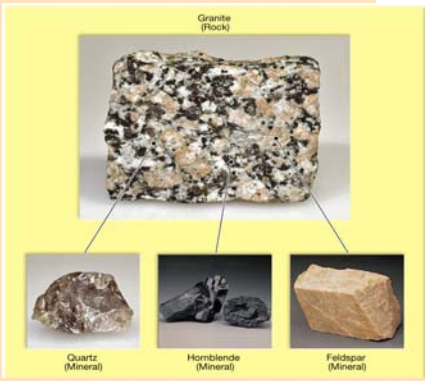


# Rocks and Minerals

**Minerals** are naturally occurring substances made up of distinct crystalline arrangements of atoms.

A **rock** is a solid, cohesive aggregate of crystals or grains of **one or more minerals**.

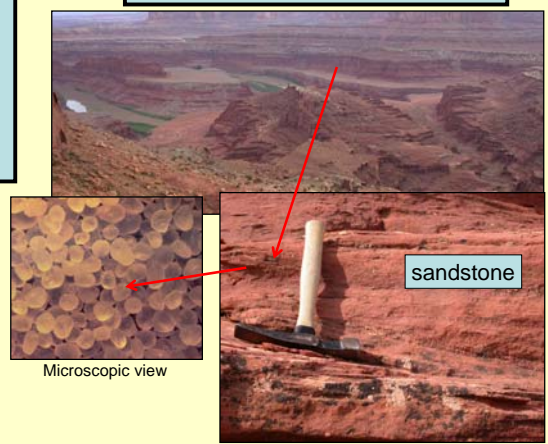


There are three types of rock:

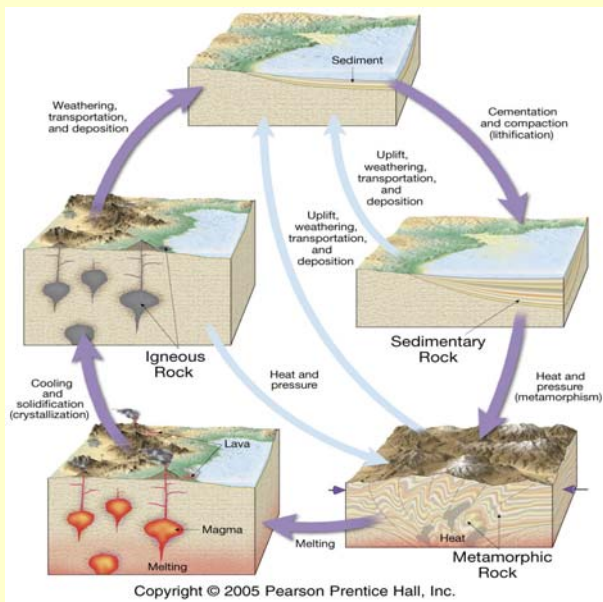
**Igneous rocks** (like granite) are solidified from molten rock.

**Metamorphic rocks** (like gneiss) recrystallize from preexisting rocks under high heat and pressure.

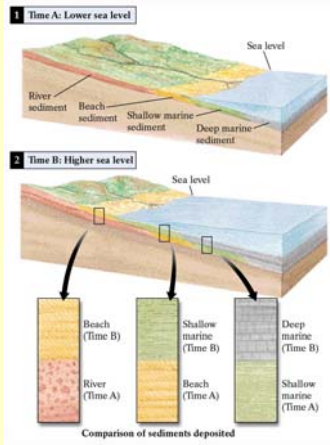
**Sedimentary rocks** (like sandstone)



## The Rock Cycle



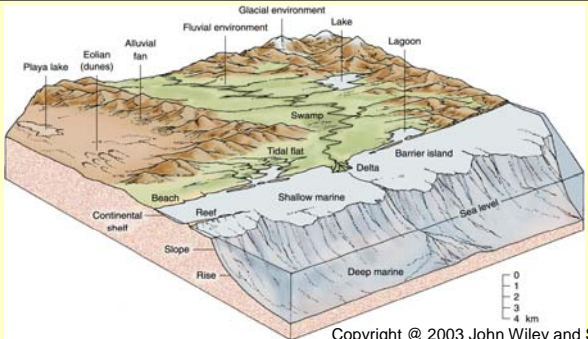
**Sedimentary rocks** form from sediments that accumulate at the Earth's surface, including the ocean floor, and are buried for many years. These layers of sediment are derived from weathering of preexisting rocks, from remains of organisms and from precipitation of minerals. Over time, sediments are compacted and cemented together into sedimentary rocks which often contain fossils of the organisms that lived when the sediments were deposited.



Successive layers of rock record ancient environments.

Geologists study rock samples and data from beneath the surface and construct a stratigraphic column describing the geologic history of the area.

## Sedimentary Depositional Environments



**Sedimentary rocks** contain a record of environments that have changed over time. When sea level changes, the environment changes and the type of sediment being deposited changes. The resulting layers of rock contain a record of past depositional environments. They record the changes in sea level that have occurred many times during the past 2 billion years.