be of different colour, size and texture.



# Types of Rocks

There are three major types of rocks:

1. Igneous rocks
2. Sedimentary rocks
3. Metamorphic rocks.



# TYPES OF IGNEOUS ROCKS

- ▶ There are two types of igneous rocks:
- ▶ Intrusive rocks: Sometimes the molten magma cools down deep inside the earth's crust. Solid rocks so formed are called intrusive igneous rocks. Eg. granite
- ▶ Extrusive rocks :When molten lava comes on the earth's surface, it rapidly cools down and becomes solid. Rocks formed in such a way on the crust are called extrusive igneous rocks. Eg. basalt

Igneous – Texture	
<u>Intrusive</u>	vs. <u>Extrusive</u>
• Magma cools beneath Earth's surface.	• Lava cools <u>on</u> the Earth's surface.
• Cools very slowly	• Cools very quickly
• Coarse-grained texture	• Fine-grained texture
• Large crystals	• Small or no crystals
• Ex. Granite	• Ex. Basalt

# INTRUSIVE ROCKS    EXTRUSIVE ROCKS



Gabbro



Granite



Dunite



Andesite



Basalt



Obsidian

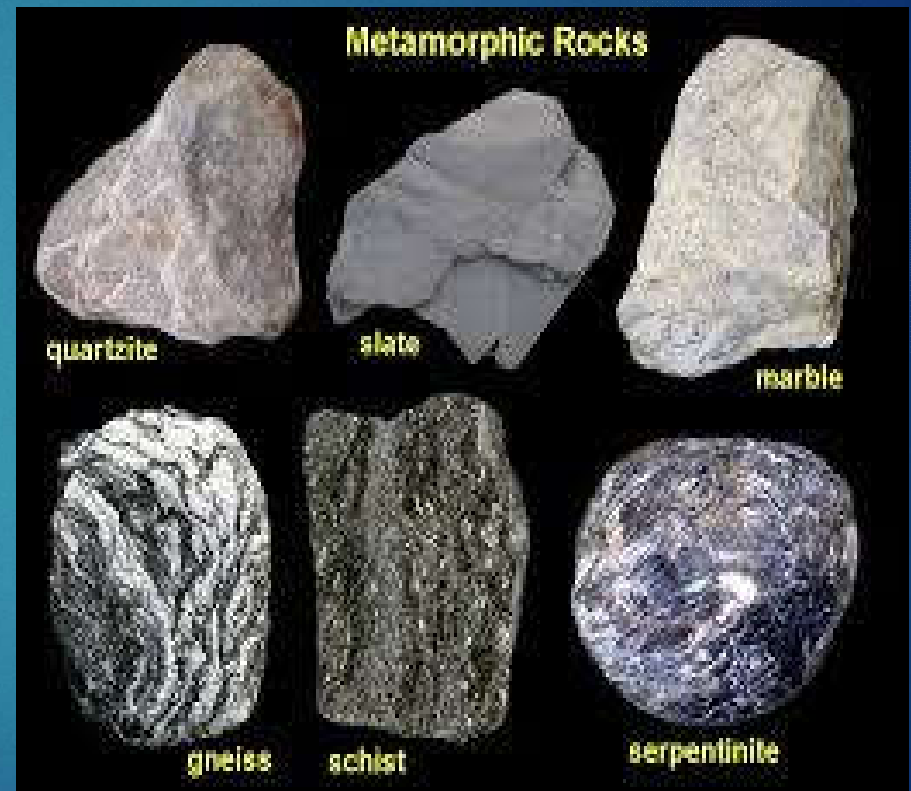
# SEDIMENTARY ROCKS

- ▶ Rocks roll down, crack, and hit each other and are broken down into small fragments.
- ▶ These smaller particles are called sediments.
- ▶ These sediments are transported and deposited by wind, water, etc.
- ▶ These loose sediments are compressed and hardened to form layers of rocks. These types of rocks are called sedimentary rocks.
- ▶ For example, sandstone is made from grains of sand.
- ▶ These rocks may also contain fossils of plants, animals and other microorganisms that once lived on them.



# METAMORPHIC ROCKS

- ▶ Igneous and sedimentary rocks can change into metamorphic rocks under great heat and pressure .
- ▶ For example, clay changes into slate and limestone into marble.



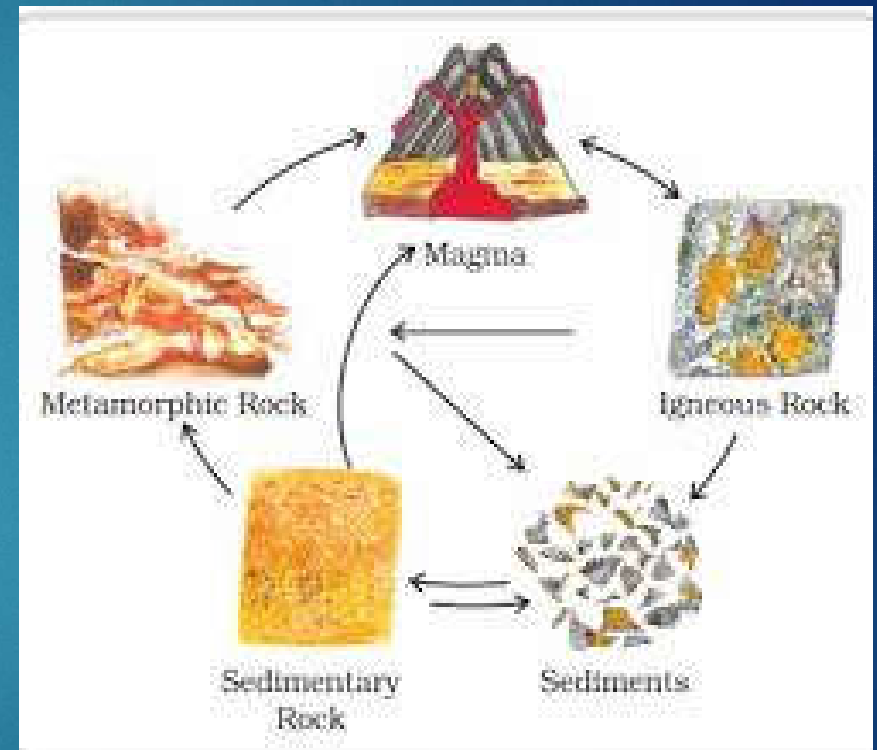
# USES OF ROCKS



- ▶ The hard rocks are used for making roads, houses and buildings.
- ▶ Stones are used in many games. For example, seven stones (pitthoo), hopscotch (stapu/kit kit), five stones (gitti).
- ▶ Source of minerals. Eg. Iron, Gold

# ROCK CYCLE

- ▶ This process of transformation of the rock from one to another is known as the rock cycle.
- ▶ When the molten magma cools; it solidifies to become igneous rock.
- ▶ These igneous rocks are broken down into small particles that are transported and deposited to form sedimentary rocks.
- ▶ When the igneous and sedimentary rocks are subjected to heat and pressure they change into metamorphic rocks.
- ▶ The metamorphic rocks which are still under great heat and pressure melt down to form molten magma.
- ▶ This molten magma again can cool down and solidify into igneous rocks.



# MINERALS

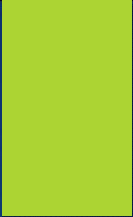
- ▶ Rocks are made up of different minerals.
- ▶ Minerals are naturally occurring substances which have certain physical properties and definite chemical composition.
- ▶ Minerals are very important to humankind. Some are used as fuels. For example, coal, natural gas and petroleum.
- ▶ They are also used in industries – iron, aluminium, gold, uranium, etc, in medicine, in fertilisers, etc.





# FILL IN THE BLANKS

1. The uppermost layer over the earth's surface is called the \_\_\_\_\_.
2. The main mineral constituents of the continental mass are \_\_\_\_\_.
3. The oceanic crust mainly consists of \_\_\_\_\_ and \_\_\_\_\_.
4. Mantle extends up to a depth of \_\_\_\_\_ km. below the crust.
5. The innermost layer is the core with a radius of about \_\_\_\_\_ km.
6. Core is mainly made up of \_\_\_\_\_ and \_\_\_\_\_.
7. Igneous rocks are also called as \_\_\_\_\_.
8. The Deccan plateau is made up of \_\_\_\_\_ rocks.

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9. Granite is an example of \_\_\_\_\_ rock.
  10. \_\_\_\_\_ rocks may contain fossils of plants, animals and other microorganisms that once lived on them.
  11. Igneous and sedimentary rocks can change into \_\_\_\_\_ rocks under great heat and pressure.
  12. \_\_\_\_\_ are naturally occurring substances which have certain physical properties and definite chemical composition.
  13. The remains of the dead plants and animals trapped in the layers of rocks are called \_\_\_\_\_.
  14. The radius of the earth is \_\_\_\_\_ km.
  15. The process of transformation of the rock from one to another is known as \_\_\_\_\_.

# ANSWER THE FOLLOWING QUESTIONS

1. Name the three layers of the Earth.
2. What is a Rock?
3. What are minerals?
4. Name three types of Rocks.
5. What are Igneous rocks?
6. Differentiate between Extrusive and Intrusive rocks.
7. What are Metamorphic rocks?
8. What are sedimentary rocks?



# THANK YOU

M CHANDRAKALA  
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