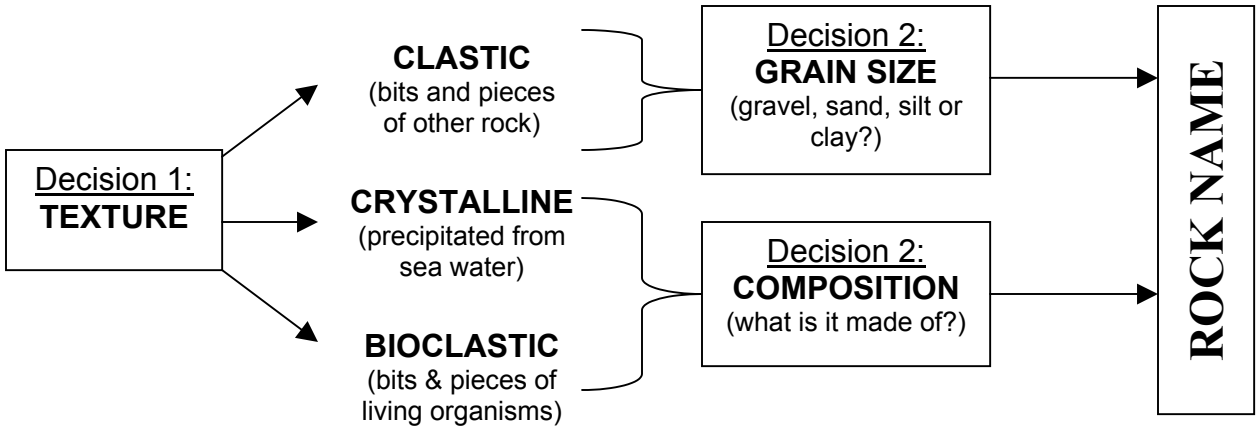
REGENTS EARTH SCIENCE
Sedimentary Rock ID Lab

Name: _____

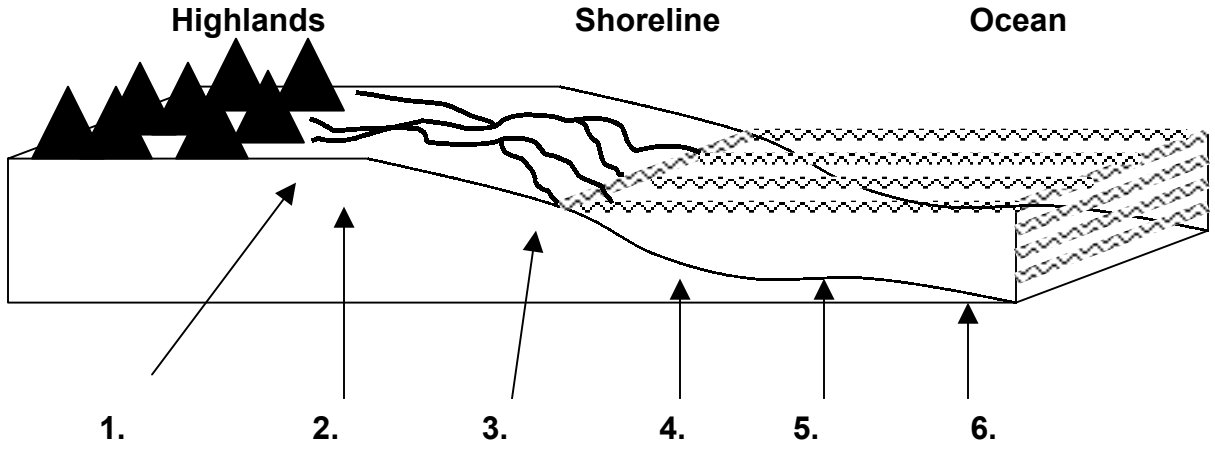
As you now know, rocks are composed of minerals or a combination of minerals. Rocks are categorized into types based on the way in which they form. Sedimentary rocks form as weathered, eroded and deposited materials are compacted and cemented together beneath the weight of overlying sediments. Sedimentary rocks are classified into three major categories based on their composition- **CLASTIC,** or fragmental (derived from weathering and erosion of land materials), **CRYSTALLINE** (form from precipitation of dissolved salts in sea water) and **BIOCLASTIC** (fragments of living organisms). The clastic sedimentary rocks are identified and named by ***grain size***, while the others are identified by ***composition***. These characteristics, in turn, signify a particular ***environment of formation***. As you know from our study of igneous rocks, **if you know the rock, you know the past environment!** Using your senses and the **Scheme for Sedimentary Rock Identification**, you will be able to first classify and identify the rocks and their environments of formation.

PROCEDURE

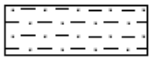
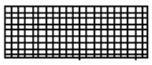
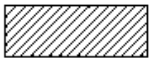
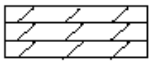
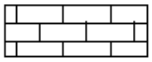
First, take some time to familiarize yourself with the ***flow*** of the identification chart. The chart is read by deciding on the **texture** first. The outline below may be helpful as a guide:



The **texture** and **composition** of sedimentary rocks are determined by *the environment in which they form*. As you already know, sediments sort out by size, both vertically and horizontally. Horizontal sorting is a major player in **where** sedimentary rocks form.



Scheme for Sedimentary Rock Identification

INORGANIC LAND-DERIVED SEDIMENTARY ROCKS					
TEXTURE	**GRAIN SIZE**	**COMPOSITION**	**COMMENTS**	**ROCK NAME**	**MAP SYMBOL**
Clastic (fragmental)	Pebbles, cobbles, and/or boulders embedded in sand, silt, and/or clay	Mostly quartz, feldspar, and clay minerals; may contain fragments of other rocks and minerals	Rounded fragments	Conglomerate	
			Angular fragments	Breccia	
	Sand (0.2 to 0.006 cm)		Fine to coarse	Sandstone	
	Silt (0.006 to 0.0004 cm)		Very fine grain	Siltstone	
	Clay (less than 0.0004 cm)		Compact; may split easily	Shale	
CHEMICALLY AND/OR ORGANICALLY FORMED SEDIMENTARY ROCKS					
TEXTURE	**GRAIN SIZE**	**COMPOSITION**	**COMMENTS**	**ROCK NAME**	**MAP SYMBOL**
Crystalline	Varied	Halite	Crystals from chemical precipitates and evaporites	Rock Salt	
	Varied	Gypsum		Rock Gypsum	
	Varied	Dolomite		Dolostone	
Bioclastic	Microscopic to coarse	Calcite	Cemented shell fragments or precipitates of biologic origin	Limestone	
	Varied	Carbon	From plant remains	Coal	

You may want to write the depositional environments in on this diagram!

COMPLETE THE CHART USING THIS SCHEME AND YOUR OBSERVATIONS!

Name: _____ SCORE: _____ /20

ROCK TYPE	**TEXTURE** (CLASITC, CRYSTALLINE, BIOCLASTIC)	**GRAIN SIZE** (Gravel, Sand, Silt, Clay)	**ROCK NAME**	**OTHER CHARACT-ERISTICS**	**ENVIRONMENT**
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					