SEDIMENTARY ROCKS

Made from an accumulation of various types of sediments

What is sediment?

- Fragments that result from the breaking (weathering) of rocks, minerals, and organic matter.
- Ex. Gravel, clay, silt, pebbles, sand, mud, shells, dirt

MOST SEDIMENTARY ROCK FORMS UNDER WATER!

- Ex. Limestone, halite

Sedimentary rock forms from these processes:

- Weathering, Erosion, and Deposition
- Compaction: sediments are pushed together and as a result, water and air are squeezed out.
- Cementation: water passes through the sediments and dissolved minerals left behind act as a cement to hold the sediments together.
- Precipitation: minerals clump together and fall out of solution
- Evaporation: Water evaporates and leaves dissolved minerals behind.

Three Types of Sedimentary Rocks

1. Clastic

- Formed from fragments of other rocks which have been weathered and eroded
- Classified by the size of the sediments (coarse-pebbles or larger, medium-sand sized, or fine-clay or silt sized)
- Ex. Sandstone (sand), shale (silt or clay), conglomerate (round pebbles), and breccia (angular pieces)


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2. Chemical

- Formed from minerals that were once dissolved in water.
- Either the minerals "settle" out of the water (precipitates) or the water evaporates leaving the minerals behind (evaporites)
- Classified by their mineral composition
- Ex. Chemical Limestone ($CaCO_3$), gypsum ($CaSO_4$), halite ($NaCl$)

3. Organic

- Formed from the remains or traces of animals and/or plants
- Ex. Coal (plants), chalk (animal skeletons), organic limestone (shells-$CaCO_3$)

Features of Sedimentary Rocks

- Stratification: (aka. Layering) occurs when there is a change in the kind of sediment deposited.
  - Ex. Grand Canyon

Features of Sedimentary Rocks

- Ripple marks: formed from the action of wind or water on sand (seen in sandstone)

Features of Sedimentary Rocks

- Fossils: remains or traces of plants and/or animals