

Classification of Sedimentary Rocks

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Classification	Texture/Grain Size	Composition	Rock Name	
Elastic <i>detrital</i>	coarse (> 2 mm)	Fragments of any rock type — quartz } rounded chert and quartzite common } angular	conglomerate breccia	
	medium (1/16 mm to 2 mm)	quartz and rock fragments	sandstone	
	fine (1/256 mm – 1/16 mm)	quartz, k-spar and rock fragments	arkose	
	very fine (< 1/256 mm)	quartz and clay	siltstone	
Biochemical	microcrystalline with conchoidal fracture	quartz and clay	shale	
	<i>Bio-clastic</i> {	abundant fossils in micrite matrix	calcite (CaCO ₃)	micrite
		oolites (small spheres of calcium carbonate)	calcite (CaCO ₃)	fossiliferous limestone
		shells and shell fragments loosely cemented	calcite (CaCO ₃)	oolitic limestone
		microscopic shells and clay	calcite (CaCO ₃)	coquina
		variously sized fragments	highly altered plant remains, some plant fossils	<i>Kaolinite (chalk)</i> <i>Bituminous coal</i>
Chemical	fine to coarsely crystalline	calcite (CaCO ₃) <i>effervesce w/HCl</i>	<i>Precipitation</i> crystalline limestone	
	fine to coarsely crystalline	dolomite (Ca, Mg) CO ₃ (will effervesce if powdered)	dolostone	
	very finely crystalline	quartz (SiO ₂) — light colored — dark colored	chert flint	
	fine to coarsely crystalline	gypsum (CaSO ₄ · 2H ₂ O)	<i>Evaporite</i> { rock gypsum rock salt	
	fine to coarsely crystalline	halite (NaCl)		

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Use with Chapter 6
Section 6.2

Classification of Sedimentary Rocks

1. Name the three ~~types~~^{classification} of sedimentary rocks.

2. What is the most common ~~sedimentary~~^{classification} sedimentary rock, and what is its method of formation?

3. How are ~~sedimentary~~^{detrital} sedimentary rocks classified?

4. Compare and contrast conglomerate with breccia.

5. How do chemical sedimentary rocks form?

6. Name three common evaporite minerals.

7. How do ~~organic~~^{biological} sedimentary rocks form?

8. Name two ~~organic~~^{biological} sedimentary rocks.
