

Earth Science

Notes 12-1

I. **Relative Age** = age of an object compared to the ages of other objects. Can tell the order of events, but does not tell exact age in years.

A) **Uniformitarianism** = theory that states that gradual geological processes that occur today happened the same way in the past.

B) **Law of Superposition** = The law that a sedimentary rock layer is older than the layers above it and younger than the layers below it if the layers are not disturbed.

C) **Principle of original horizontality** = sedimentary rock will remain in horizontal layers if left undisturbed. This happens because gravity pulls sediments flat and parallel to each other. If disturbed, scientists look for clues to determine the original order of layers.

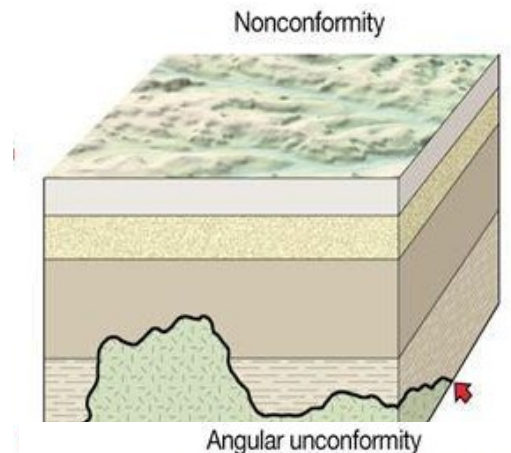
1] WAYS ROCK LAYERS GET DISTURBED:

- a) **fault**-a break in the Earth's crust where pieces slide past each other
- b) **intrusion**-molten rock that squeezes into existing rock and cools
 1. Sill- magma seeps in between layers of rock (horizontal magma flow)
 2. Dike- magma breaks a crack through several layers (vertical magma flow)
- c) **folding**-when rock layers bend and buckle from Earth's internal forces
- d) **tilting**-when internal forces in the Earth slant rock layers

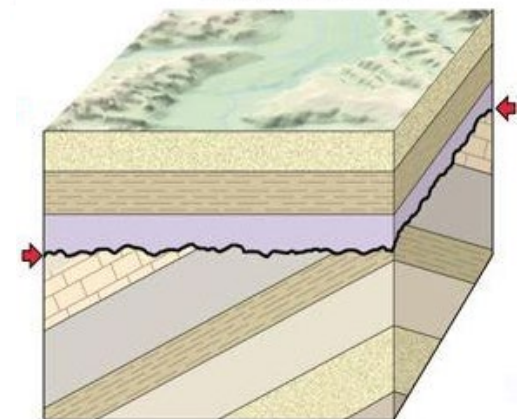
+

D) **Unconformity** = The break in the geologic record created when rock layers are eroded or when sediment is not deposited for long periods of time.

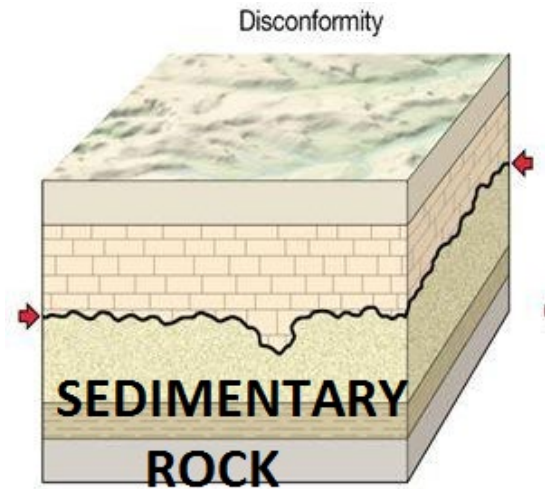
1) **Nonconformity** = sedimentary rock layers form on top of eroded metamorphic or igneous rock. The eroded rock represents missing time.



2) **Angular Unconformity** = rock layers tilt, erode flat, and then have sedimentary rock layers form on top of them. The eroded rock represents missing time.



3) **Disconformity** = sedimentary rock layers form on top of eroded sedimentary rock. The eroded rock represents missing time.



E) **Law of crosscutting relationships** = The principle that a fault or intrusion of rock is younger than any other body of rock that it cuts through.

