

Valley and Ridge Virtual Tour

Open KMZ file in Google Earth Pro. This application is a free download available at <https://www.google.com/earth/versions/>. Once the virtual tour is open in Google Earth Pro, see sites listed in the virtual tour for more information on each site. Click on the name of a site for a photo and a description. Double-click on a site to be flown to that site. Below are questions and answers based on the virtual tour.

Questions

1. Where does the name “Brau Kettle” come from?
2. What was the original environment of “Our Swamp” in High Point State Park?
3. What rock types make up the talus apron on Kittatinny Mountain?
4. How did the joints, fractures, and faults in the Allentown Dolomite form?
5. What are wind gaps?
6. What is the dominant rock type in the Esopus Formation?
7. What is frost shattering?
8. What is knick-point retreat, as it relates to waterfalls?
9. What are erratics?
10. In what types of environments did trilobites live?

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Answers:

1. Brau Kettle comes from the Dutch for “brewing kettle.”
2. “Our Swamp” was formerly a shallow glacial lake dammed behind the Montague recessional moraine.
3. The talus apron on Kittatinny Mountain consists of quartzite and conglomerate joint blocks that were dislodged from Shawangunk Formation outcrops located upslope.
4. Joints, fractures, and faults in the Allentown Dolomite formed during the Taconic and Alleghenian Orogenies when the Lower Paleozoic Formations were tectonically compressed. Some of the joints are Mesozoic age.
5. Wind gaps are notches where rivers formerly flowed, such as Culvers Gap.
6. The Esopus Formation is chiefly a fine-grained sandstone.
7. Frost shattering is a weathering process where water, through repeated cycles of freezing and thawing, breaks the rock into shale-chip rubble. Water expands as it freezes, causing rocks to break as it enters cracks and freezes and expands.
8. Knick-point retreat is the process by which waterfalls migrate upstream.
9. Erratics are rocks of unspecified shape and size transported a significant distance from their origin by a glacier or iceberg and deposited by melting of the ice.
10. Trilobites lived in marine environments ranging from shallow reefs to deeper ocean bottoms.