

EROSION AND DEPOSITION BY STREAMS

1. What is EROSION?
2. What force is responsible for driving erosion?
3. What is DEPOSITION?
4. Does deposition happen when an “AGENT OF EROSION” speeds up or slows down?

NOTE: *The natural AGENTS OF EROSION include: streams (running water such as rivers), glaciers (moving ice), wave action, wind, and mass movement.*

5. Does deposition happen due to a gain or loss of energy within a transporting system?
6. What is VELOCITY?
7. What is GRADIENT (slope) and how is it calculated (see reference tables)?
8. What is stream DISCHARGE?
9. How does gradient affect the velocity of a stream?
10. How does gradient affect the amount of material a stream can transport?
11. How does discharge change after a heavy rainfall or snow melt?
12. How does discharge affect the velocity of a stream?
13. How does discharge affect the amount of material a stream can transport?
14. What is the CHANNEL of a stream?
15. In a bending stream, where is the velocity greatest, at the outer or inner curve of the bend?
16. In a bending stream, where is the stream deepest, at the outer or inner curve of the bend?
17. In a bending stream, where is erosion happening, at the outer or inner curve of the bend?
18. In a bending stream, where is deposition happening, at the outer or inner curve of the bend?
19. In a straight stream, where is the velocity greatest, at the sides or the center?
20. In a straight stream, where is the velocity greatest, near the surface or near the riverbed (bottom)?
21. In a straight stream, where is it deepest, at the sides or the center?
22. Where are pebbles, sand, silt, clay and salt carried in stream?
23. In a stream, which sediments are carried in the BED LOAD, SUSPENSION, and SOLUTION?
24. What is ABRASION?
25. If sediments are transported by a stream, how will their shapes change?
26. If sediments are transported by a stream, how will their sizes change?
27. If sediments are transported by a stream, do they move faster or slower than the stream?
28. What letter of the alphabet describes the shape of a youthful, steep river valley?
29. What is a MEANDER?
30. Are meandering rivers found on steep or gentle slopes?

31. What is a FLOOD PLAIN?
32. What are some features of flood plains?
33. How do OXBOW LAKES form?
34. Where and why do DELTAS form?
35. What is an ALLUVIAL FAN?
36. What is a WATERSHED (drainage basin)?
37. What is a TRIBUTARY?

See your reference tables (p.3) for questions 38 – 41.

38. Near what mountain does the Hudson River begin, and near what city does it end as it flows south into the Atlantic Ocean?
39. Name a tributary of the Hudson River.
40. What direction does the Genesee River flow, and what body of water does it flow into?
41. As water drains from (flows from) Lake Erie into Lake Ontario, what famous landmark does the water flow over?

42. Is the top layer of rock in a waterfall soft or resistant?
43. What causes waterfalls to recede (move “backwards”)?
44. What is a DIVIDE?
45. What is The Great Divide?
46. Give examples of different DRAINAGE PATTERNS.
47. Explain why the different drainage patterns form.

NOTE: Questions 48 – 54 are to be answered using your reference tables, page six, **“Relationship of Transported Particle Size to Water Velocity.”**

The graph shows the relationship between particle diameter, in centimeters, and the speed of stream flow, in centimeters per second, needed to keep the particle in motion. The graph also shows size ranges for clay, silt, sand, pebbles, cobbles, and boulders.

48. What is the range of diameters for particles that are classified as pebbles?
49. Suppose a particle has a diameter of 0.05 centimeters. What is the particle called?
50. What is the name of the particle that continues moving at the slowest stream speed?
51. What is the minimum stream speed needed to move a boulder?
52. Name the particles that would be transported in a stream moving at 100 centimeters per second.
53. If a stream slows down from 100 cm/sec to 0.05 cm/sec, what will be deposited?
54. As particle diameter increases, the velocity of stream flow needed to keep the particle in motion _____.