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Part 3:

For each depositional environment, predict what characteristics of the sediment deposited

Depo. Environ.	Rock type(s)	Sorting and rounding	Sed. Structures	Fossils (body and/or trace)
River – channel	conglomerate Sandstone	well Rounded well sorted	Ripple marks Scour marks	Fish, other small creatures
River – Floodplain	Shale, Silt/clay	well sorted Rounded	mudcracks	plants and some animals
Dune field	Sandstone	well sorted Round	cross Bedding	maybe small animal maybe plants
Playa Lake	silt, clay	well sorted Round	mudcracks	Trace Fossils
Alluvial Fan	conglomerate	poorly sorted angular	cross bedding	none some small creatures. Not common
Glacial Terminus	conglomerate	poorly Sorted Angular	N/A	N/A
Swamp	Coal	well Sorted round	mud cracks scour marks	Vegetation and leafy fossils
Delta	mudstone Sandstone	well sorted Round	Ripple marks Scour marks	Vegetation and fish
Beach	Sand stone	well sorted Round	Ripples	small shells and creatures
Tidal Flat	mudstone sandstone	well sorted round	mudcracks ripple marks	shells and small creatures
Continental shelf/platform	limestone shale, sandstone	well sorted Round	graded Beds	fish / coral
Reef	Limestone, Chalk,	N/A	N/A	coral Fossils
Deep Ocean	limestone mudstone	well sorted Round	graded Beds	small fish/ plants / shells

Interpreting Depositional Environments by Observing Sedimentary Rock

Learning objectives:

- Determine what types characteristics of sedimentary deposits can be used as clues for interpreting depositional environment
- Become familiar with the different types of depositional environments
- Define the sedimentological and fossil characteristics that typify the deposits formed in each depositional environment

Part 1:

List the types things you can look for (i.e. observations you can make) in a sediment rock or a sedimentary bed that might tell you something about depositional environment:

Brainstorm area:	- grain size	1. Grain size
	- Angular or circular	2. Sedimentary Structures
	- Sorting	3. Sorting
	- color - composition	4. Rounding
	- texture	5. Type of Rock
		6. Bed thickness
		7. Fossils (Trace + Fossil)
		8. Bed Geometry

Part 2:

For each image on the powerpoint slides shown in class, name the depositional environment and indicate whether it is a non-marine, transitional, or marine depositional environment by marking an X on the table

Image	Depo. Environ.	Terrestrial?	Transitional?	Marine?
A	Sand Dune	✓		
B	Playa lake	✓		
C	River	✓		
D	Flood plain	✓		
E	Alluvial plain	✓		
F	Glacial Deposit	✓		
G	Swamp	✓		
H	Delta		✓	
I	Beach		✓	
J	Tidal Flats		✓	
K	Continental Shelf			✓
L	Deep Marine			✓
m	Coral			✓