

Historical Geology 1

Geology 101 Review / Fall, 2018

2. What did James Hutton, the father of modern geology, observe that caused him to propose an older earth?
4. From what did Earth (and most other planets) probably form?
7. The accepted age for Earth is ____ years.
8. Why are there no rocks from 4.5 billion years ago (BYA) ?
10. What is the big deal with the pillow lavas in South Africa? What do they prove?
11. If rocks weren't the source of ALL Earth's water, what could be another source?
13. Describe two differences between the continental granite and oceanic basalt.
14. Continents tend to be made primarily of the rock _____
15. Why are stromatolites important in Earth's history?
16. What did the oxygen first do to the oceans and how did the oceans change?
17. What is the big deal with all the precipitating iron?
18. What was the paradox raised by Paradoxides?
19. What did findings from WWII show related to "continental drift"?
21. What happens to the crust directly above the upwelling convection currents.
22. If the crust is breaking apart at rifts, won't this make Earth bigger? Explain.
23. The rate of plate movement is about the same as _____
28. Why was life finally able to develop on land when before it could survive only in oceans?
29. Why is what happened in the Carboniferous period significant for us today?
31. What started happening by 180 MYA and what was the result?
36. What were the Alvarez findings and that did those findings suggest? What was the evidence?
39. What happened when Africa bumped into Europe.
41. If the Colorado & Mississippi had an erosion contest, the Colorado would win. Why?
43. Long ago, could a Forrest Gump-like polar bear have run from the Arctic to Peru to eat a llama? Why?
45. How has the climate in the last 10,000 years been good for humans?

Historical Geology 2

4. How is our own Grand Canyon an example of uniformity or uniformitarianism?
5. What is the Law of Superposition?
6. If you find tilted or folded rocks, what does the Law of Original Horizontality say about them?
7. A rock is _____ in age than any rock it cuts across.

8. How can fossils be useful in dating rocks?
9. Describe two ways fossils may be preserved. (Don't just list two types of fossils.)
10. Why are the rocks in the bottom of the Grand Canyon called Cambrian rocks?
11. What happens over time to the amount carbon-14 in the body of a dead organism.
12. You find two rocks with carbon in them. Which is older, the rock with more carbon 14 or less carbon 14?
13. If carbon-14 dating is accurate in dating things only about 50,000 years old, how can we date rocks older than that? Aren't we stuck at 50,000 years?
14. What does the mass spectrometer do?
15. How is relative age different from absolute age?

Rivers 1 - old, mature, young, drainage basin, tributary, distributary, alluvial fan, continental divide

1. What is unexpected about the amount of water carried in rivers compared with the total rainfall?
2. Circle the river characteristic that will lead to greater erosion. FAST or SLOW / FLAT or STEEP
ROCKY BED or CLAY BED / WIDE FLAT BED or SEMI-CIRCULAR BED
3. Describe two ways that rivers wear down their river bed.
4. Which kind of river bed will wear down faster, a limestone bed or granite and why? WHICH? WHY?
5. What are the different ways a river carries its load?
- 5 ½ Describe what kind of particle or material moves in each of the transport forms.
6. Why do sand bars form in the middle of the river? Shouldn't that stuff be moved downstream?
8. Why does sand stack up on the inside of a river curve?
7. What do you think about putting cities next to a river? Is this wise? Explain.
8. Are artificial levees a good idea or bad idea? Again, explain your answer.

Rivers 2 - levee, oxbow, cutoff, meander, terrace, load, saltation, solution, base load, suspension, alluvial fan

3. List two things that happen to a river as it approaches its base level.
4. Describe what happens in each of Davis' river stages and the shape of the valley in each age.
5. Which will form a steeper river valley slope, rock or sediment? Explain why.
6. What forms a terrace? (There are two possible answers. Either is fine.)
7. What happens when a river enters a lake or ocean and why? (Good word - distributaries.)
8. If you were Ruler of the World, would you build a city near the end of the Mississippi River?

Dowsing

5. Why do dowsers almost always find at least some water? (Hint: It isn't magic.)

Eager Beaver

List 6 things you learned from this podcast.

Four Laws of Ecology

List them.

Colorado River

Ch 8 Time and Geology - laws, principles, cross cutting, included fragments, superposition, index fossil, era, absolute age, relative age, fossil, correlation,

41. Geological processes operating now are the same processes that have operated in the past is a statement of ???

42. In the figure to the right, which dike is the oldest?

43. Which is a method of correlation or matching rocks. a. looking at similar fossil sequences in the sedimentary rocks b. physical continuity - just walking the layer c) finding similar rock layers and/or types in formations on different continents c) AOTA can be used.

44. Which division of geologic time is by far the longest?
a. Cenezoic Era b. Paleozoic Era c. Mesozoic Era d. Precambrian

46. Methods used by geologists to determine the general sequence of geologic events from oldest to youngest are known as a. relative dating. b. geologic shutdown. c. absolute dating. d. NOTA

47. Why are fossils like trilobites and layers like iridium handy for paleontologists? a. These can can tell the age of a rock easily. b. They always indicate that there are coal deposits in a rock. c. They show where faults have occurred. d. They aren't of any use.

48. In which type of rock would you most likely find a fossil? a. Kid b. sedimentary c. igneous d. metamorphic e. intrusive

T/F

49. Relative dating methods are useful for establishing the exact absolute age of geologic events.

50. Fossils like trilobites have proven to be useful as relative dating tools.

51. The Principle of Original Horizontality say that all rocks, igneous, sedimentary, & metamorphic are always deposited as horizontal layers.

Any vocabulary words we should have included?

