

Geologic History Power Point Notes

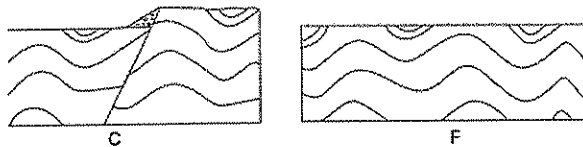
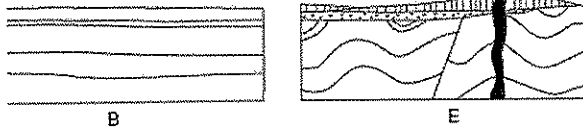
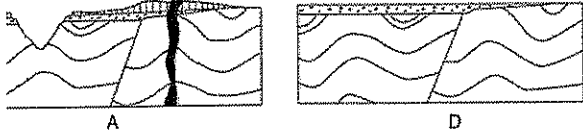
There are 2 ways we determine when something took place:

1. Relative Age Dating _____, but not their actual date of occurrence. Establishes a time line to compare events.
2. Absolute Dating _____ determined by radioactive decay.
"Clocks in rocks"

Sediments are originally deposited in _____ layers

Relative Time Rules:

1. The Law of Superposition: a sedimentary sequence will be _____ on bottom if undisturbed (MEANING: FLAT AND LEVEL)



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2. Cross Cutting:

a. Igneous intrusion - younger than the rock it cuts across and the pre-existing rock layers will undergo **CONTACT METAMORPHISM**

b. Faults - younger than rock it displaces

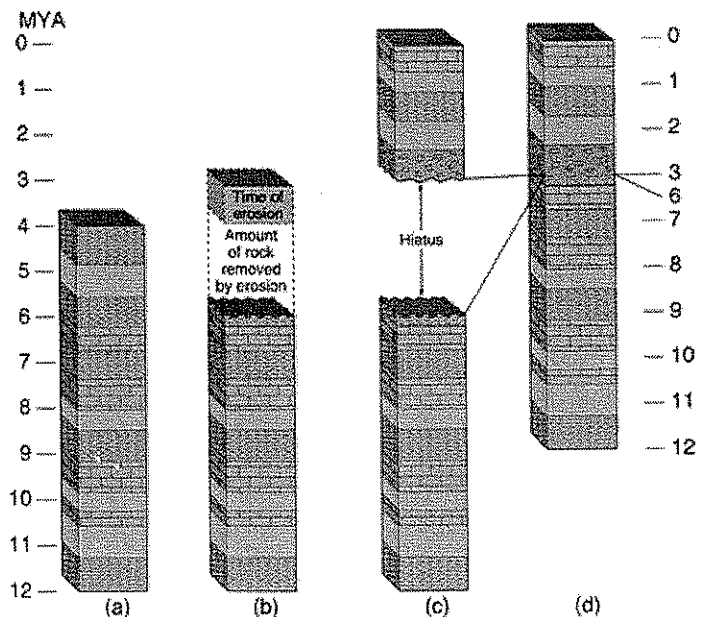
3. Folds/Tilts: _____ than the rocks themselves.

4. Included Fragments: pieces of rock found in other rocks must be _____.

Other guidelines: Sedimentary rocks are usually formed under water
Weathering and erosion usually happen above sea level

UNCONFORMITIES

- Sometimes rock layers are missing
- This gap is not represented by the layers in an area
- We don't know exactly what happened but we do know **UPLIFT** exposed rocks to **Weathering and Erosion**
- **Unconformity forms** - buried eroded surface



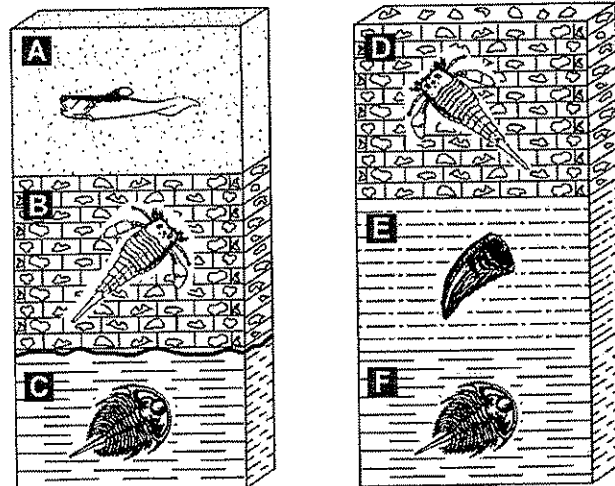
4 Steps produce an Unconformity

1. Uplift- area of crust uplifted above _____.
2. Erosion - some time after
3. Submergence (Subsidence) below _____.
4. Deposition - new sediments _____ on top of the buried eroded surface.

Apply these rules to determine the geologic history of an area. The process of matching rocks or geologic events at different locations of the same age is called _____.

Correlation of rocks layers often relies upon **FOSSILS**

- Rock layers in widely separated areas could be identified and correlated by their distinctive fossil content.
- Fossils succeed one another in a definite and determinable order, and therefore, any time period can be recognized by its _____ content.



1. Which layers are the same?
2. Which layer is older E or F?
3. What is correct sequence of rock layers from oldest to youngest?
4. An unconformity is represented by the interface between which 2 layers?

Index Fossils on page 8-9

Any animal or plant that is characteristic of a particular span of geologic time.

TO BE AN INDEX FOSSIL - 2 criteria must be met:

1. Life form lived over a **WIDE GEOGRAPHIC** area - horizontal distribution.
2. Life form existed for a **SHORT** period of time - no vertical distribution.

	Location A	Location B	Location C
Rock layer 1	W	W	W Z
Rock layer 2	W Z	Y	Z
Rock layer 3	W X	X	X Z

Volcanic Ash Layer also used in correlation - large eruption - widely distributed but represents a _____ time interval.