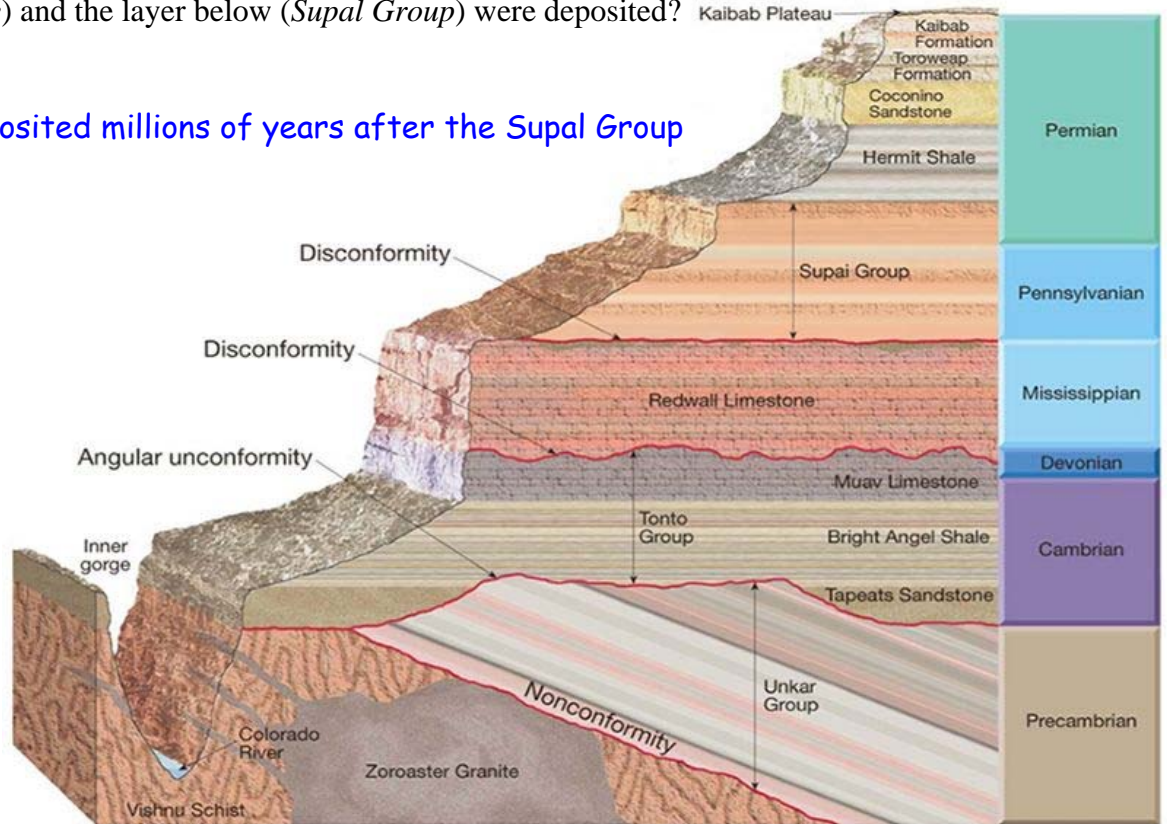


**layers, unconformities, geological time and geological records...**

What does an unconformity (ex: between the Hermit Shale and the Supal Group) tell us about when the layer above (Hermit Shale) and the layer below (Supal Group) were deposited?

Hermit Shale deposited millions of years after the Supal Group



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Figure 1. Generalized stratigraphic column for the Grand Canyon showing major rock units and unconformities.



Detail the **significant geological events** (as covered in class) that occurred, including estimates of the duration of these events, that can account for the Hermit Shale layer, the unconformity, and the Supal Group. (NOTE: The answer is the same for any two layers and the unconformity between them... A, unconformity, B.)

Event	Duration	Comments
the rock below, A, forms as sediment accumulates, then cements and compacts at the bottom of an ocean.	50-100 million years	
(as a consequence of plates shifting) the ocean “goes away” (moves)	5-10 million years	
layer A is now exposed to weathering (wind, rain, moving water, freezing water, sunlight...) that leads to erosion and the formation of sediment	10-100 million years	during this time the geological record is destroyed (‘erased’)
(as a consequence of plates shifting) the ocean “comes back” (moves)	5-10 million years	
the rock above, B, now forms as sediment accumulates, then cements and compacts as the bottom of the new ocean	50-100 million years	

