

Activity III: Sedimentary Rock Formation

Engage:

1) How did the area which is currently Western New York form during the Middle to Late Devonian Period? Think, pair, share.

Explore:

1) Review the geological processes that were occurring during the Middle to Late Devonian Period in the area that is now Western New York using your maps.

Activity III: Sedimentary Rock Formation

Explain A:

- 1) Use your textbook or other resources to review the rock cycle and sedimentary rock formation as instructed by your teacher.

Explain B:

- 1) View *Law of Superposition-Sedimentary Rock Formation* video clip. (Next Slide)

*NOTE: These rocks were formed during the Devonian Period from approximately 400 to 370 million years ago-not 500 million (half a billion) years ago (Cambrian Period) as stated in the video.

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Elaborate B:

- 1) What is a cliff?
- 2) What type of rocks make up the cliffs you viewed in the video clip?
- 3) What is the Principle of Superposition?
- 4) What is relative dating?
- 5) What can we infer about the age of the rock layers (and the fossils they contain) as we move from the bottom of the cliffs and go up?
- 6) What types of fossil organisms are in the rocks?
- 7) How do you think they were fossilized?
- 8) Hypothesize about why one of the slabs is red in color. Think, pair, share.

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Explain C: View *Sedimentary Rock Layers: Erosion* video clip.



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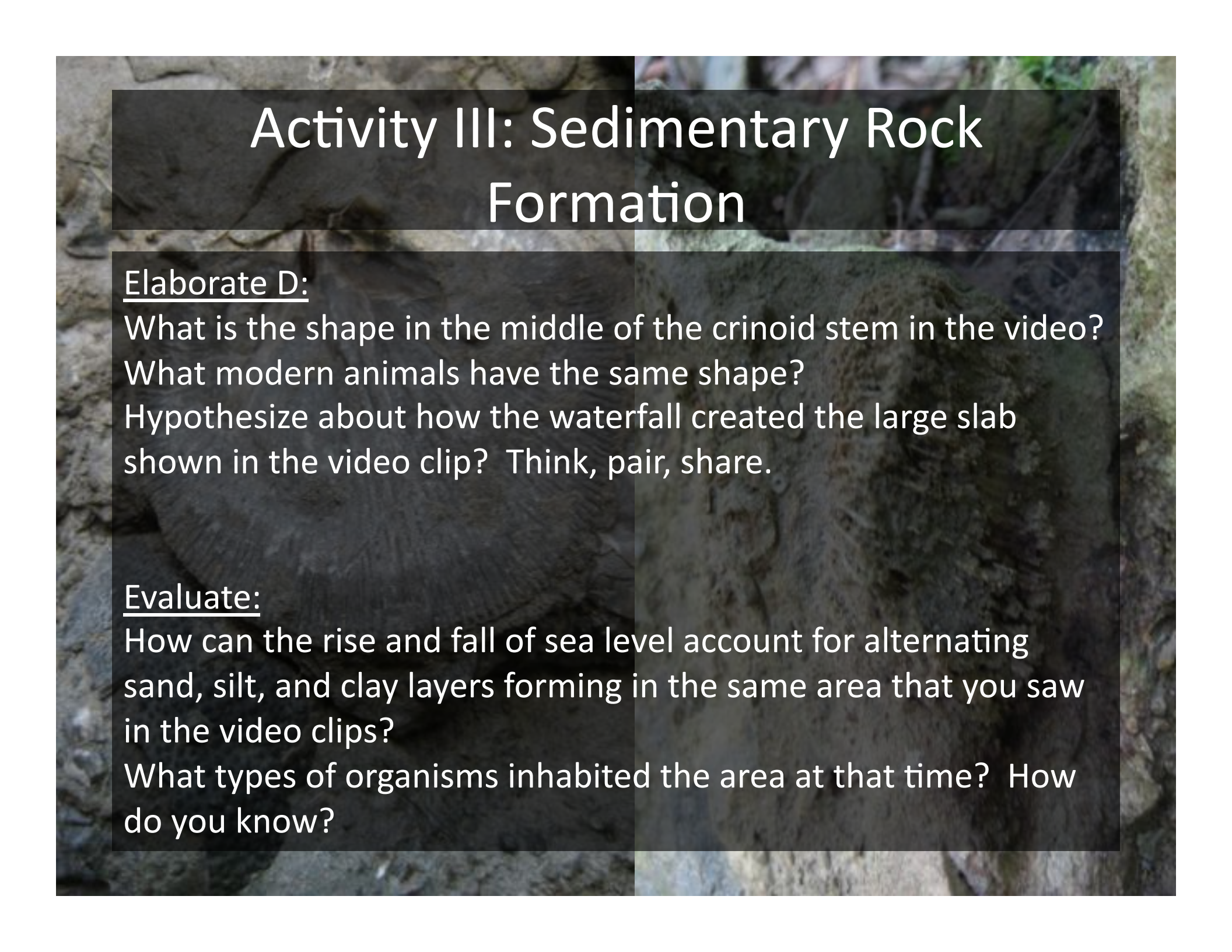
Elaborate C:

- 1) Describe the different types of sediment that make up the rock layers in the video clip:
 - Sand
 - Silt
 - Clay
 - Sandstone
 - Limestone
 - Shale
- 2) Do all of these layers contain fossils?
- 3) Which type of rock layer probably formed in a beach-type environment? Explain.
- 4) Which type of rock layer probably formed in a deeper ocean environment? Explain.
- 5) What does *anoxic* mean?
- 6) What effect may an anoxic environment have on the color of the sediment layer formed in that condition? Explain your answer.
- 7) Where are these anoxic environments likely to be found?

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Explain D: View *Crinoid Slab* video clip.





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Elaborate D:

What is the shape in the middle of the crinoid stem in the video?

What modern animals have the same shape?

Hypothesize about how the waterfall created the large slab shown in the video clip? Think, pair, share.

Evaluate:

How can the rise and fall of sea level account for alternating sand, silt, and clay layers forming in the same area that you saw in the video clips?

What types of organisms inhabited the area at that time? How do you know?