

ES202 Video Exercise – Earth Revealed Rivers and Running Water (Erosion and Deposition “Fluvial 1”)

Watch the video and answer the following questions.

1. What was the hypothesis of river flow created by Pierre Pirot in the 18th century. How does the volume of flow river water compare to the volume of rainfall for a given region?
2. What percentage of earth’s annual precipitation flows in rivers?
3. Where does the larger percentage of earth’s annual precipitation end up?
4. What are the three functions of rivers with respect to sediment load?
5. True or False: fast rivers transport less sediment than slow moving rivers?
6. How does the velocity of the river change with the slope or gradient of the river?

7. True or False: wide shallow rivers are slower moving than narrow deep rivers?

What is roughness in a river?

8. True or False: boulder rivers have more roughness compared to silty rivers.
9. What is the discharge of a river? What are the units of discharge measurement in the U.S.?
10. True or False: discharge decreases with increasing drainage area of a river.
11. What two substances are carried by rivers?
12. List and describe the three processes of river erosion.
13. True or False: rivers can erode both crustal bedrock and loose sediment or regolith.
14. True or False: all rock types are eroded by rivers at the same rate?
15. List the three primary processes of sediment transport in a river.
16. True or False: cobbles are commonly transported as suspended load in a river.
17. What is the term for cobbles hopping or skipping along the channel bottom of a river?
18. True or False: fast moving water is less turbulent compared to slow moving water.
19. Describe river “bars”, where do they occur.
20. Draw a sketch of a meandering river pattern.

MORE QUESTIONS ON BACK...

21. Draw a sketch of a braided river pattern.
22. What are point bars and cut banks, where are they located? Are they erosional or depositional?
23. True or False: rivers use physical processes to minimum the amount of energy expenditure compared to the sediment transport work needed.
24. What is the average number of years between river floods?
25. What is a floodplain? Draw a sketch in relation to river channel.
26. Are floodplains erosional or depositional? What is a common size of sediment deposited on floodplains?
27. What is a natural levee? Is it erosional or depositional?
28. What is the purpose of a man-made artificial levee? What are the problems associated with man-made, artificial levees?
29. What is a primary method by which human's mitigate the potential for flooding downstream.
30. True or False: sediment is deposited downstream of dams, and eroded up stream.
31. What is base level?
32. True or False: a decrease in sediment load of a river will result in erosion, and vice versa.
33. How much sediment does the Mississippi river move in a given year?

END VIDEO QUESTIONS AT TIME MARK 17:00 (start of Mississippi river management topic)