

**Geologic History**  
**Review Note Cards**



Geologic History

# Geologic History

The study &  
interpreting of  
Earth's past through  
observing rock  
layers.



Geologic History

# Uniformitarianism

The geological processes are the same today as they were in the past.

Geologic History

# Relative Age

The age of the rock or event compared to the surrounding rocks. (older vs. younger)

Geologic History

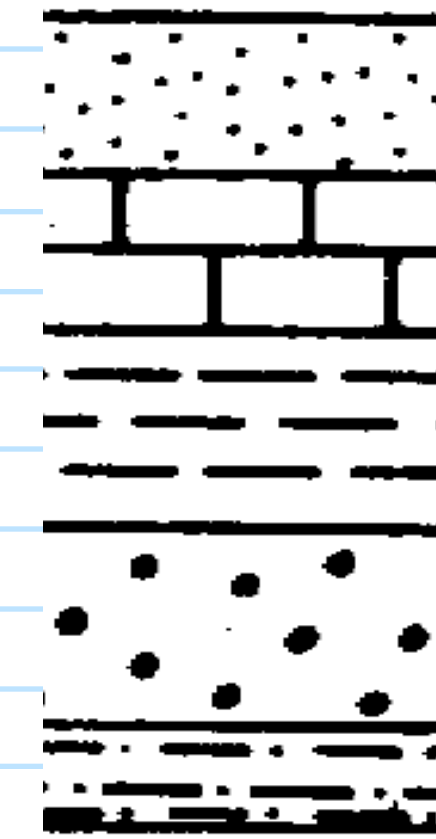
# Absolute Age

The actual age of the rock or event in years.

Geologic History

# Law of Original Horizontality

Sediments are deposited in horizontal layers parallel to the surface they were deposited.



Geologic History

# Tilted or Folded Rock Layers

Rock layers tilted at an angle or bent by crustal forces. Folds and tilt are Younger than rock



tilted

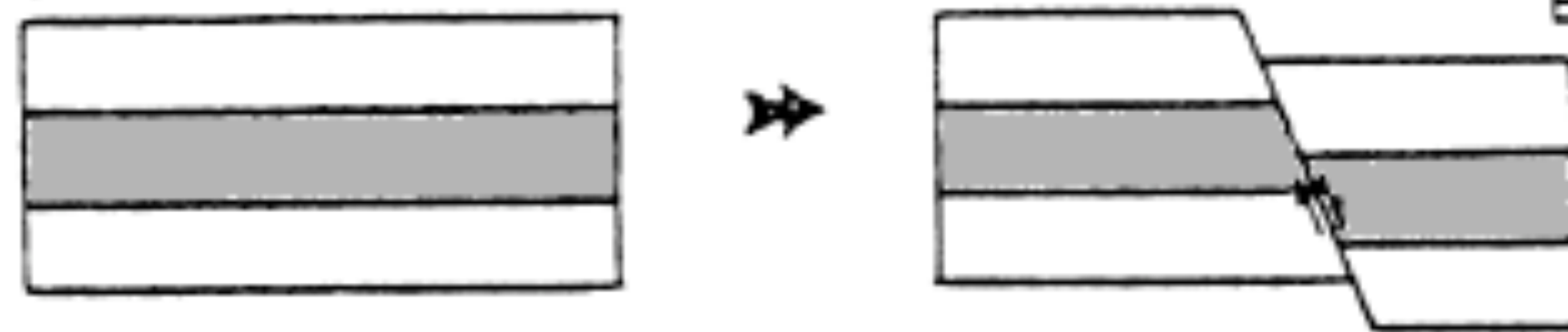


folded

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# Age of Faults, Joints & Folds

They are younger than the rock in  
which they are found.



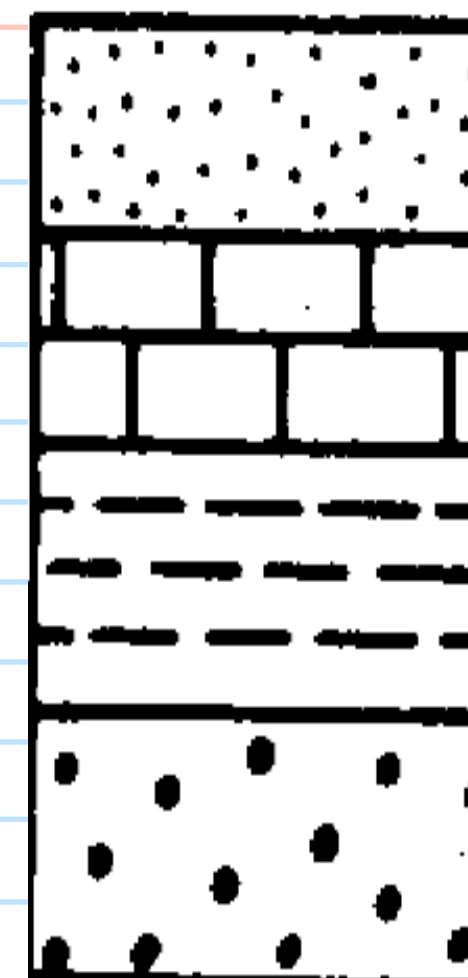


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# Law of Superposition

In undisturbed rock layers, (not overturned) the youngest rock is at the top and the oldest is the bottom layer.

youngest rock layer

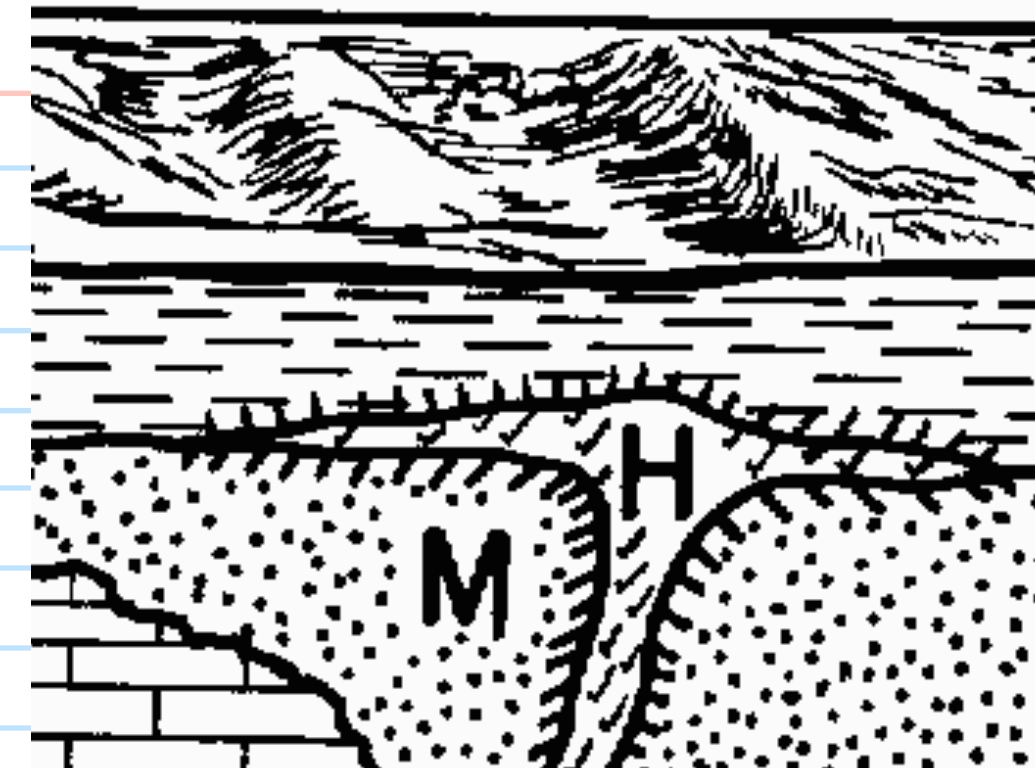


oldest rock layer

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# Igneous Intrusion

Magma forces its way through other rock and solidifies.

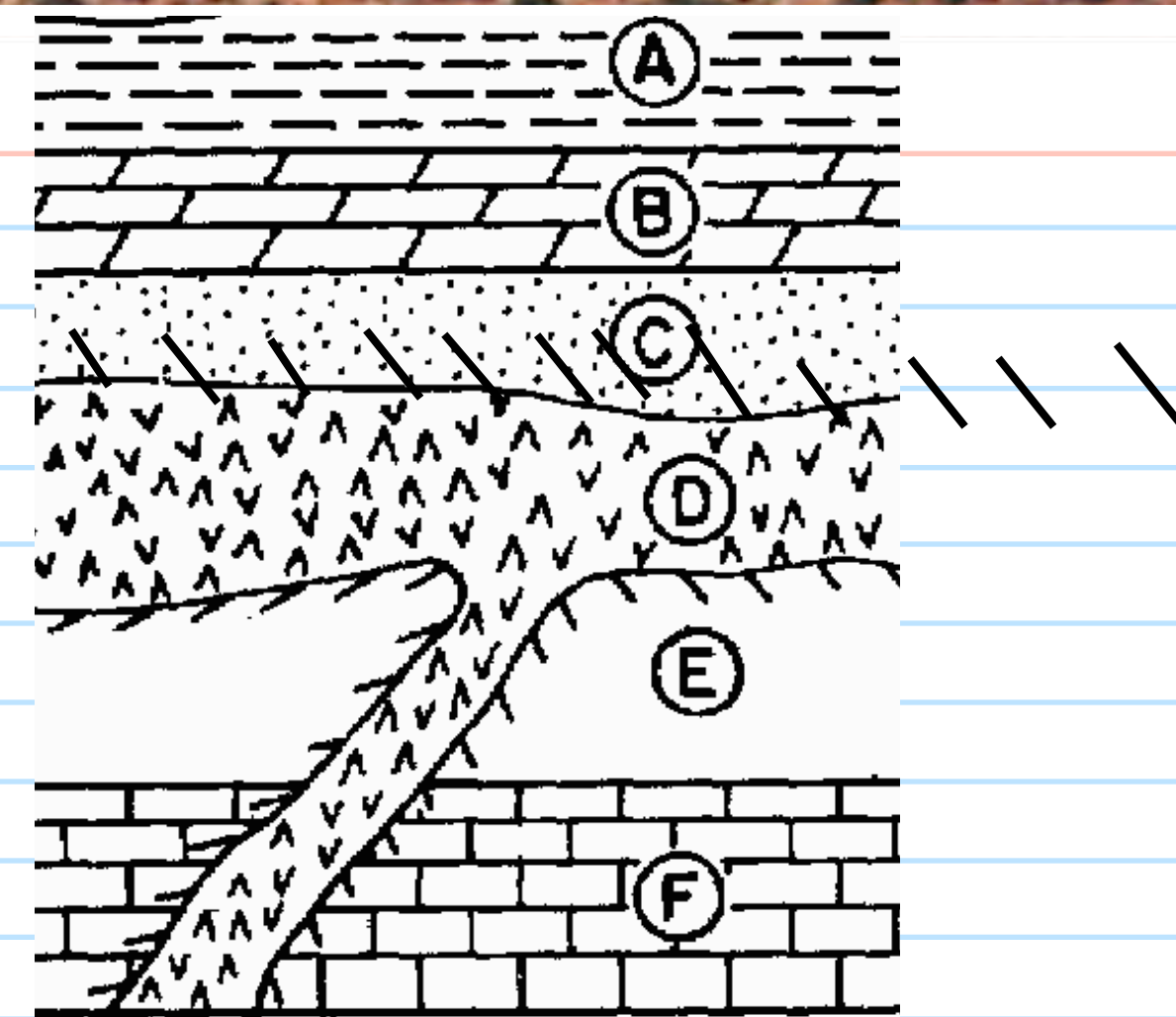


“H” is an igneous intrusion  
(note the hashed lines)

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# Age of Igneous Intrusion

The igneous intrusion is younger than the rock in which it is found.

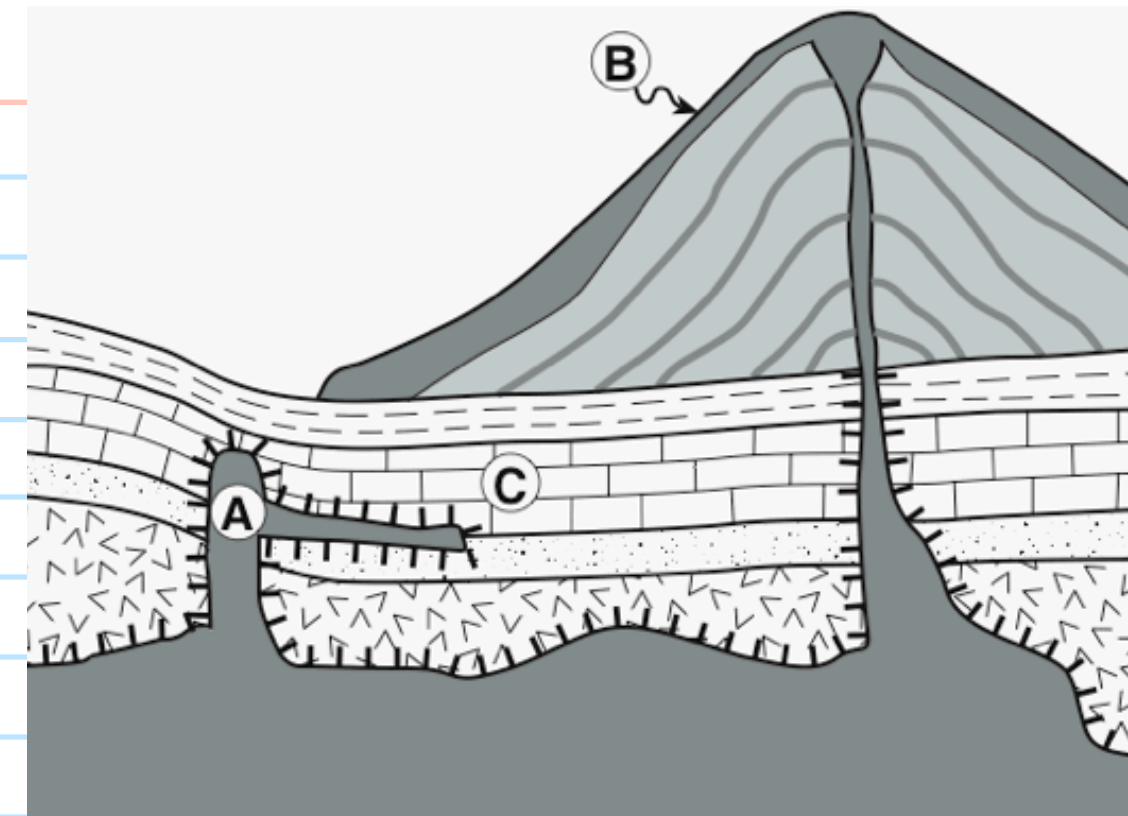


"D" is younger than C - F

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# Igneous Extrusion

Lava forces its way over other rock and solidifies.

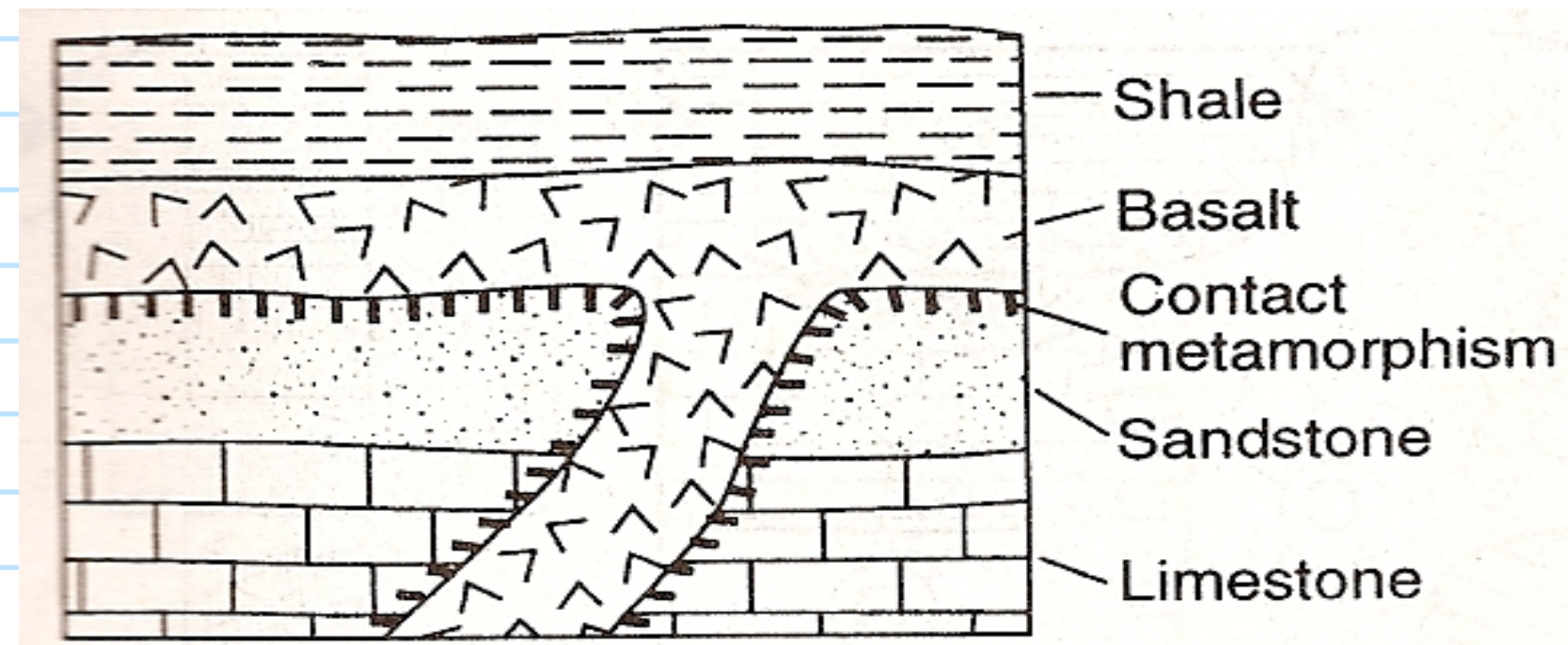


“B” is an igneous extrusion  
“A” is an igneous intrusion  
(note the hashed lines)

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# Age of Igneous Extrusion

The igneous extrusion is younger than the rock with the hashed lines & older than the rock without.



Geologic History

# Methods of Matching Rock Layers at different Locations

- “Walking the Outcrop”.
- Similarity of color, composition & appearance.
- “Fossil Correlation”.
- Volcanic Ash

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# Walking the Outcrop

Following the same rock layer along the surface.



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# Index Fossils



Eurypterus  
New York State Official Fossil

Organisms (fossils) that lived  
over a large part of the Earth  
for a short period of time.  
(wide spread & short-lived.)



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# Fossil Correlation

Using  
“Index  
Fossils” to  
date the  
layer of  
rock.



Age of Rock layer C = F  
B = D  
layer missing between B & C  
(unconformity)

## Geologic History

# Fossil Correlation

unconformity

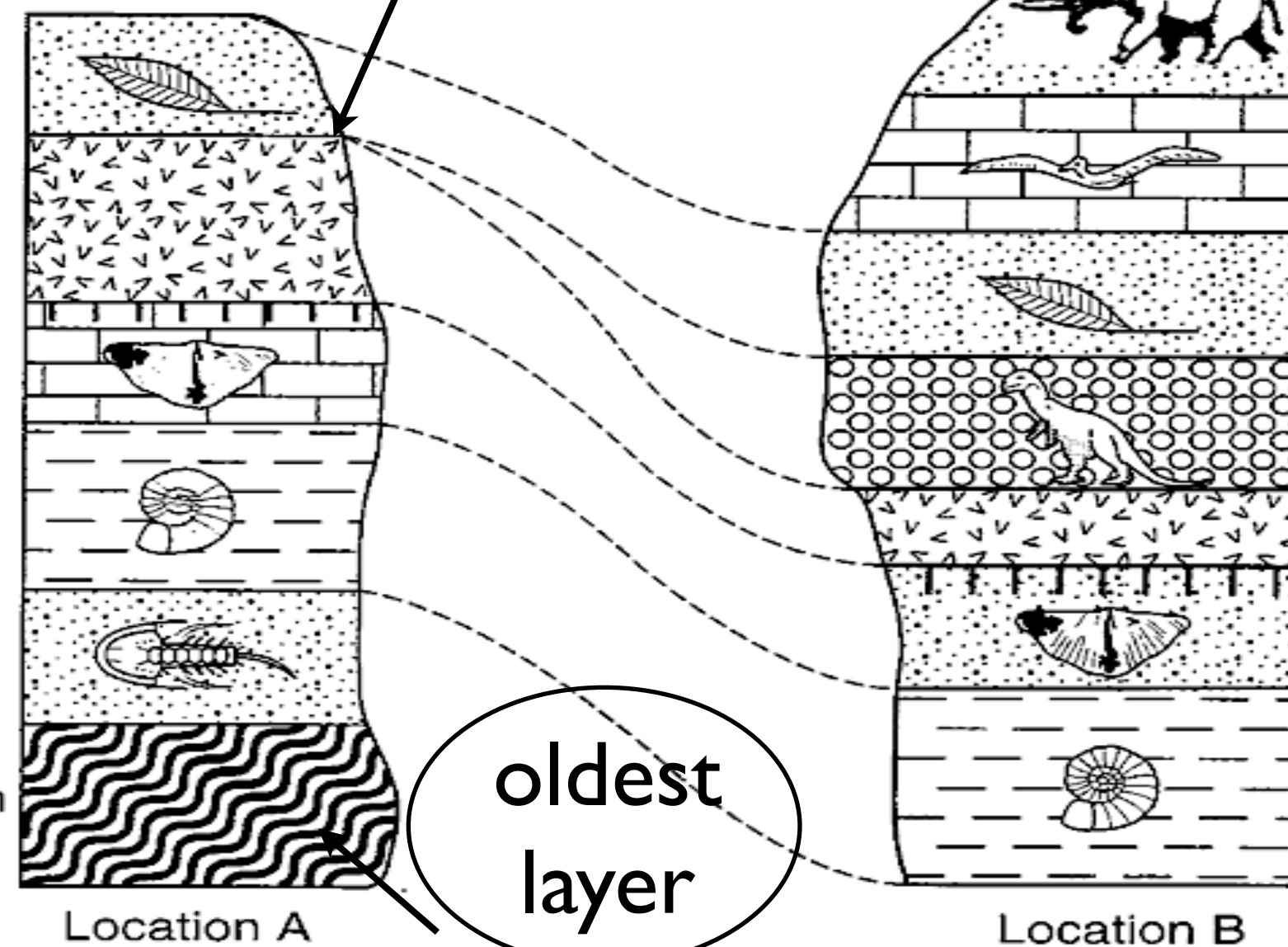
youngest layer

Key to rock types

- Limestone
- Shale
- Sandstone
- Conglomerate
- Basalt
- Schist
- Contact Metamorphism

Key to Fossils

- Mastodont
- Condor
- Figlike leaf
- Dinosaur
- Brachiopod
- Ammonite





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# Unconformity

Erosion causes gaps in the geologic record by removing rock. When a eroded layer is covered by a new layer the gap in the record is called an “unconformity”.

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# Actions producing an Unconformity

An unconformity indicates that the  
layer has experienced:  
Uplift, Weathering, Erosion &  
Subsidence.

unconformity →

