

Review Questions Topic 10: Reconstructing Past Environments – Sedimentary Rocks

What is “catastrophism”? Did all catastrophists agree? Explain

What did James Hutton mean by “The Present is the Key to the Past”?

How was uniformitarianism different from catastrophism?

Why do you think did uniformitarianism lead scientists to actually look carefully at the rocks, something that catastrophist were very slow in doing.

How did the uniformitarianism of James Hutton differ from that of Charles Lyell?

Define “scientific uniformitarianism”

What is “neo-catastrophism” and does it include a world-wide flood as an explanation?

Provide four examples of “catastrophic”, that is rapid geological change and processes

Explain how uniformitarianism is used to “read” sedimentary rocks

Discuss the differences in grain sizes of clasts that wind, water, and ice can transport over long distances

Explain the difference between clastic, chemical, and biogenic sedimentary rocks

List and explain at least 10 characteristics of rocks deposited in fluvial settings

How can you tell that a handful of sand grains were likely deposited by wind, not water (two signs..)?

Explain how dunes migrate over time (what is the “lee” side and what is the “stoss” side of a dune?)

Explain how crossbedded sandstones form

What kind of terrestrial trace fossils might one find in dune-type deposits?

How are evaporites evidence of a dry, subaerially exposed setting?

What do geologists call “lake settings”?

Explain how the rhythmic couplets of dark and light layers form at the bottom of deep, seasonal lakes

Why are lakes relatively short-lived in geological time?

What are some of the characteristics that lake settings share with river settings?