

**Sedimentary Rocks:-**It is Covers about **3 / 4** of Earth Crust. The **last quarter** is cover by **igneous and metamorphic** rocks. It is represented by:-

- 1- Sedimentary Rocks are represent by **stratification (Many Layers)**.
- 2- It is contain **fossils (remaining of creatures)**.
- 3- Some Times it is Compose of **water** and **particular Minerals** like Halite (**NaCl**), Coal (**C**), Phosphates (**PO<sub>4</sub>**) and Petroleum.

**Sedimentary Processes:-**

**Four** Processes are lead to creation of Sedimentary Rocks:-

**1-Weathering. 2-Transportation. 3-Deposition. 4-Diagenesis.**

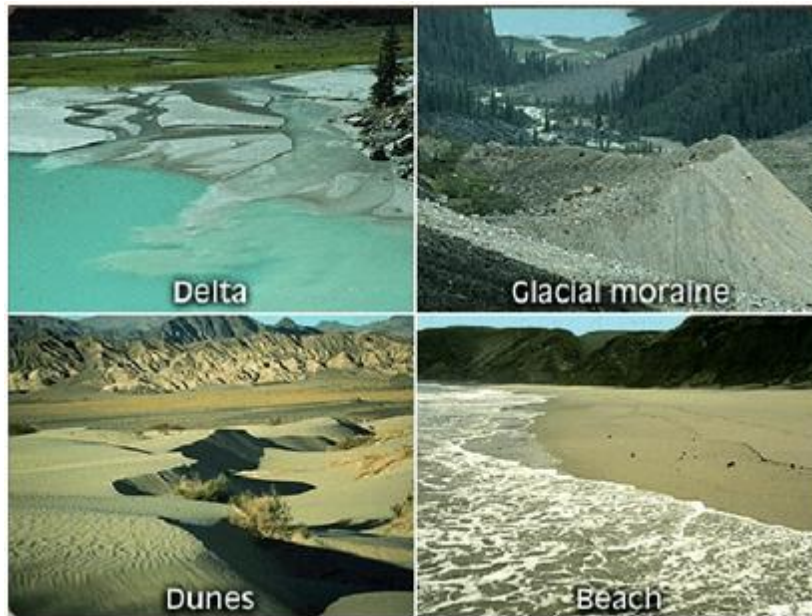
**1- Weathering:-** a- Wind. b- Water (Fresh, Saline). c- Glacial.



Effect of mechanical. 1 and chemical weathering. 2.

**2- Transportation:-**The products of Weathering are Transport far away to Deposition Basins. The Transportation take place by:-

**a- River Water. b- Wind. c- Glacial.**



Sediments, the products of weathering are transported to other locations.

**3- Deposition:-**The Transported Materials are Deposit by either:-

**a- Mechanical Deposition:-** Clastics or Mechanical Deposits such as **gravel, sand silt and clay.**

**b- Chemical Deposition:-** Example of sedimentary rocks: **limestone, dolomite, gypsum and halite.**

**C-Organic Deposition:-**

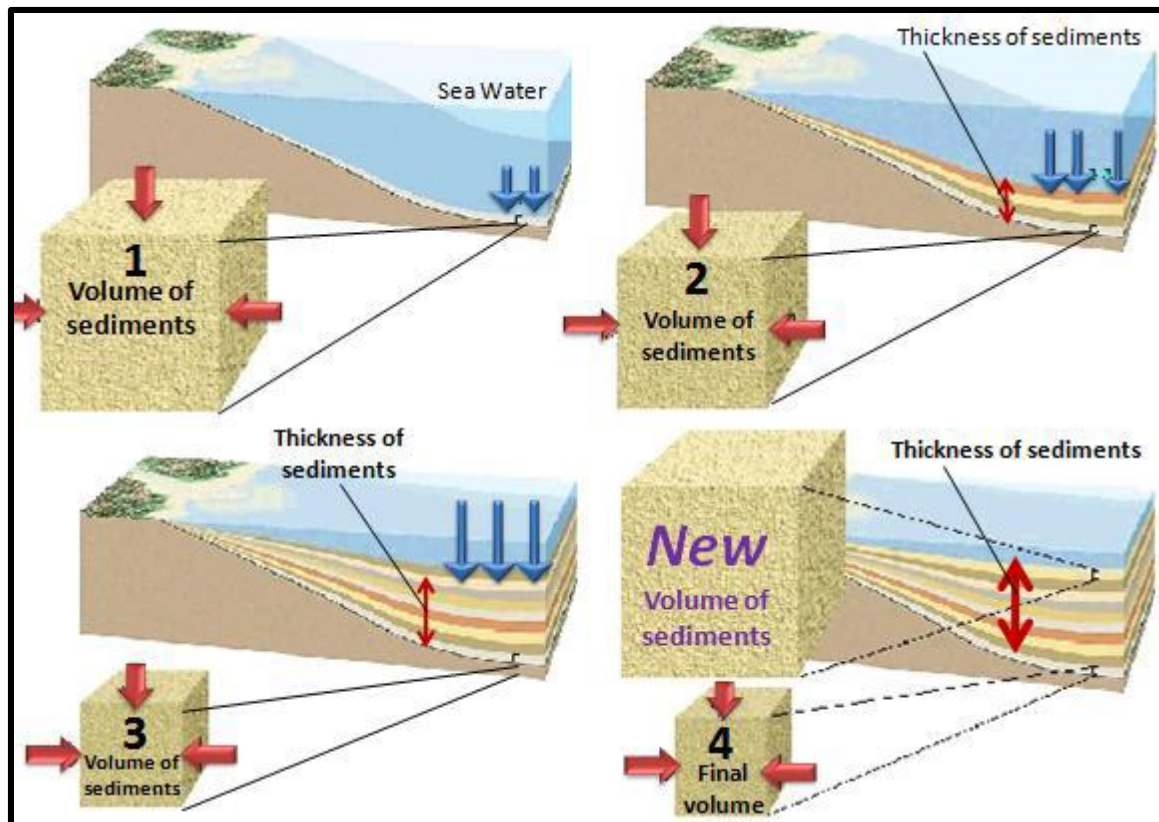
**1-Calcite** (Accumulation of fossils: **Calcite Rock**).

**2-Chert** (fine crystalline Quartz).

**3-Coal** ( Remaining of vegetable with heat and pressure).

**4- Diagnosis Process:-**

all the process after the sedimentary deposition.



Lithification of sediments by compaction.



Conglomerate of sedimentary rocks is a result of cementation.



## 1- Clastics rocks:

formed from broken rock fragments weathered and eroded by river, glacier, wind and sea waves. These Clastics sediments are found deposited on floodplains, beaches, in desert and on the sea floors.

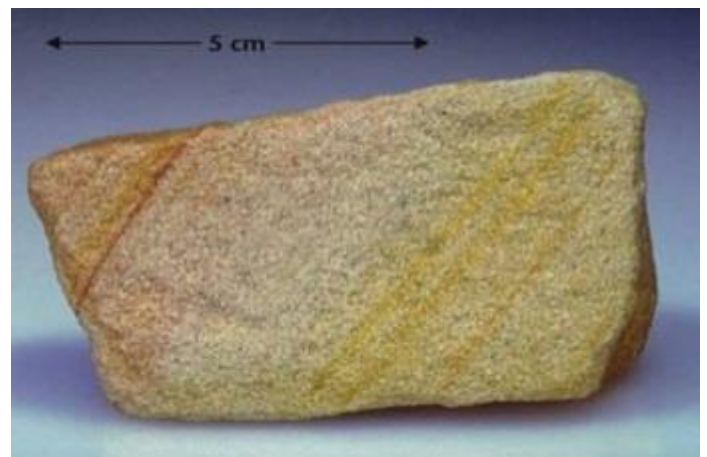
Breccia

Conglomerates

Sandstones

Siltstones

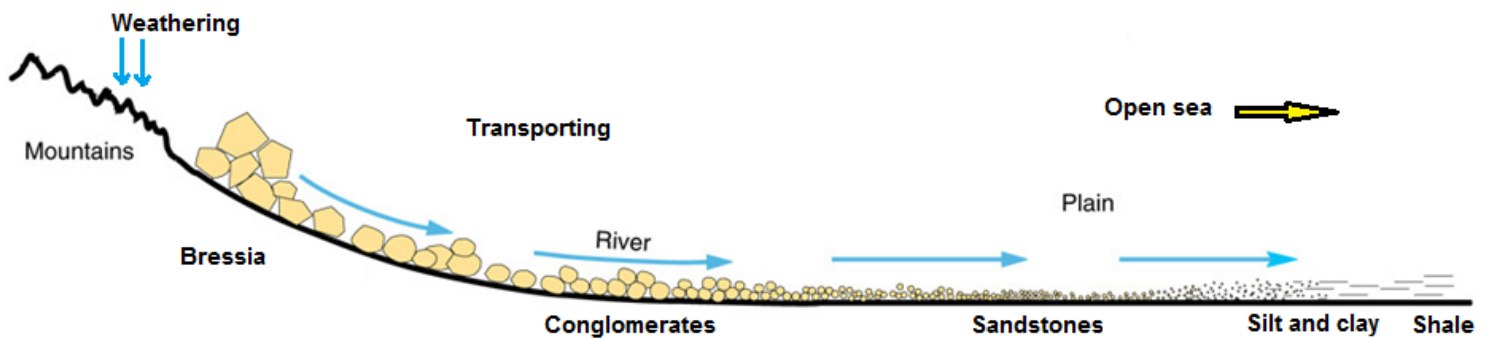
Clay-Shale



sandstone



siltstone



## 2- Chemical & Organic rocks:

**a-Carbonate rocks:** Form basically from  $\text{CaCO}_3$  – both by chemical leaching and by organic source (biochemical) e.g. Limestone, dolomite.

**b-Evaporate rocks:** These rocks are formed due to evaporation of saline water (sea water) e.g. Gypsum, Halite (rock salt).

**c-Organic rocks:** Form due to decomposition of organic remains under temperature and pressure e.g. Coal/Lignite etc.





Carbonate rock



Evaporate rock



Rock Type  
Environment of deposition