Big Boring Definition

Sedimentary rocks are types of rock that are formed by the deposition of sediment at the Earth's surface and within bodies of water; these then undergo compaction and cementation to form rock. Sedimentation is the collective name for processes that cause mineral and/or organic particles (detritus) to settle and accumulate or minerals to precipitate from a solution.

Look up these terms and summerize them in your own words so you can understand this definition.

Composition

1. Clastic

2. Chemical

3. Organic

Clastic Composition

Rocks made up of other smaller rocks and stuff.

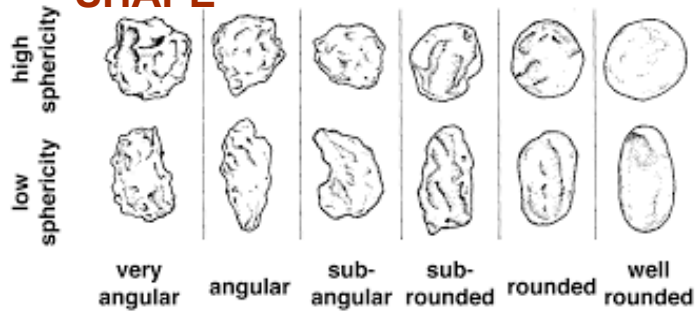
SEDIMENTARY ROCK ANALYSIS AND CLASSIFICATION						
STEP 1: What is the rock's composition?		**STEP 2: What are the rock's textural and other distinctive properties?**			**STEP 3: Rock Name(s)**	
DETRITAL (CLASTIC)	Mainly rock fragments or mineral grains (quartz, feldspar, clay) weathered from other rocks	Mainly gravel (≥ 2 mm)		Rounded grains	CONGLOMERATE	
				Angular grains	BRECCIA	
		Mainly sand (1/16 – 2 mm)		Mostly quartz grains	QUARTZ SANDSTONE	SANDSTONE
				Mainly feldspar and quartz	ARKOSE	
				Sand is mixed with much silt and/or clay (mud)	GRAYWACKE	
		Mainly Mud (< 1/16 mm)	Mostly silt (1/256 – 1/16 mm)	Breaks into blocks or layers	SILTSTONE	MUDSTONE
			Mostly clay (< 1/256 mm)	Crumbles or breaks into blocks	CLAYSTONE	
				Fissile (splits easily)	SHALE	

Clastic Textural Properties:

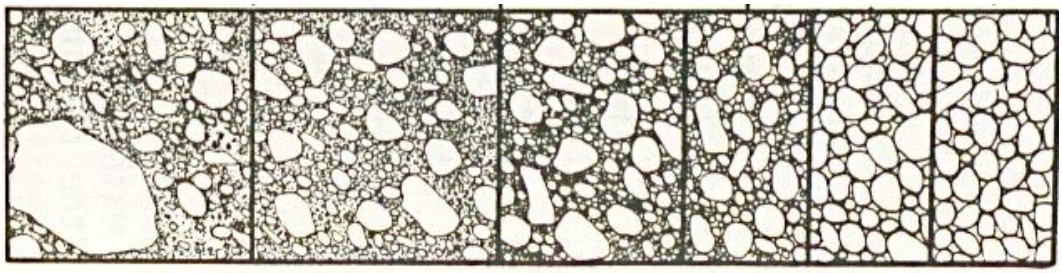
SIZE

Gravel

SHAPE



SORTING



Very poorly sorted

Very well sorted

Organic (Biochemical)

Lots of shells, fossils, plants and stuff stuck together.

BIOCHEMICAL: Mainly fossil shells or plant fragments	Mainly plant fragments or charcoal	Dull brown with visible plant fragments	Porous and easy to break apart the plant fragments	PEAT	
		Black	Dense and brittle or porous and sooty	BITUMINOUS COAL	
	Mainly fossil shells, shell fragments, or microfossils Effervesces in dilute HCl	Mostly visible shells and shell fragments cemented into a dense mass		CALCIRUDITE	LIMESTONE
		Mostly sand-sized fragments. May have a few larger shells.		CALCARENITE	
		Mostly very fine grained to microcrystalline mass of calcite and microfossils		MICRITE	
		Porous, poorly cemented mass of shells and shell fragments		COQUINA	
		Mostly very fine grained, earthy, chalky, light-colored mass of microfossils		CHALK	

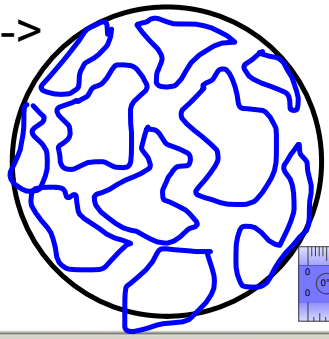
Chemical (Inorganic):

Crystal rock formed from precipitated or evaporated liquid with a lot of minerals and stuff.

CHEMICAL (INORGNIC): Chemically precipitated crystals				
	Mainly crystals of calcite or aragonite, $CaCO_3$	Crystalline to microcrystalline bands of calcite crystals		TRAVERTINE
	Effervesces in dilute HCl	Spherical grains like tiny beads (< 2 mm) with concentric laminations		OOLITIC LIMESTONE
	Mainly dolomite $CaMg(CO_3)_2$	Microcrystalline	Effervesces in dilute HCl only if powdered	DOLOSTONE
	Mainly varieties of quartz, SiO_2 (chalcedony, flint, chert, opal, jasper, etc.)	Microcrystalline, conchoidal fracture	Scratches glass	CHERT
	Mainly halite, NaCl	Crystals formed as inorganic chemical precipitates	Salty taste	ROCK SALT
	Mainly gypsum, $CaSO_4 \cdot 2H_2O$	Crystals formed as inorganic chemical precipitates	Can be scratched with your fingernail	ROCK GYPSUM
	Mostly iron-bearing minerals, like limonite and hematite	Amorphous or microcrystalline	Dark-colored, usually brown or red-gray	IRONSTONE

Activity:

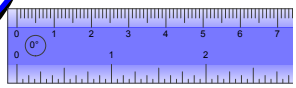
On the sheet of paper. Draw a couple different sedimentary rocks. Like this ----->



pebble

sub angular

very well sorted



Write down the three "S's" of classifying rocks.

Size Shape and Sorting

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