

SEQUENCE OF EVENTS LAB

DIAGRAM #1	
A. What type of deformation has occurred?	A. Folding
B. What is the name of the rock that was deposited first?	B. Shale
C. What is the name of the rock that was deposited most recently?	C. Sandstone

DIAGRAM #2	
A. What type of deformation has occurred?	A. Tilting and Faulting
B. What is the name of the rock that was deposited first?	B. Limestone
C. What is the name of the rock that was deposited most recently?	C. Sandstone

DIAGRAM #3	
A. What processes have caused parts of these layers to be removed?	A. Weathering and Erosion
B. List the rocks (by letter) in order from oldest to youngest.	B. Rock D, Rock C, Rock B, Rock A
C. Why would the surface of these rocks not be considered an unconformity?	C. Because they have not yet been buried by additional layers.

DIAGRAM #4	
A. What is the name of this surface feature?	A. Folding, Dome Mtn., Anticline
B. Did the igneous intrusion (the rock with the v's) come before or after the layers above it? Explain.	B. The intrusion likely came before the other layers because there was no contact metamorphisms between them.

DIAGRAM #5

A. What are the processes involved in the formation of the unconformity?	A. Uplift, Weathering and Erosion, and Subsidence
B. List the names of the index fossils from oldest to youngest.	B. Elliptocephala, Valcourceras, Eucalyptocrinus, Coleophysis
C. What is the name of the rock that formed during the Triassic period?	C. Siltstone

DIAGRAM #6

A. List the sequence of events, from oldest to youngest, that formed this cross-section.	A. G, F, E, D/H, C, Uplift, Weathering and Erosion, Subsidence, B, A, Uplift, Weathering and Erosion
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DIAGRAM #7

A. List the sequence of events (by rock name/process name) that formed this cross-section.	A. Limestone, Bullet Shale, New Creek Gypsum, Dunbar Limestone, Erie Coal, Uplift, Weathering and Erosion, Deposition, Freeport Sandstone, Gayle Shale
B. How did the Erie coal form?	B. Compaction of Plant Remains

DIAGRAM #8

A. What do the thick, horizontal black lines represent?	A. Igneous intrusions/extrusions, lava/magma flows
B. What do the thin, vertical black lines (the "whiskers") represent?	B. Areas of contact metamorphism
C. Is the Palisades Sill younger or older than the Brunswick Sandstone? How can you tell?	C. Younger, it metamorphosed the sandstone, so the sandstone must have been there first.

DIAGRAM #9

A. List the sequence of events, from oldest to youngest, that formed this cross-section.	A. A, B, C, D, Intrusion with Contact Metamorphism, Tilting, Uplift, Weathering and Erosion
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DIAGRAM #10

A. What is the name of the rock at letter A?	A. Quartzite
B. Did the fault occur before or after the intrusion? Explain.	B. After, because the intrusion was effected by the fault.
C. Did uplift, weathering and erosion occur before or after the fault? Explain.	C. After, because the portion of the fault rocked above ground was affected by weathering and erosion.

DIAGRAM #11

A. Did C form before or after B? Explain.	A. C formed before B because B was not affected by the intrusion.
B. Are these layers presently above or below sea level? Explain	B. Below, there is no evidence of uplift, weathering, and erosion.

DIAGRAM #12

A. What is line XY called? How does it form?	A. An unconformity, formed as a result of uplift, weathering and erosion, and subsidence
B. List the epoch and period in which the three layers of shale formed, from oldest to youngest.	B. Bottom layer: Elliptocephala, Middle Cambrian, Middle layer: Valcourceras- Middle Ordovician, Top layer: Dichellograptus: Late Ordovician

DIAGRAM #13

A. During which geologic period were layers I, II, III, and IV deposited?	A. All were formed during the Devonian period
B. Why is the Elliptocephala located everywhere within layer VIII?	B. Fossils cannot exist in intrusions as they would be destroyed by the intense heat

DIAGRAM #14

A. In box B, state the names of the three rock layers from oldest to youngest.	A. Shale, Sandstone, Conglomerate
B. In Box C, state the names of the two rock layers from youngest to oldest.	B. Conglomerate, Shale

DIAGRAM #15

A. State the entire sequence of events that formed this cross section.	A. G, F, E, D, tilting, faulting, intrusion H, uplift, weathering and erosion, subsidence, C, B, A, uplift, weathering and erosion
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DIAGRAM #16

A. Layer E must be older than _____ years.	A. 430 million years (or so)
B. Layer A most likely formed during the beginning of what period?	B. Jurassic Period

DIAGRAM #17

A. Is the fault older or younger than the intrusion? Explain.	A. The fault is older than the intrusion because the intrusion has not been faulted.
B. What type of rock likely exists below the layer of shale on the right side of the fault?	B. Limestone

DIAGRAM #18

A. What processes likely occurred between the formation of intrusion 7 and layer 4?	A. Uplift, weathering and erosion, and subsidence
B. What is the name of the rock that will likely form where layers 7 and 8 meet?	B. Metaconglomerate

DIAGRAM #19

A. Did the Glossopteris live before or after the eruptions that formed the laval flows? Explain.	A. Before, the Glossopteris fossils are in a layer beneath the lava flows.
B. What process likely occurred in this location, but is not reflected on the diagram?	B. The sandstone beneath the lava flows should have been metamorphosed.

DIAGRAM #20

A. Why do you think the Queenston shale more worn away than the Whirlpool sandstone?	A. Shale is a softer rock than sandstone
B. What is the name of the youngest sandstone shown in this cross section?	B. Thorold sandstone