

EARTH SCIENCE REGENTS

Sedimentary Rocks

All Sedimentary Rocks are formed from the products of the weathering of other rocks, or in rare cases by the action of living things. *Clastic* Sedimentary Rocks are formed from mechanically (physically) weathered sediments like pebbles, sand, silt, and clay. Rock formed from the precipitation of dissolved chemicals (chemical rocks) and from shells and skeletal material (organically derived rocks) are *non-clastic*. The *non-clastic* sedimentary rocks are generally formed from the products of chemical weathering.

Sedimentary Rocks

Clastic Rocks

1. Formed by *transport, deposition, burial, compaction and dewatering, and cementing* of sediments sorted by moving water.
2. The clastic rocks are formed of individual (often rounded) particles held together by a cement
3. The clastic rocks often are layered in appearance
4. Large particles indicate deposition by fast flowing water, small particles by slow moving water. (These rocks include Conglomerate and breccia, sandstone, siltstone, and shale)
5. Clastic rocks can contain fossils – they are then further described as being fossiliferous.
6. Clastic rocks often preserve soft sediment features (ripple marks, mud cracks, imprints, etc)

Non-Clastic Rocks

1. The *Evaporite* or *Precipitate* or *Chemical* sedimentary rocks are formed as water containing dissolved minerals evaporates and precipitates solid mineral material. (These rocks include chemical limestone, rock salt, rock gypsum, and dolostone)
2. Organically derived sedimentary rocks, also called biogenic rocks (*bio*= life, *genic*= formed (from the word *genesis*)), are formed from shells and skeletal material made by living things. These animals get the raw materials for shells and bones directly or indirectly from dissolved minerals formed during chemical weathering. (This rock is called fossil limestone)
3. Coal is the *organic* remains of plants that lived in shallow swamps a long time ago. Dead plant material (what we call peat moss) was buried, often between layers of clay, and compressed into coal along with the clay (which formed layers of shale. Coal is mined as if it were a sedimentary rock, and so we include it with the organically derived rocks. The energy released as coal burns is the solar energy that the plants converted for their use by photosynthesis during the Carboniferous Period of earth's history.