

Earth Science 11

Unit 3 – Minerals and Rocks

Day 8 – Sedimentary Rocks

Name: _____

Date: _____

Block: _____

Sedimentary comes from the Latin sedimentum which means “ settling ”

They form when: They form when solids settle out of fluid such as water or air

Weathering: any process that breaks rocks into sediments.

- Soil is the result of weathering of rocks and includes weathered particles: sand, silt, and clay
- Usually the first step in the formation of sedimentary rocks.
- Sediments don't usually remain in one place...Water, wind, ice, or gravity carries them away.

Two Kinds of Weathering:

Chemical: the rock changes composition ex. Acid

Physical: the rock changes appearance.

Affected By: climate, topography, and rock composition.

Life cycle (sort of but not really) of a sedimentary rock:

Erosion: involves weathering and the removal of rock.

Transportation: wind, water, ice, gravity

Deposition: when an agent of erosion (water, wind, ice, or gravity) loses energy and drops the sediment.

Compaction and Cementation:

Compaction: _____

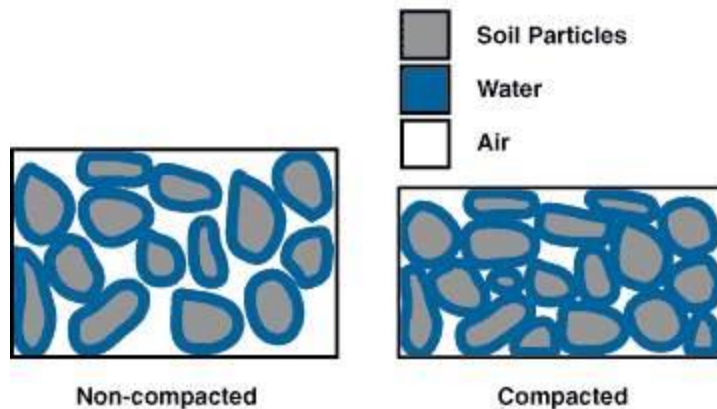
Compaction is a process that squeezes, or compacts, sediments.

Caused by the weight of sediments – heavy sediments sink to the bottom.

Much of the water in the sediments is driven out.

Cementation: _____

Cementation takes place when dissolved minerals are deposited in the tiny spaces among the sediments.



Classification of Sedimentary Rocks:

Two main groups: Sedimentary rocks can be classified into two main groups according to the way they form.

Clastic Sedimentary Rocks Clastic sedimentary rocks. Made of weathered bits of rocks and minerals

Chemical Sedimentary Rocks: Chemical sedimentary rocks
Dissolved minerals precipitate (separate) from water solutions

The Details:

Sediment Size: From sand to builders. How big are the varying pieces.

Grain Shape: rounded, very jagged?

Ex: The more a rock has tumbled through a river the more rounded the edges will be.

Brecha: Very angular, generally from meteor impacts

Conglomerate: when rounded, gravel sizes or larger rocks make up most of the rock

Sorting: _____

Are all the pieces of rock similar in size or are there many different sized rock making up the sedimentary rock

Structure:

Bedding: layers are visible. May cross cut or appear like waves.

many many different versions... we wont worry about them

Massive: no visible structure

Texture:

Skeletal: made up of the siliceous skeletal remains
aka: made up of dead organic material

Crystalline: crystals having formed from a chemical reaction in a solu- tion or from evaporation

Features of Sedimentary Rocks:

- The many unique features of sedimentary rocks are clues to how, when, and where the rocks formed.
 - Oldest layers of history at the bottom, youngest layers of history at the top.
 - Fossils (traces or remains of ancient life) are unique to some sedimentary rocks.
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