

# Driving Question/ Final Model

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## Why are there no volcanoes in Michigan?

Develop a model that reconstructs the geologic history of the Keweenaw Peninsula and explains why there are conglomerates and other sedimentary rocks interlayered with the volcanic rocks in Michigan's Upper Peninsula where there are no volcano cones.

Using [Canva \(https://www.canva.com/\)](https://www.canva.com/), Create the timeline of geologic history specific to Keweenaw Peninsula. Once you are in Canva do a search for timeline and choose one of the free options to create your timeline. Upload the timeline to this assignment. Below is an example of one completed for Indiana.

ERA	PERIOD/ SYSTEM	MILLIONS YEARS AGO	PREDOMINANT ROCK TYPES IN INDIANA	PRINCIPAL FOSSIL TYPES IN INDIANA	
CENOZOIC	QUATERNARY		Unconsolidated deposits - glacial till, sand, gravel, silt, marl, clay, and peat deposited during and after continental glaciation	Mastodon, mammoth, peccary, dire wolf, saber-toothed cat, gastropods, pelecypods, plants, and pollen	
	TERTIARY	2.6	Unconsolidated sediment consisting of clay, mud, gravel, sand, and silt	Short-faced bear, peccary, camels, snakes, rodents, fishes, birds, and turtles	
MESOZOIC	CRETACEOUS	65.5	None present	None present	
	JURASSIC	145.5	None present	None present	
	TRIASSIC	199.6	None present	None present	
IC	PERMIAN	251	None present	None present	
	CARBONIFEROUS	PENNSYLVANIAN	299	Shale, sandstone, mudstone, clay, coal, limestone, and conglomerate	Lycopods, <i>Calamites</i> , seed ferns, true ferns, <i>Cordaites</i> , and amphibians
		MISSISSIPPIAN	318.1	Shale, sandstone, siltstone, limestone, and gypsum	Crinoids, brachiopods, cephalopods, corals, molluscs, trilobites, bryozoans, fishes, arthropods, and foraminifera

<b>PALEOZO</b>	<b>DEVONIAN</b>	359.2	Upper part: carbonaceous shale Lower part: limestone, dolostone, and shale	Corals, brachiopods, cephalopods, trilobites, pelecypods, and bryozoans
	<b>SILURIAN</b>	416	Dolostone, limestone, siltstone, and shale	Corals, stromatoporoids, bryozoans, brachiopods, trilobites, gastropods, pelecypods, crinoids, and eurypterids
	<b>ORDOVICIAN</b>	443.7	Upper part: shale and limestone Lower part: limestone, dolostone, and sandstone*	Cephalopods, trilobites, brachiopods, bryozoans, crinoids, pelecypods, and gastropods
	<b>CAMBRIAN</b>	488.3	Sandstone and dolostone*	Trilobites, brachiopods, and sponges
	<b>PRECAMBRIAN</b>	542	Granite, marble, gneiss, and other igneous and metamorphic rock types*	Microbes
		4,600		

\* Present only in the subsurface

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 Geologic time dates from U.S. Geological Survey, 2010, Divisions of geologic time—major chronostratigraphic and geochronologic units: U.S. Geological Survey Fact Sheet 2010-3059.

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To create your model, use Canva again. You will likely want to use a blank template this time. Your model should attempt to explain what happened in Michigan's Geologic history and explain why there are no volcanoes in MI today (despite there being volcanic rock located there in the rock record). Hint: It would be helpful to look up images of plate boundaries and to review the Under MI resource provided when developing your model. These links may also be helpful

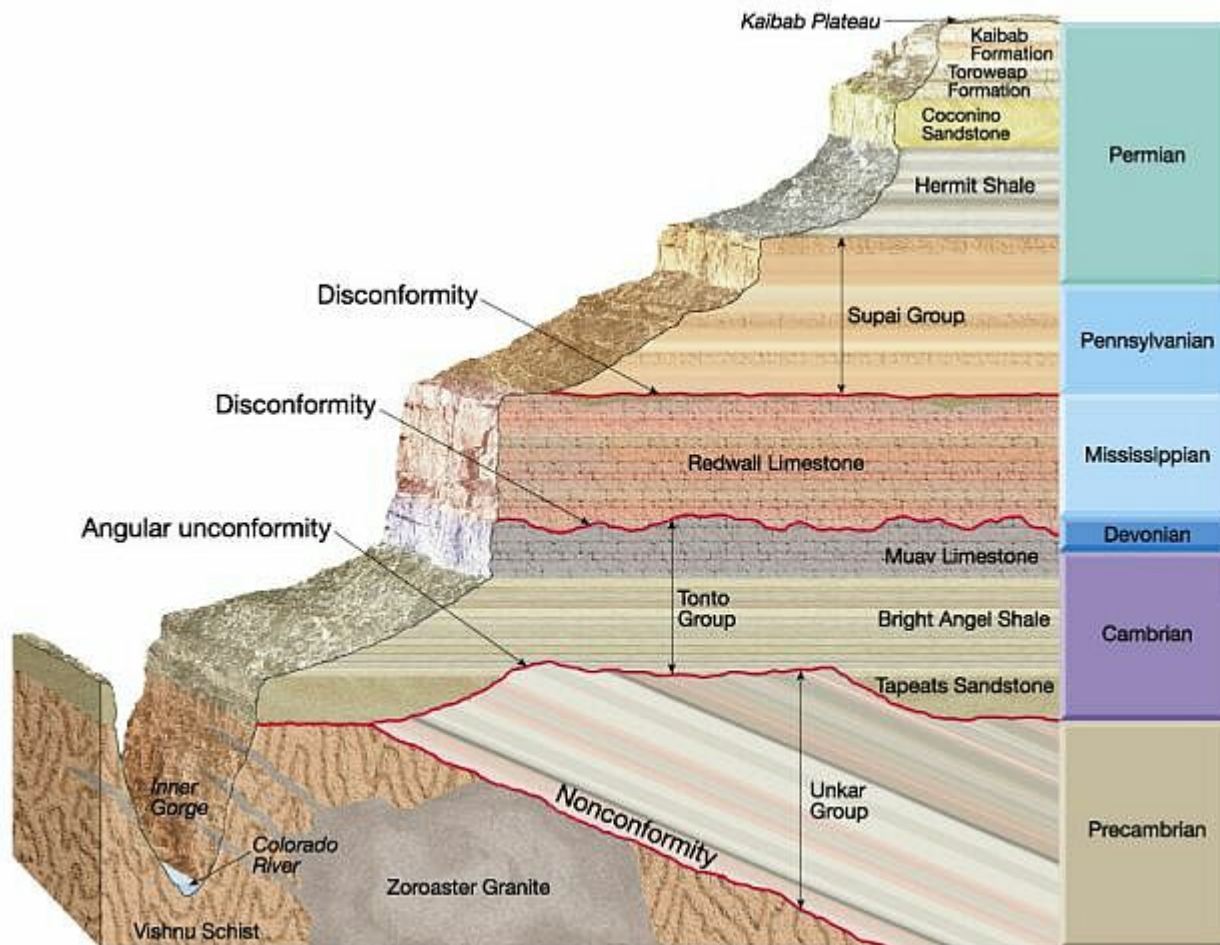
([https://en.wikipedia.org/wiki/Great\\_Lakes\\_tectonic\\_zone?scrllybrkr=54de946f](https://en.wikipedia.org/wiki/Great_Lakes_tectonic_zone?scrllybrkr=54de946f)

([https://en.wikipedia.org/wiki/Great\\_Lakes\\_tectonic\\_zone?scrllybrkr=54de946f](https://en.wikipedia.org/wiki/Great_Lakes_tectonic_zone?scrllybrkr=54de946f).)

<https://www.nps.gov/kewe/learn/nature/geology.htm> ↗

(<https://www.nps.gov/kewe/learn/nature/geology.htm>)

An example (from a different location is pictured below)



Other potentially helpful websites:

<https://www.nps.gov/kewe/learn/nature/geology.htm> ↗

(<https://www.nps.gov/kewe/learn/nature/geology.htm>)

[https://museum.mtu.edu/sites/default/files/2019-11/AESMM\\_Web\\_Pub\\_1\\_Great\\_Lakes\\_Geology\\_0.pdf](https://museum.mtu.edu/sites/default/files/2019-11/AESMM_Web_Pub_1_Great_Lakes_Geology_0.pdf) ↗

([https://museum.mtu.edu/sites/default/files/2019-11/AESMM\\_Web\\_Pub\\_1\\_Great\\_Lakes\\_Geology\\_0.pdf](https://museum.mtu.edu/sites/default/files/2019-11/AESMM_Web_Pub_1_Great_Lakes_Geology_0.pdf))

Upload your digital model (20 points) AND timeline (10 points) to this assignment.

**Points** 30

**Submitting** a file upload

Due	For	Available from	Until
Oct 10	Everyone	-	-

+ Rubric