

Name:

Class:

Date:

Lesson 15.2: Soil Formation and Properties

Lesson Review

Carefully study the lesson and then answer the following questions.

1. What is soil? (15.2.1)

Answer:

2. List five factors that determine the amount and rate of weathering for soil formation. (15.2.1)

Answer:

Match the soil horizon to its characteristics.

A. A Horizon

B. B Horizon

C. C Horizon

D. O Horizon

3. The layer darkest in color and also called topsoil. (15.2.1)

Answer:

4. The mulch layer that sits on the top surface of the soil. (15.2.1)

Answer:

5. Horizon responsible for more drainage and aeration than the layer above it. (15.2.1)

Answer:

6. The parent material makes up most of this layer. (15.2.1)

Answer:

7. *True or False?* Parent material can only be made from sedimentary rock. (15.2.1)

Answer:

8. *True or False?* The parent material greatly influences the soil's physical and chemical properties. (15.2.1)

Answer:

9. Which organisms typically create the large spaces in soil needed for air and water flow? (15.2.1)

- A. Insects
- B. Animals
- C. Bacteria
- D. Plants

Answer:

10. Which organisms in the soil break down plant and animal material along with pesticides and herbicides? (15.2.1)

- A. Insects
- B. Animals
- C. Bacteria
- D. Plants

Answer:

11. Of the following, which organisms penetrate soil and cracks in rocks or rotting organic materials? (15.2.1)

- A. Insects
- B. Animals
- C. Bacteria
- D. Plants

Answer:

12. Of the following, which organisms move soil around and create small holes for drainage and aeration? (15.2.1)

- A. Insects
- B. Animals
- C. Bacteria
- D. Plants

Answer:

13. *True or False?* Dead organisms do not influence soil formation. (15.2.1)

Answer:

14. *True or False?* Regular exposure to heat and sun will decrease the breakdown of rocks and organic materials. (15.2.1)

Answer:

15. *True or False?* Carbonates are minerals that affect the soil's acidity. (15.2.1)

Answer:

16. *True or False?* All areas of a mountain will weather at the same rate, as long as they are made of the same parent material. (15.2.1)

Answer:

17. What are the four things a mixture of particle sizes allows soil to do? (15.2.2)

Answer:

Match the soil particle size to its characteristics. Responses will be used more than once.

- A. Sand
- B. Silt
- C. Clay

18. The largest soil particle (0.05–2.0 mm) (15.2.2)

Answer:

19. Medium-sized soil particles (0.002–0.05 mm) (15.2.2)

Answer:

20. The smallest soil particle (<0.002 mm) (15.2.2)

Answer:

21. Does not hold soil nutrients to make them available for plant growth (15.2.2)

Answer:

22. Slippery to the touch (15.2.2)

Answer:

23. Feels like baking powder (15.2.2)

Answer:

24. Feels gritty to the touch (15.2.2)

Answer:

25. Helps with tilth (15.2.2)

Answer:

26. Soils with many of this type of particle are chemically active. (15.2.2)

Answer:

27. Soils composed of mainly this type of particle drain quickly. (15.2.2)

Answer:

28. *True or False?* Another name for organic matter is humus. (15.2.2)

Answer:

29. *True or False?* Organic matter is typically 15% to 20% of the total soil volume. (15.2.2)

Answer:

30. *True or False?* Even when the soil is not saturated with water, water is still available in small spaces. (15.2.2)

Answer:

31. *True or False?* Scientists estimate that one thimble of soil could contain more than 20,000 microorganisms. (15.2.2)

Answer:

32. Explain what is meant by the term *loamy soil*. (15.2.2)

Answer:

33. *True or False?* Many farmers rotate legumes with other crops. (15.2.3)

Answer:

34. *True or False?* Limiting cultivation increases compaction. (15.2.3)

Answer:

35. *True or False?* Chemical manufacturers strive to produce herbicides and insecticides that eliminate all pests, beneficial or not. (15.2.3)

Answer:

36. List three ways to prevent wind erosion of soil. (15.2.3)

Answer:

37. What is the difference between *no-till* and *reduced tillage* programs? (15.2.3)

Answer:

38. *True or False?* On most agricultural lands, water causes the least amount of erosion. (15.2.3)

Answer:

39. *True or False?* Rill erosion occurs when many small water streams form and run across the soil's surface. (15.2.3)

Answer:

40. *True or False?* Heavy farm machinery can reduce the amount of air space in the soil. (15.2.3)

Answer:

41. *True or False?* Heavy irrigation can lead to a buildup of salts in the soil. (15.2.3)

Answer:

42. *True or False?* Higher-number land capability classes are more suited for growing crops. (15.2.3)

Answer:

Critical Thinking

1. Think about the soil outside your school. How do you think climate and topography affected the formation of this soil? (15.2.1)

Answer: