

Sedimentary Rocks Notes:

Name: _____

Sedimentary Rock Examples: _

- _____ (Made from small sediments like clay and silt)
- _____ (Made from medium sized sediments, sand)
- _____ (Made from large sediments like pebbles or fragments)
- _____ (Fossil fuel burned for energy, organic)
- _____ (Harrisonburg's bedrock used for buildings, *contains calcite* which dissolves in acids and is responsible for cave formations)

Sedimentary Rock Composition: _____ (anything that settles out of *water*)

- Fragments of _____ (clastic)
- _____ and animal remains (organic)
- _____ that settle out of a _____. (chemical) *Some minerals can dissolve in water or acids, when the acid or water is gone, the minerals are left behind to form rocks.*

Sedimentary Rock Formation:

- 1) _____: Formed from _____ of other rock
- _____ (*pressed together*) and _____ ("*glued*") together over time.

Minerals are the "glue" that cement clastic sedimentary rocks

**Categorized by grain size:*

- Clay (Smallest Grain Size)
- Silt
- Sand
- Gravel
- Pebble (Largest Grain Size)



Examples of **Clastic Sedimentary rocks:** _____, _____, _____

- 2) _____ **Rock:** _____ out of solution

Examples: _____, _____, _____

- 3) _____ **Rock:** _____ & _____ remains.

Examples: _____, _____, _____

Sedimentary Rock Features:

- 1) _____: **Layers** of different **sediment**, most _____ Sedimentary rock feature. Oldest layer is at the bottom, while the youngest/most recently formed is at the top.

- 2) _____: → Evidence of **living things**. Organisms get **buried in the layers of sediment**.

3 Types of Fossils: _____, _____, _____.

Aquatic organisms are the most common type of fossil, **most sedimentary rocks form in water** environments. However, some organisms are suddenly buried in sediments by **landslides or mudflows**.

- 3) _____ **marks:** _____ or _____ action in **sand** preserved in **sandstone**

- 4) _____: Form as **mud** _____ and gets _____ as a rock

- 5) **Geode:** Spheres of _____ rock _____ contained **within limestone rock**

<u>Environment</u> <i>(WATER)</i>	<u>Type of Sediment</u>	<u>Rock produced</u>	<u>Clastic or non clastic?</u>
River	Pebbles	conglomerate rock	Clastic <i>Coarse grains</i>
Beach, shallow ocean	Sandy	sandstone	Clastic <i>Large grains</i>
Bottom of the medium deep ocean	Silt/mud	shale	Clastic <i>Fine grains</i>
Bottom of the deep ocean	Crushed white chalk	limestone	Non clastic <i>Organic</i>
Coral reef, shallow water	Shells	Coquina	Non clastic <i>Organic</i>
Swamp	Organic remains or plants and organism still containing some energy	Coal	Non-clastic <i>Organic</i>
Evaporated ocean water	Salt from salt water	Rock Salt	Non-clastic <i>Chemical</i>

How to make a sedimentary rock!

Step 1. **Weathering.** This is basically **breaking apart existing rock**. It can be mechanical or chemical. Broken pieces of weathered rock is called regolith.

Step 2. **Erosion.** This is basically **transporting the sediment** to a new location. This is called **erosion**. **Erosion is caused by running water, waves, wind, glaciers, and gravity.**

Step 3. **Deposit the sediment.** This is called **DEPOSITION**. When running water or wind slows down, it loses energy. **The less energy there is, the easier it is for a particle to settle out.** For example, water with a lot of energy, like a fast flowing stream, will sweep away most small and medium particles like silt and sand. Only the larger boulders and pebbles will be left behind. A quiet location, like a lake or pond, will allow the small particles to settle out.

Step 4. **Burial and compaction.** New sediment gets deposited all of the time. The sediment that gets deposited will have new sediment laid on top of it in the future. As more and more sediment piles on top of the old sediment, the **sediment on the bottom gets compacted and cemented together to make a rock**. This can take thousands to millions of years to happen.

Fossils are the remains of ancient organisms. Fossils are usually only found in sedimentary rocks. Remains of organisms can settle to the bottom of a lake or ocean where **they can be buried by sediments**. Organisms may also get **quickly buried in the sediments of a landslide or mudflow**.