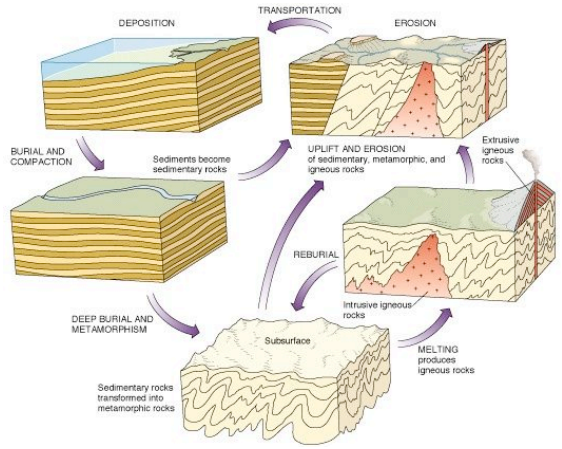
The Rock Cycle

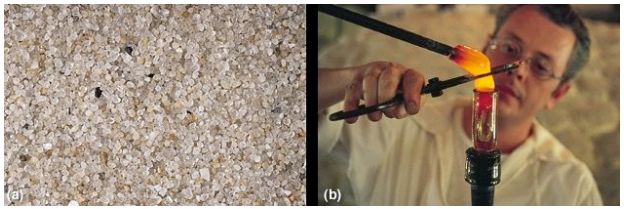


"Reading the Rocks"

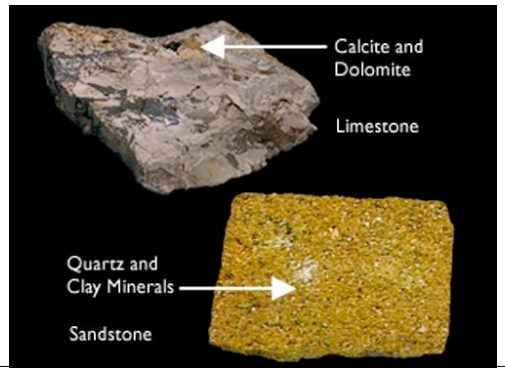
- **Igneous, Sedimentary, Metamorphic**
- **Texture + Composition ➡ Rock Name* & History**
- **Structure (folds, faults, etc) ➡ History**
- **Relative & absolute dating ➡ History**

*One-page mineral and rock ID handout is linked to our course page

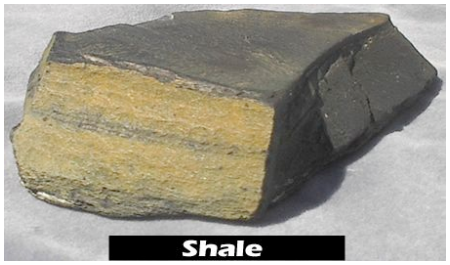
Sand (Quartz) ⟨ Glass

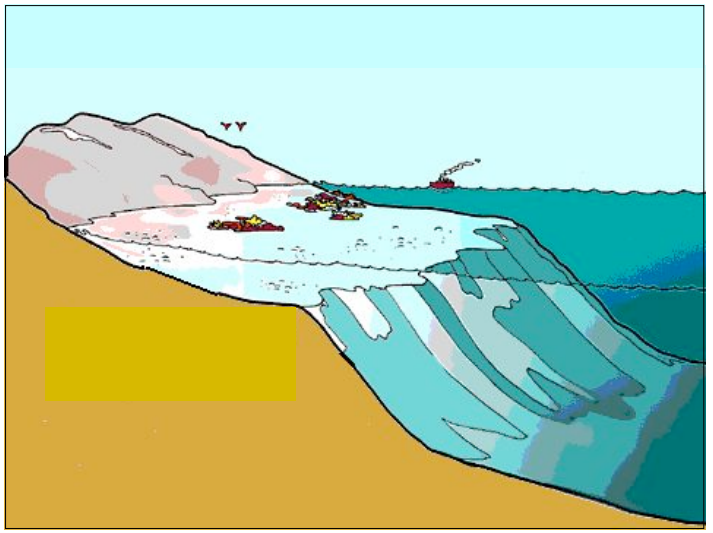


Limestone (Calcite=$CaCO_3$) and Sandstone (Quartz=SiO_2)

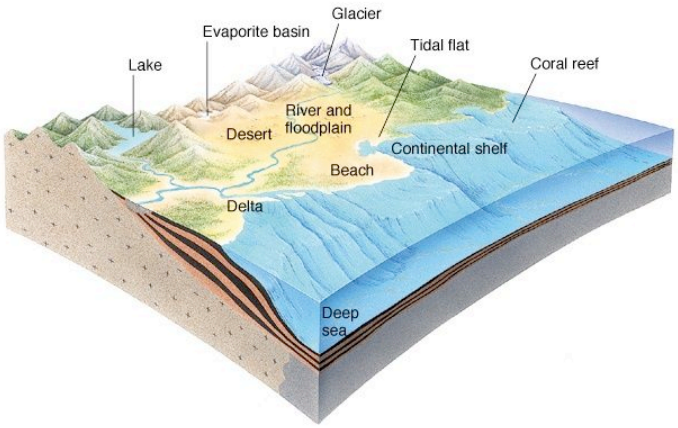


Shale (Clay)





Depositional Environments

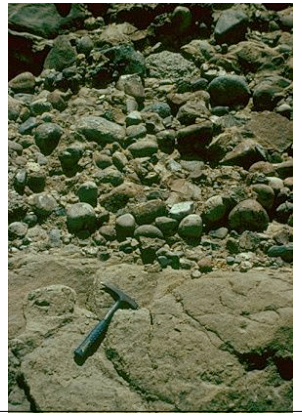


Tropical Beach - Shells (calcite) deposited

Beach -
Sand and Gravel deposited

Sand (sediment) ➜
Sandstone (sedimentary rock)

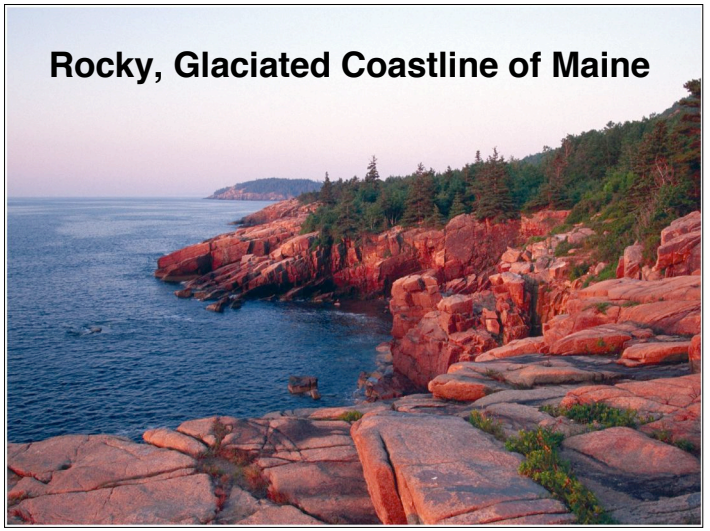
Gravel (sediment) ➜
Conglomerate (sedimentary rock)



Ripple Marks on a Beach

Coastal Landscapes Are Highly Variable, Depending on:

- **Stability of the coastal region** (uplifting, subsiding, or stable)
- **Nature of rocks & sediments at the shoreline**
- **Long-term changes in sea level**
- **Wave energy and tidal energy**
- **Human impacts**



Wave Cut Cliffs and Sea Stacks, Australia