

Directed Reading

Section: Erosion

1. Define *erosion*.

2. List the four most common agents of erosion.

3. List three important ways in which water moves weathered rock.

SOIL EROSION

Use the terms from the list below to complete the sentences that follow. Each term may be used only once. Some terms may not be used.

- | | | |
|---------|-----------|----------|
| wind | humus | climate |
| water | solution | gullying |
| subsoil | fertility | topsoil |
| air | erosion | |

4. As rock weathers, it eventually becomes very fine particles that mix with humus, water, and _____ to form soil.

5. The natural balance of erosion and new soil formation can be upset by land use and _____.

6. Accelerated soil erosion caused by the plowing of furrows up and down slopes that allows water to run swiftly over soil, carrying away the topsoil, is called _____.

Directed Reading *continued*

- 7. Sheet erosion strips away parallel layers of _____, eventually exposing the surface of the soil beneath.
- 8. During dry seasons, _____ can remove the topsoil in clouds of dust and drifting sand, creating large dust storms.
- 9. Constant erosion reduces the _____ of the soil by removing the A horizon, which contains humus.
- 10. Why is the B horizon difficult to farm?

- 11. How could the B horizon lose even more soil?

SOIL CONSERVATION

- 12. How can construction projects increase the rate of erosion?
- 13. Why is soil erosion a special concern for deserts and mountain regions?
- 14. How are land developers working to prevent erosion?
- 15. In addition to land developers, what other group is working to minimize soil erosion and preserve topsoil?

Directed Reading *continued*

In the space provided, write the letter of the description that best matches the term or phrase.

- | | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| _____ 16. contour plowing | a. planting a field with one type of crop one year and a different type of crop the next year, thus maintaining soil fertility |
| _____ 17. strip-cropping | b. plowing soil in curved bands that follow the shape of the land, thus preventing soil from flowing directly down slopes |
| _____ 18. terracing | c. building step-like ridges that follow the contours of a sloped field, thus slowing the downslope movement of water |
| _____ 19. crop rotation | d. planting crops in alternating bands, one of which is a cover crop that slows rain runoff |

GRAVITY AND EROSION

- _____ 20. The movement of a large mass of sediment or a section of land down a slope is called
- gulying.
 - mass movement.
 - erosion.
 - a rockslide.
- _____ 21. What is the rapid fall of rocks, ranging in size from tiny fragments to large boulders, from a steep cliff?
- a rockfall
 - a mudflow
 - a landslide
 - a slump
- _____ 22. The sudden fall of masses of loose rock combined with soil down a steep slope as a result of heavy rainfall, spring thaws, volcanic eruptions, or earthquakes, is called a
- rockfall.
 - mudflow.
 - landslide.
 - slump.
- _____ 23. Sudden, heavy rainfalls and volcanic eruptions may lead to mud churning and tumbling down slopes and through valleys in mountainous regions. What is this called?
- a rockfall
 - a mudflow
 - a landslide
 - a slump

Directed Reading *continued*

- _____ 24. What occurs along very steep slopes when saturation by water and loss of friction with underlying rock cause loose soil and rock to slip downhill in one huge piece?
- a. a rockfall
 - b. a mudflow
 - c. a landslide
 - d. a slump
- _____ 25. The slow, downslope flow of water-saturated soil over hard or frozen layers in areas surrounding glaciers at high elevations is called
- a. creep.
 - b. solifluction.
 - c. talus.
 - d. landslide.
- _____ 26. The extremely slow downhill movement of weathered rock material, occurring when water separates rock particles and allows them to move freely, is called
- a. creep.
 - b. solifluction.
 - c. talus.
 - d. landslide.
- _____ 27. What are piles of rock fragments that accumulate at the base of a slope called?
- a. creep
 - b. solifluction
 - c. talus
 - d. landslide

EROSION AND LANDFORMS

28. Define *landform*.

29. What are the three major landforms shaped by weathering and erosion?

Directed Reading *continued*

30. List three minor landforms.

31. Describe the two sets of opposing forces that affect all landforms:

32. Describe what happens in the early stages in the history of a mountain.

33. Describe what happens to a mountain later in its history.

34. How is a peneplain formed?

35. What is a plain?

36. Define *plateau*.

Directed Reading *continued*

37. How does a young plateau differ in shape from an older plateau?

38. Describe the effects of weathering and erosion on plateaus in dry climates.

39. What are mesas?

40. Define *butte*.

41. How do weathering and erosion affect landforms in wet climates?
