

## Weathering and denudation

1. Weathering is the wearing away of rocks by the agents present in the atmosphere such as humidity changes, moisture and frost. Thus, weathering is the decomposition, disintegration and decay in situ on the surface of the earth due to atmospheric conditions.

Some constructive effect of weathering are as follows-

- > Formation of soil for agriculture.
- > Formation of minerals for economic activities.
- > Limestone and cement for building.

2. Rocks are heated by the sun in the day, which causes it to expand, similarly it contracts in the night. This periodic expansion and contraction causes the rock to disintegrate. Additionally, the presence of other materials, which have different thermal expansion coefficients will cause grinding forces on the rock.

- 3.i. In middle latitudes, water may be liquid in the day and solid at night. Due to this, water creeps into the cracks in the day and freezes at night, which, as ice is less dense than water, expands the cracks.

- 3.ii Humans speed up weathering by deforestation and mining. Deforestation reduces the binding effect of the soil roots. Mining exposes rocks to atmospheric agents, especially open cast mining.

#### 4.i Biological weathering

- 4.ii Plant roots protrude into the rocks, this widens the rock fissures, making way for the water and organic acids which cause chemical weathering.

5. Denudation is the process of breaking up and removing the earth's surface through weathering and erosion resulting in the reduction or elevation of relief

Rivers and wind is involved in denudation.

6. Upper course - V-shaped valley, waterfall  
Middle course - Meanders, Ox-bow lakes  
Lower course - Deltas, Levees

7. Minerals absorb oxygen to form compounds. Example, iron in rocks turns to rust, which changes the rock to a yellow, brown or red powdery mass.