# Social Science
# Std 7th Ln. 2. The earth and the changes on it


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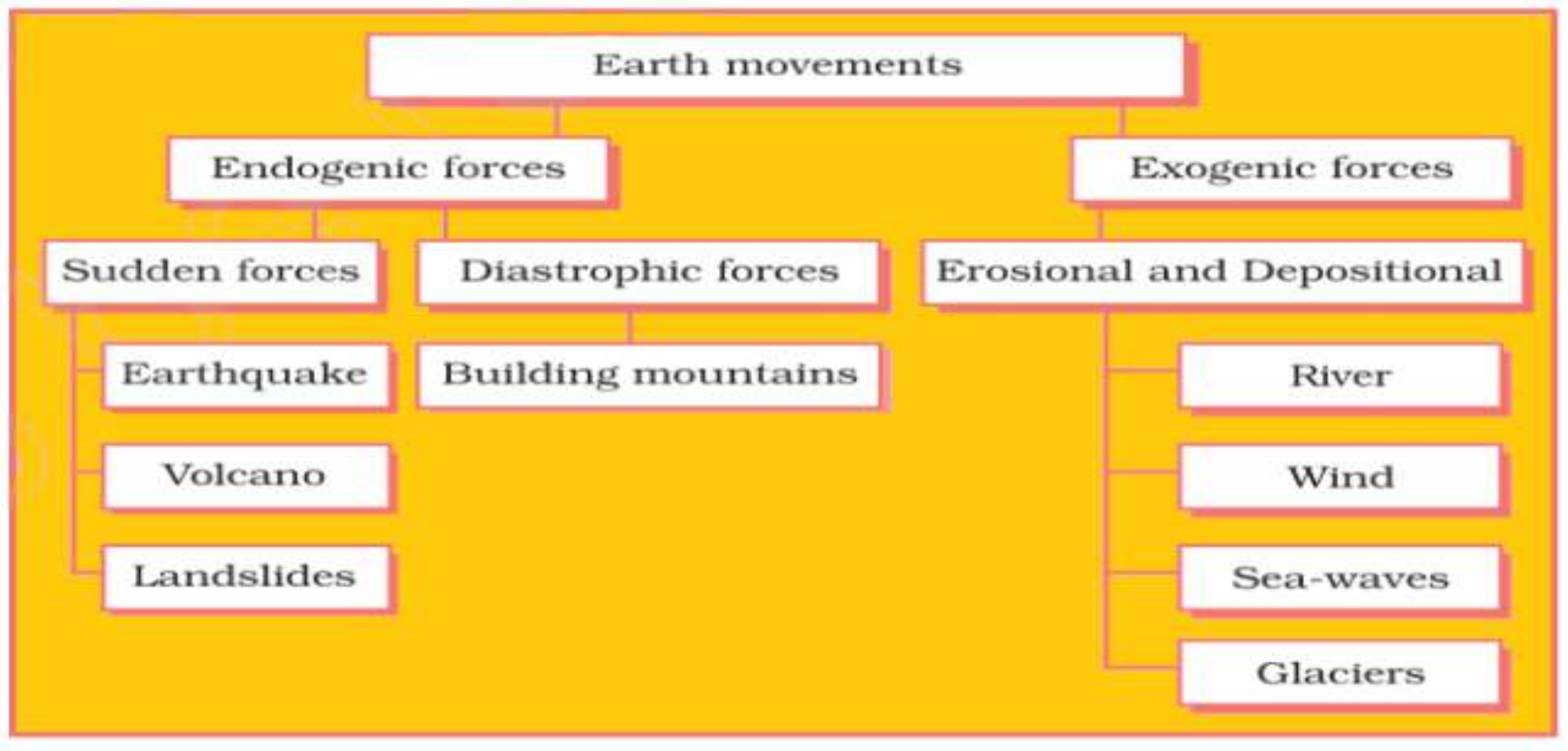
# In this lesson we are going to learn:-

1. changes on the surface of the earth- sudden & slow changes.
2. Earth movements.
3. external process.
4. weathering.
5. Erosion or denudation & Deposition.
6. gradation& aggradation.
7. work of running water.
8. work of Glacier.
9. work of wind.
10. work of Sea waves.
11. formation of Soil

- The lithosphere is consists of several large & small, rigid, irregularly, shaped plates which carry continents & the ocean floor. These plates are known as LITHOSPHERIC PLATES.
- These plates move very slowly – just a few millimetres each year.
- This is because of the movement of molten magma inside the earth.
- The movement of these plates causes changes on the surface of the Earth.

# Draw this mind map in geography note book



# EXTERNAL PROCESS

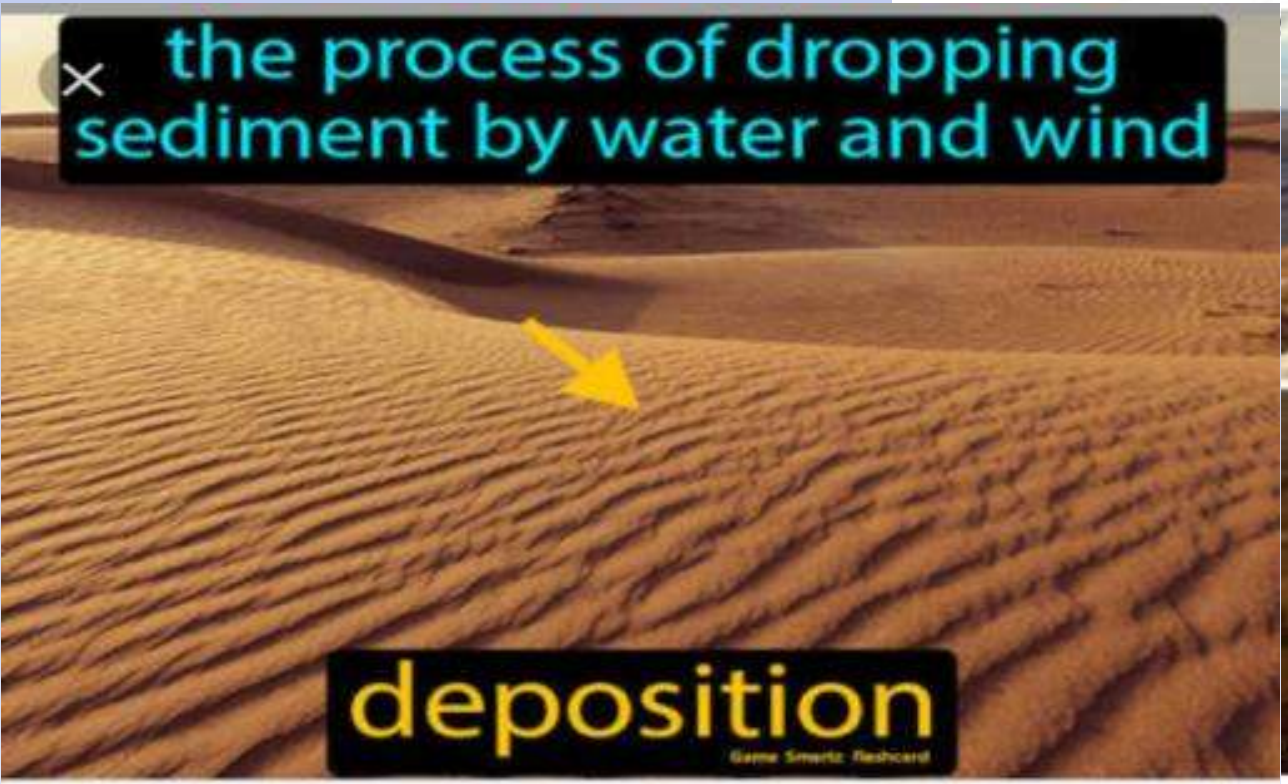
- Any process working on the earth's surface & bringing changes on it, is known as EXTERNAL PROCESS.
- This process may lower the level of land by wearing away rock particles.
- It also raise the level of land where soil particles are deposited.
- WEATHERING:- it is the process by which a bed rocks break or decay or disintegrate because of the action of atmospheric moister, rain, frost, temperature changes, chemical action.
- Effect of weathering can also be seen on stone monuments & iron railing get rusted.

# GRADATION

- Means levelling of land. It occurs in two ways-
- Aggradation means adding of sediments & raising the level of land.
- Degradation means breaking & wearing away of sediments & lowering the level of land.
- Erosion or Denudation refers to gradual wearing & carrying away of all those loose particles of disintegrated rocks which lie exposed on the surface of the earth by the WEATHERING & AGENTS OF GRADATION.
- DEPOSITION refers to the laying down of sediments which have been carried from distance parts of the earth’s surface by various agents.

Gully erosion: A comparison o...

Soil erosion by rill developme...





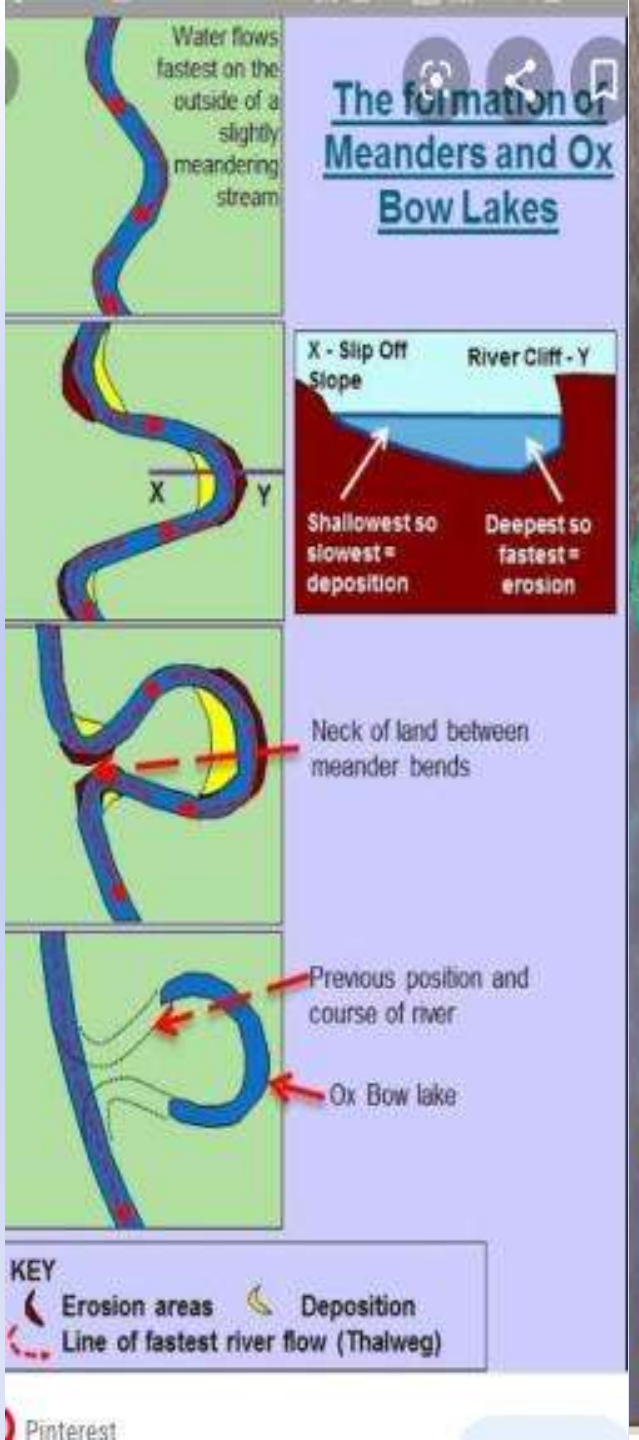

# Find all of the Earth Day related words from below image:-

# Agents of gradation

- Running water:-
- A river like any living form has life.
- In its early stage, it flows over steep mountains. Due to down cutting work of a river, it firms features like “I”& “V” shaped valleys, waterfalls. As the river enters the plain it twists & turns forming large bends known as MEANDERS.

| Photograph | Name of the feature | Type (Erosional or Depositional or both) |
|---|---|---|
|  | Waterfall | Erosional |
|  | Meanders | Erosional and Depositional |
|  | Floodplain | Depositional |

- Due to continuous erosion & deposition along the sides of the meander, OXBOW LAKE is created over a time.
  When the river overflows its banks, it leads to form floodplain& levees.
  The breaking of river into a number of streams called DISTRIBUTARIES.
  Each distributary forms own mouth.
  The collection of sediments form all the mouths form a DELTA.




# WORK OF GLACIER

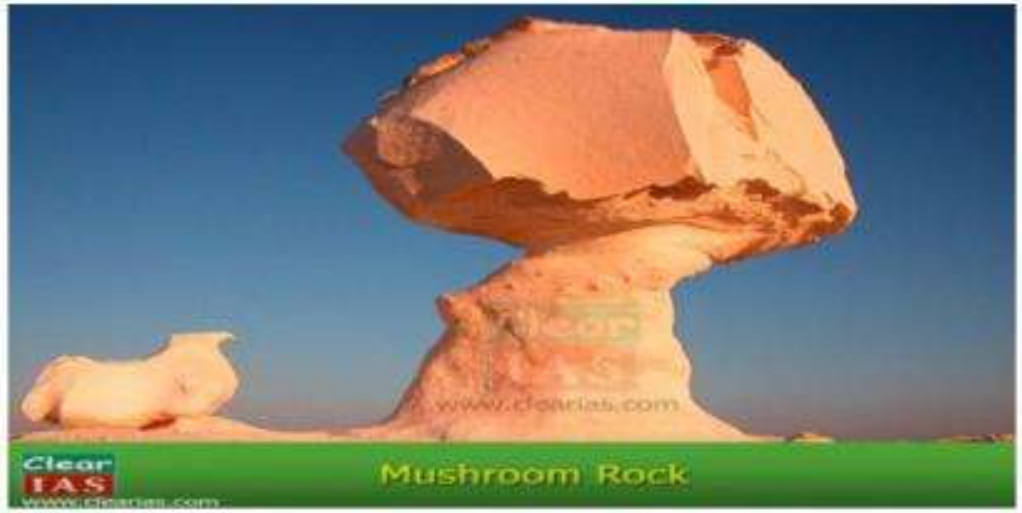
The mass of moving ice is called glacier.
Moving ice erodes loose particles or parts of rocks.
Huge masses of ice which cover large area of a continent are known as CONTINENTAL GLACIERS like Antarctica & Greenland.
Glaciers which cover small area called Mountains glaciers like Siachin & Gongotri glaciers of Himalyas.

The Baltoro Glacier in Kashmir. At 62 kilometres (39 mi) in length, it is one of the longest alpine glaciers on earth.

Aerial view of a glacier in Chugach State Park, Alaska, United States.

# Work of wind

An action of erosion and deposition in the deserts is wind. In desert we can see rocks in the shape of mushroom, commonly called mushroom rocks. The wind erodes the lower section of the rock more than the upper part. When the grains of sand are very fine and light , the wind can carry it over very long distance. When such sand is deposited in large area, it is termed as LOESS. The rock materials which carried & deposited at a new place whenever the speed of the wind slow down, this forms SAND DUNES. We can see in Sahara, Rajasthan etc.




# Work of sea waves

- Introduction

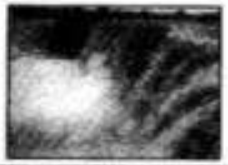
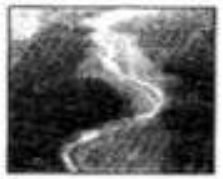
**How are sea caves, arches and stacks formed?**

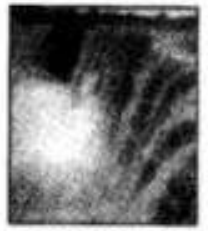
Sea waves continuously strike at the rocks. Cracks develop. Over time they become larger and wider. Thus hollow- like caves are formed. These are called sea caves. As these cavities become bigger, and bigger, only the roof of the caves remains, forming arches. Further erosion breaks the roof, and only the walls remain. These walls are called stacks. The steep rocky coast rising almost vertically above sea level is called sea cliff.
Sea waves deposit sediments along the shores, forming beaches.


# Observe below activity.

**Question 5. Activity**

**Observe the photographs given below. These are various features made by a river. Identify them and also tell whether they are erosional or depositional or landforms formed by both.**

| *Photograph* | *Name of the Feature* | *Type (Erosional or Depositional or Both)* |
|---|---|---|
|  | | |
|  | | |
|  | | |

| **Photograph** | **Name of the Feature** | **Type** *(Erosional or Depositional or Both)* |
|---|---|---|
|  | Waterfall | Erosional and depositional both |
|  | Meander | Erosional and depositional both |
|  | Flood plain | Depositional |

Complete below given table by write appropriate features in relevant columns in A4 size paper & atatch to geography note book.

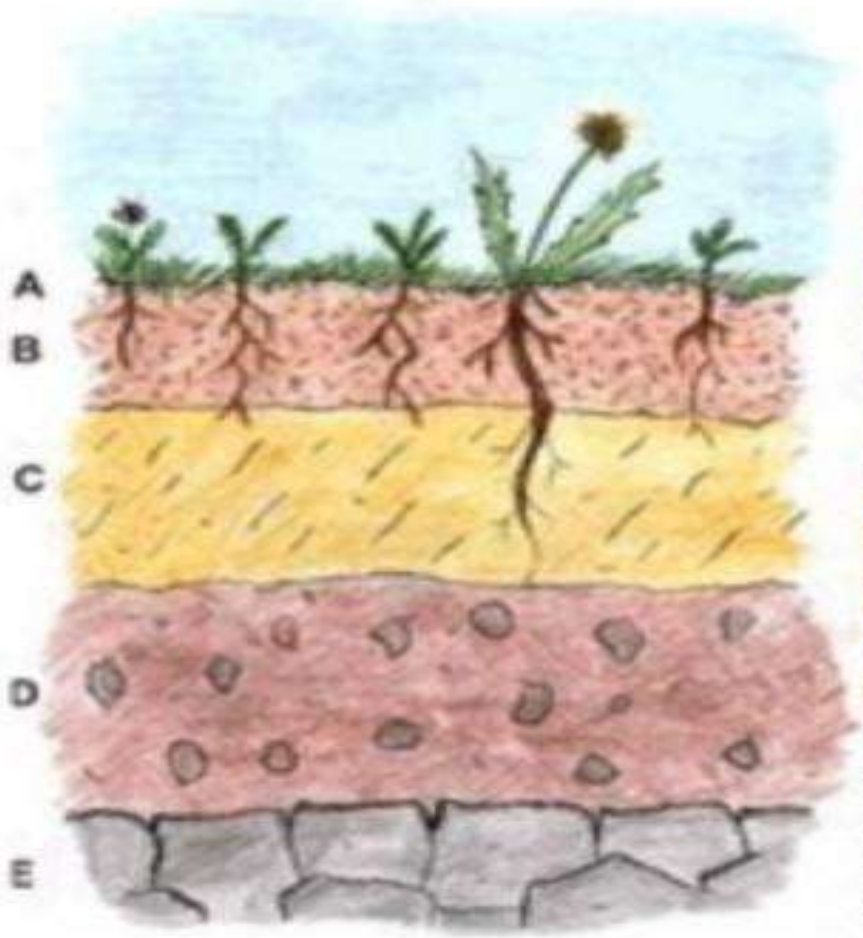
omplete the table by writing appropriate features in relevant columns.

| Agents | Features formed by Erosion | Features formed by Deposition |
|---|---|---|
| Running Water | | |
| Wind Action | | |
| Sea Waves | | |
| Moving Ice | | |

# SOIL & ITS FORMATION

- Soil is the top most layer of the earth.
- It is the loose material & made up of organic & inorganic particles.
- Organic particles are derived from dead & decomposed remains of plants &animals & changes into dark colour material called HUMUS.
- INORGANIC particles are derived from rocks in different sizes like gravel, silt, & clay.
- Formation of soil is formed by the process of weathering & it takes thousands of years to form a thin layer.
- The weathering process breaks the rocks into small particles.
- These are then carried away by water, wind etc,& later deposited at a new place , such soil is called TRANSPORTED SOIL.
- When the soil is formed by the weathering of a parent rock & remained on the same site, is called RESIDUAL ROCK.(http//youtu.be/amt-sPlbgKO)

# Soil Layers



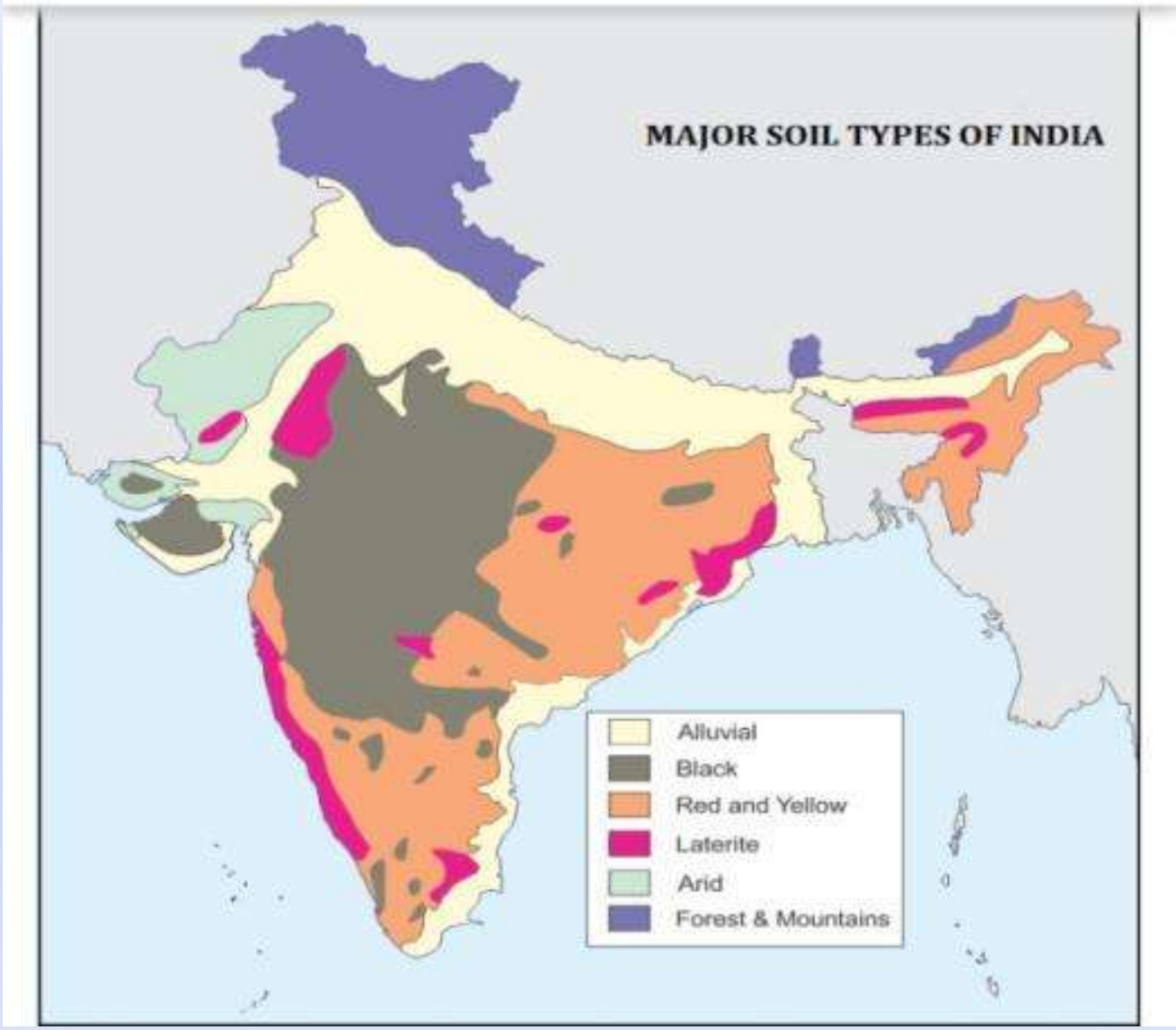

Topsoil: The top layer of soil is called topsoil. Rich topsoil contains a lot of humus. The particles, or pieces are dark and small. Plants grow best in topsoil.

Sub Soil: The bottom layer of soil, called subsoil, contains little humus. The soil particles are larger and lighter than in topsoil. Subsoil also contains small pieces of rocks.

Bedrock: The solid rock that lies below the lowest layer of soil. Some of the materials in th soil above may have come from the bedrock!

# Distribution of Major soil types -India

- On the basis of colour & texture Soil is classified into -
- ALLUVIAL SOIL
- BLACK SOIL
- RED SOIL
- LATERITE SOIL
- DESERT SOIL
- MOUNTAIN SOIL
- https://youtu.be/5et9wvTQKwg



# Soil erosion & conservation

- Removal of the top layer of soil is called soil erosion.
- Soil erosion can be prevented by raising forests, deforestration, excessive use of fertilizer, overgrazing by animals. (Click the link https:/youtu.be/G5M22qqTvdw )

# Extra questions. Write in rough copy

## Soil

1. Match the following

| Column A | Column B |
|---|---|
| a. Red latosol | i. Floods |
| b. Khadar | ii. Basaltic rock |
| c. Black soil | iii. Red soil |
| d. Cultivation of coffee | iv. Literite soil |
| e. Deforestation | v. Alluvial soil |

Solution:
(a) – (iii)
(b) – (v)
(c) – (ii)
(d) – (iv)
(e) – (i).

2. Fill in the blanks.
(a) Alluvial soil is also called _____.
(b) A dead and decaying material produced by plants in soil is called _____.
(c) _____ is the process in which soil is washed out by rain water.
(d) _____ soil has the maximum water retention capacity.
(e) _____is another name of black soil.
Solution:
(a) Khadar (b) humus (c) soil erosion (d) clayey (e) Regar.

3. What is soil? How is it formed?
Solution:
Soil is the uppermost fertile layer crust of the earth. It is formed by the action of rain, wind, temperature and microbes, plant and animals.

4. What is soil profile?
Solution:
Different layer of soil having characteristic features are called soil profile. Each profile is divided into a series of layers called horizons.

5. Write the three functions of soil?
Solution:
Functions of soil:
(a) Soil anchors the plants and firmly fixes them.
(b) It serves as reservoir of food materials and water.
(c) Soil helps plants to get oxygen from the soil through roots.

6. Following are organic and inorganic constituent of soil. Classify them.
Dead and decaying plant matter, nitrate, phosphates, human excreta, carbonates, iron, sodium, dead microorganism.
Solution:
Organic matters: Dead and decaying plant matter, human excreta, dead microorganisms.
Inorganic matters: Nitrate, phosphate, carbonate, iron, sodium.

7. Match the following

| Column A | Column B |
|---|---|
| a. Upper layer of soil | i. Large particles |
| b. Middle layer of soil | ii. All kind of soil |
| c. Sandy soil | iii. Small particles |
| d. A home of living organism | iv. Lesser amount of humus |
| e. Clayey soil | v. Dark colour |

Solution:
(a) – (v)
(b) – (i)
(c) – (iv)
(d) – (ii)
(e) – (iii).

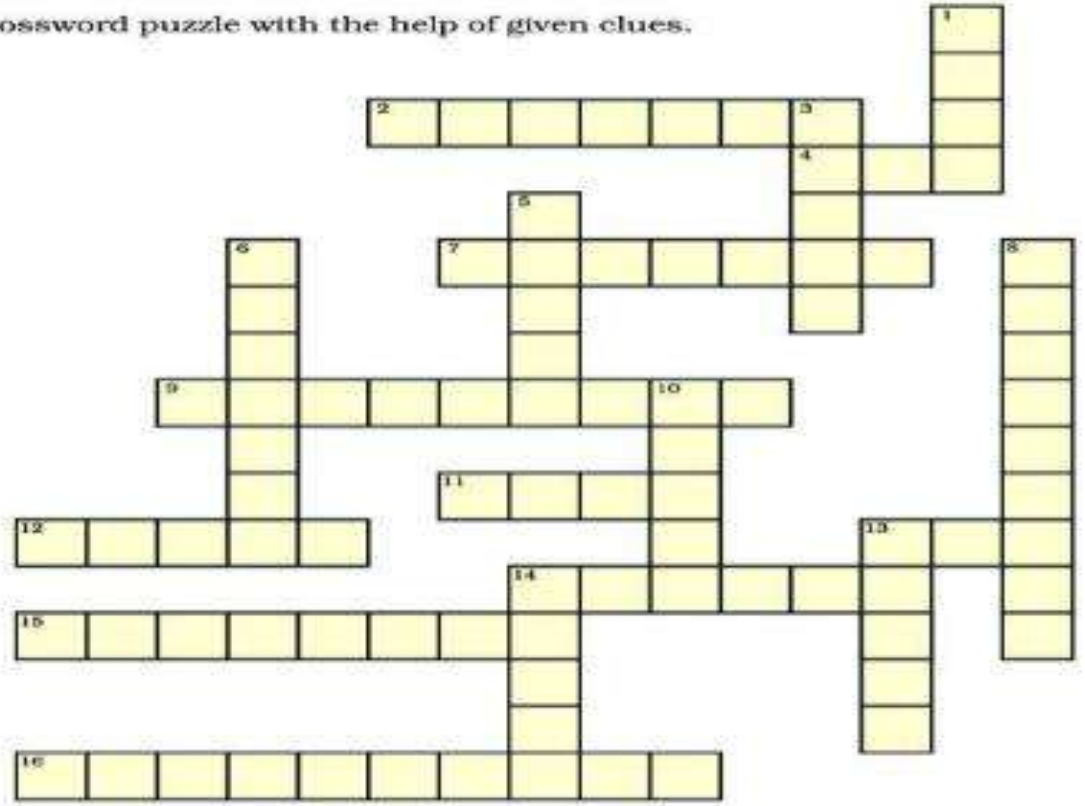
8. Fill in the blanks
(a) Soil is the mixture of rock particles and _____.
(b) _____ soil is not suitable for cultivation as is does not retain water.
(c) Mountain soil is found in _____ and north-east of India.
(d) Planting of more trees is called _____
(e) Air is present in soil between _____ particles.
Solution:
(a) Humus
(b) Sandy
(c) Himalayan region
(d) Afforestation
(e) Soil

9. What is deforestation? What are its causes?
Solution:
Deforestation is the removal or felling of trees for human habitation of industrialization. Deforestation cause soil erosion faster as root holds the soil firmly.

10. Why soil is important natural resources?
Solution:
Soil is important natural resource as a. Soil gives us food, cloth and shelter. b. Minerals are obtained from soil. c. Groundwater is obtained from soil.

6. For fun.

Solve the crossword puzzle with the help of given clues.



### Across

2. Loop like the bend of a river
4. Solid form of water
7. Moving mass of ice
9. Sudden descent of water in the bed of a river
11. Natural cavity on weak rocks formed by action of waves
12. Embankment on a river that keeps it in its channel
13. Large body of sea water
14. Dry area where sand dunes are found
15. Small hill of sand caused by the action of the wind
16. Flat plain formed by river deposits during time of flood

### Down

1. Rise and fall of water caused by friction of wind on water surface
3. Flow of water in a channel
5. Steep perpendicular face of a rock along a sea coast
6. Debris of boulder and coarse material carried by glacier
8. Crescent shaped lake formed by a meandering river
10. Fine sand deposited by the action of the wind
13. Isolated mass of rising steep rock near a coastline
14. Alluvial tracts of land formed by the river deposits at the mouth of a river