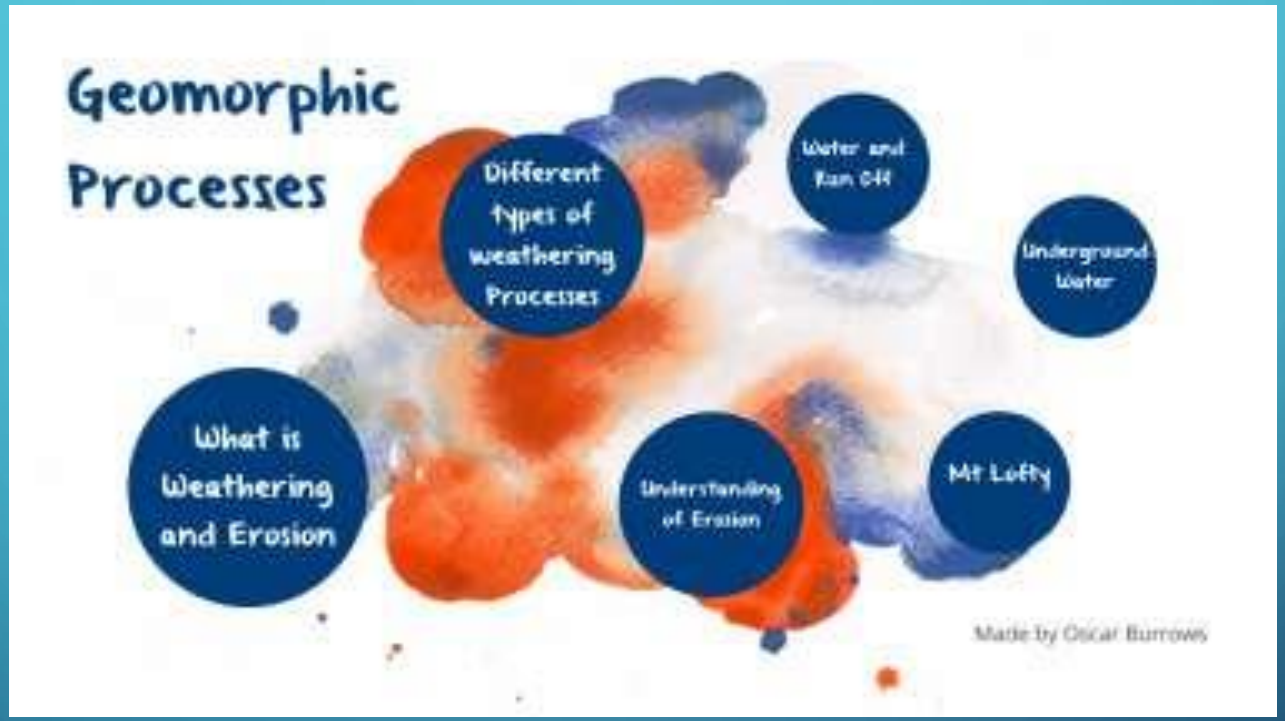
GEOMORPHIC PROCESS



BY -: NAVNEET KUMAR

GEOMORPHIC PROCESS

- The geomorphic process means bringing about changes in the configuration of the Earths surface, due to physical stresses and chemical actions on materials present on earth.
- It is of two types :-

(i). Endogenic Process :- The energy emanating from within the earth is the main force behind endogenic process.

e.g -: Volcanism, Diastrophism

(ii). Exogenic Process(Denudation) :- The external forces act upon Earth and continuously deform landform developed by indoor genetic forces.

e.g -: Weathering, Mass movement, Erosion ,Deposition

ENDOGENIC PROCESS

Diastrophism :- All processes that move, elevate or build up portions of earth's crust came under Diastrophism.

- Orogenic Process :- Mountain building process

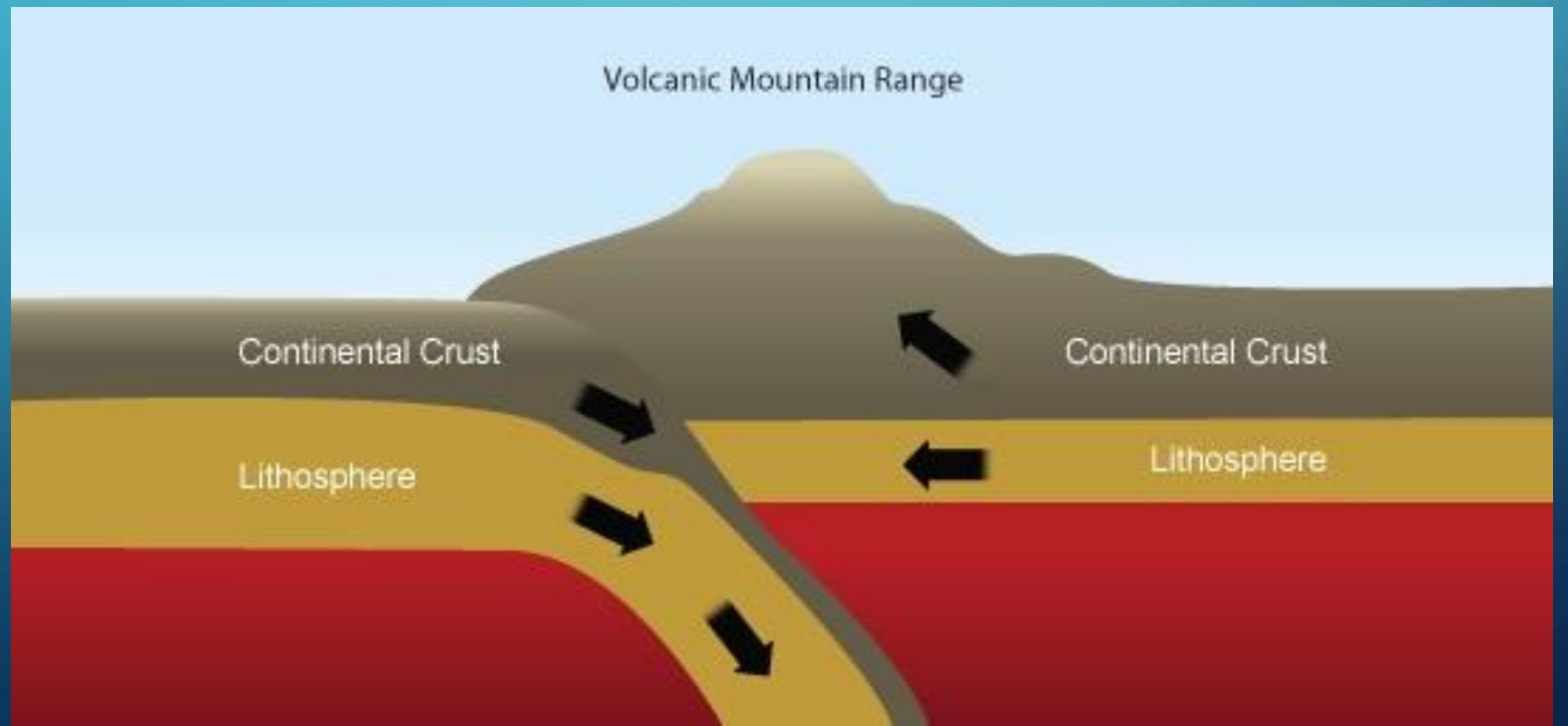
e.g :- Folding and Faulting

- Epeirogenic Process :- Continental building process
- Earthquakes and minor movements.
- Plate tectonics involving horizontal movement of crustal plate.

MOUNTAIN SYSTEM

- Fold Mountains :- Fold mountains are formed by the effects of folding on layers within the upper part of the Earth's crust.

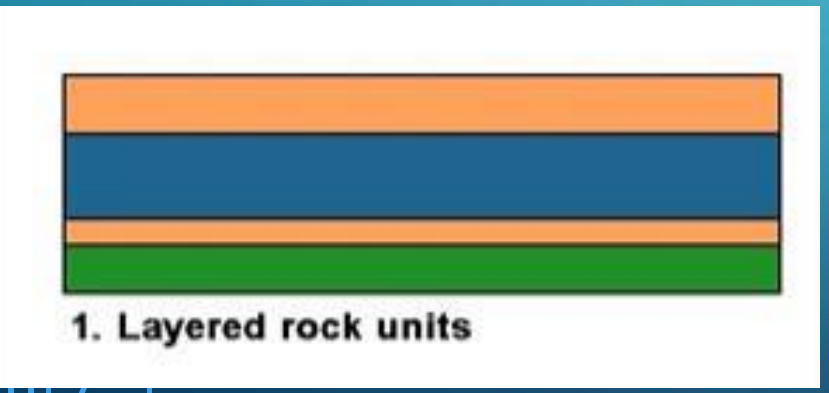
e.g :- The Himalaya, The Aravalli

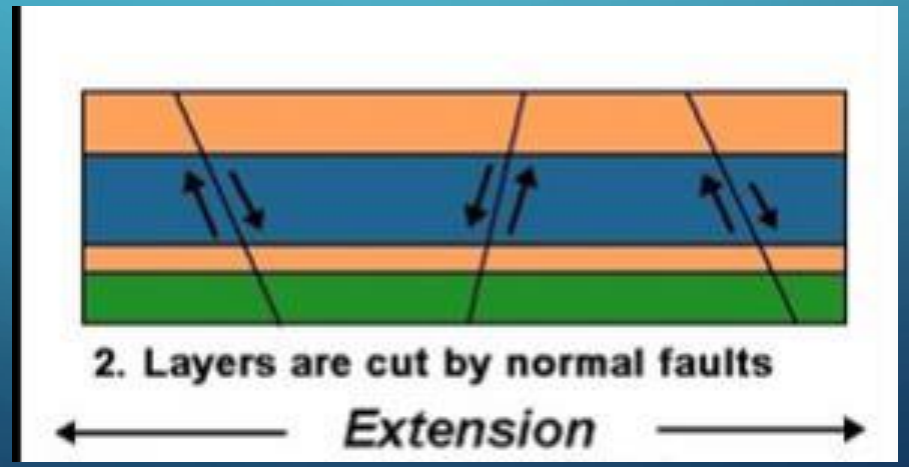


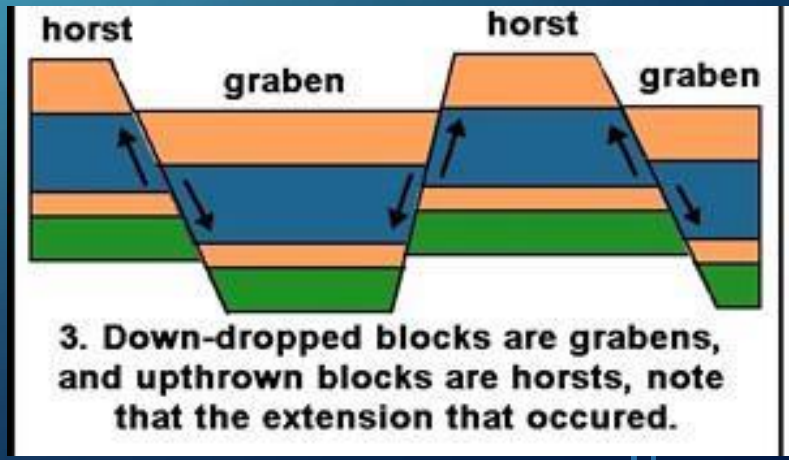
- Block Mountains :- When large areas are broken and displaced vertically, Block Mountains are formed.

In this case, the uplifted blocks are called horsts. On the other hand, the lowered blocks are called graben.

e.g :- Vindhya range & Satpura range

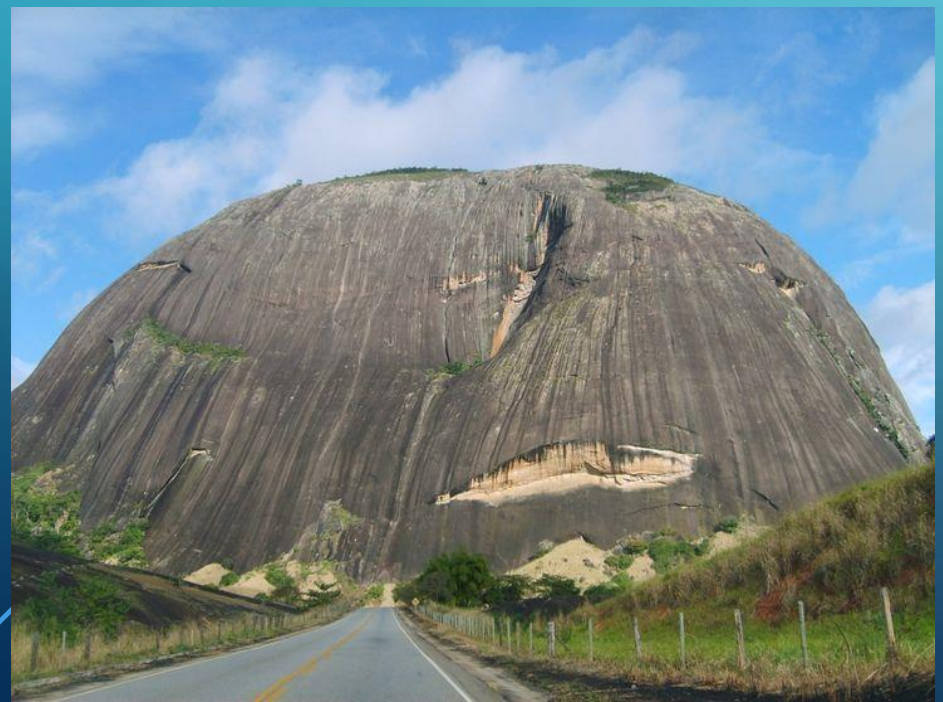


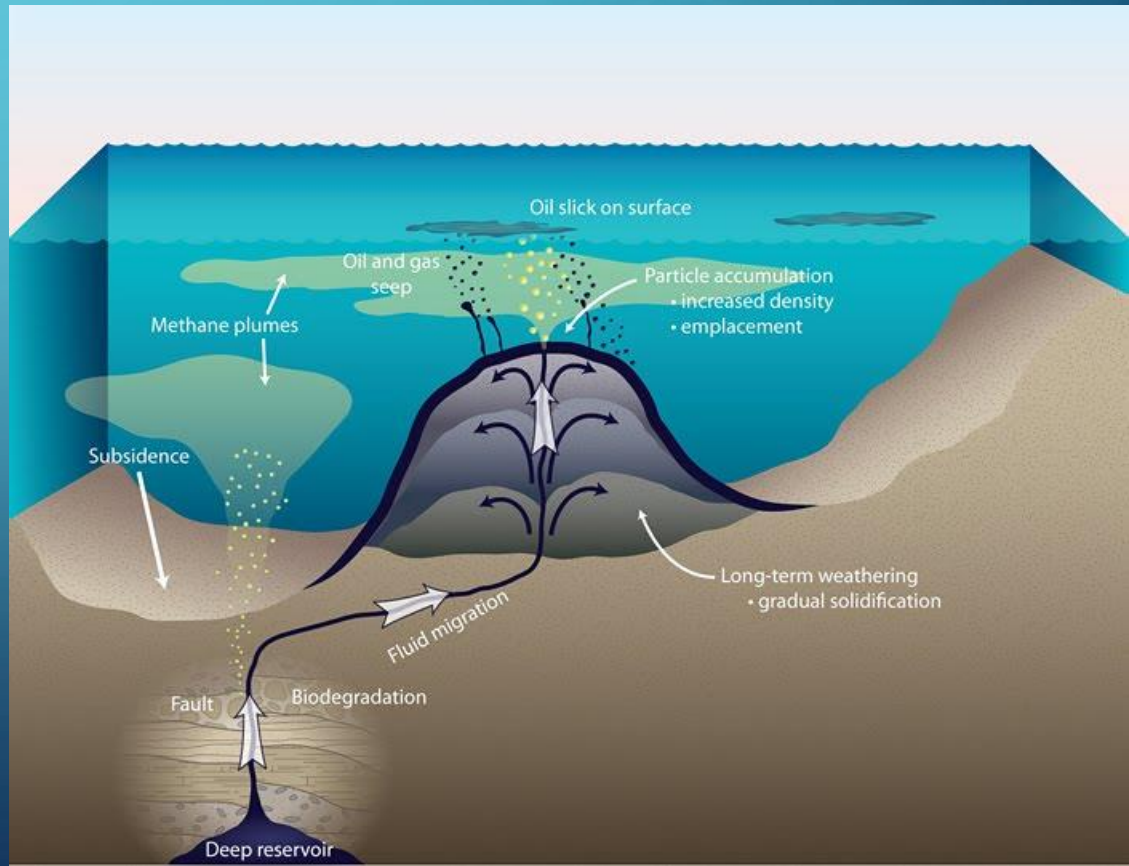




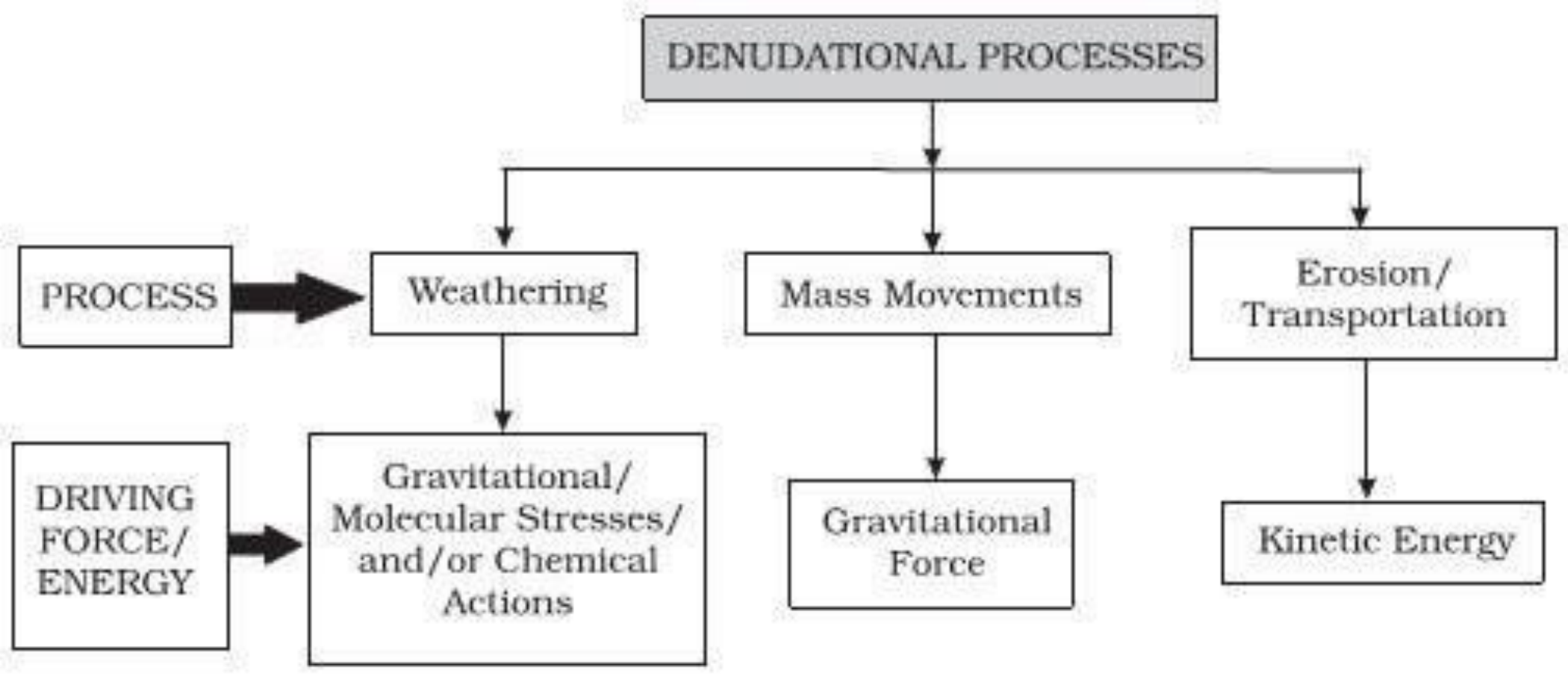
- Dome Mountains :- when large globs of magma float up from beneath the crust and push up surface rocks, creating a rounded swelling in the crust. Once the magma cools, it creates a large dome of harder rock.

e.g :- The Henry Mountain, North America





EXOGENIC PROCESS OR DENUDATIONAL PROCESS



WEATHERING

- Weathering is defined as mechanical disintegration and chemical decomposition of rocks through the action of various element of weather and climate.
- Factor affecting weathering :-

i. Rock type ii. Slope iii. Temperature
iv. Climate and weather v. water vi. Organisms

- Three major groups of weathering processes :-

i. Physical Weathering

ii. Chemical Weathering

iii. Biological Weathering

- Physical Weathering :- what is The breakdown of Rock material by entirely mechanical method brought buy a variety of causes.

i. Gravitation ii. Temperature

iii. Water pressure controlled by wet and dry cycle.

- Major physical weathering processes :-

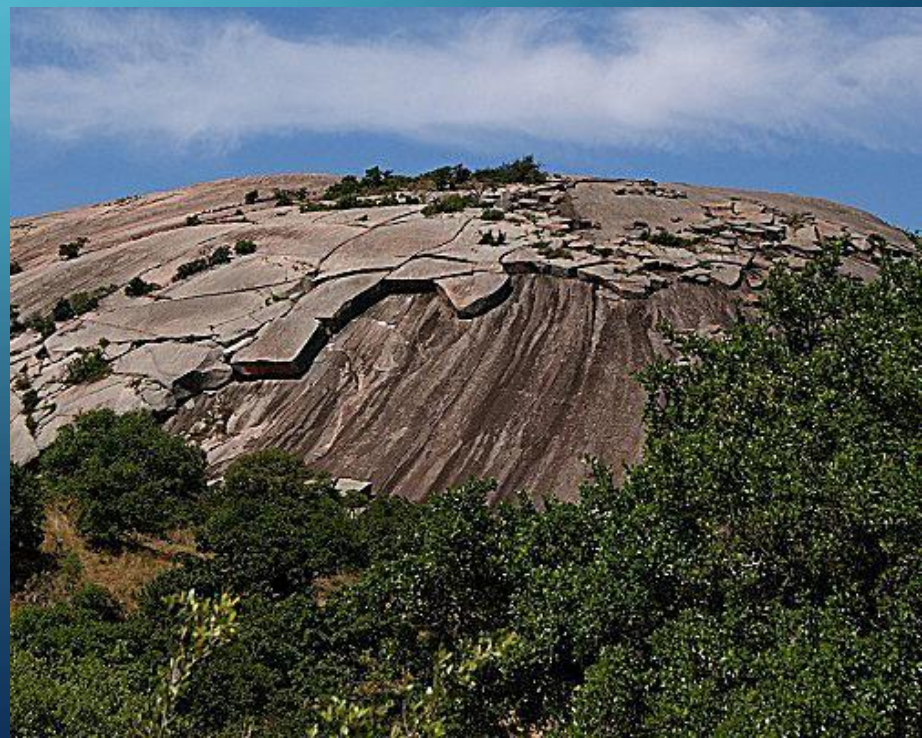
i. Unloading and expansion

ii. Temperature changes and expansion

iii. Freezing, Thawing and Frost wedging

iv. Salt weathering

v. Collision



- **Chemical Weathering :-** These processes act on rocks to decompose, dissolve or moderate them to a fine clastic state through chemical reactions by oxygen, surface/ soil water, and other acids.
  Water and air along with heat must be present to speed up all chemical reactions.
- **Major Chemical Weathering Processes :-**

i. Solution

ii. Hydration

iii. Carbonation

iv. Oxydation and Reduction

- Biological Weathering :- It involves the disintegration of Rock and mineral due to the chemical or physical action of an organism.

  e.g :- Burrowing and Wedging by organism like earthworms, rodents etc.

  Decaying of plant and animals

  Chelation :- it is a biological process where organisms produce an organic substance known chelates that have ability to decompose minerals and rocks by removal of metallic cations.

EROSION AND DEPOSITION

- Erosion :- It is the process by which natural forces move weathered rock and soil from one place to another.
  Geomorphic agents like Gravity, running water, glaciers, waves, and wind all cause erosion.

  It causes degradation of landmass.

- Deposition :- It is a consequence of erosion. It occurs when the agents (wind or water) of erosion lay down sediment.

  It causes upliftment of landmass.