

Student: \_\_\_\_\_

1. A region of the U.S. having landforms of glacial origin
  - A. Puget Sound, Washington.
  - B. Ozark Mountains of Missouri and Arkansas.
  - C. The Black Hills, South Dakota.
  - D. The Grand Canyon, Arizona.
2. Formation of a glacier requires
  - A. High elevation.
  - B. Winter snow accumulation exceeds summer melt.
  - C. Steep terrain to encourage ice movement.
  - D. All of the choices are correct.
3. The two types of glaciers are
  - A. Continental and marine.
  - B. Alpine and marine.
  - C. Continental and polar.
  - D. Continental and alpine.
4. Glaciers
  - A. Flow plastically down gradient, either down the slope of the land surface or in the direction of thicker ice to thinner ice.
  - B. Are stationary features that "grow" because of the addition of snow and ice to their down slope edge.
  - C. Are most likely to flow during the winter, as snow and ice accumulate on top.
  - D. Depend upon lubrication from glacial flour for smooth, steady, down gradient movement.
5. Which of the following best describes the movement of a glacier?
  - A. A glacier typically moves rapidly, on the order of several kilometers in a season
  - B. A glacier typically moves slowly, on the order of a few tens of meters per year, although faster movement, called surging, can occur in alpine glaciers
  - C. Glaciers never move up an incline, but always down a land slope
  - D. Glaciers move during periods of climate cooling, such as the ice age and are stationary during warmer periods
6. When ice is lost from a glacier by a set of processes then the process is called
  - A. Accumulation.
  - B. Loss.
  - C. Ablation.
  - D. Melting.
7. Glacial striations are
  - A. Carved by rock fragments frozen into the ice.
  - B. Used to show the rate and direction of ice flow.
  - C. Only found in till deposits.
  - D. All of the choices are correct.
8. A landform made of sediment deposited by melting ice is
  - A. Till.
  - B. A moraine.
  - C. U-shaped.
  - D. A fjord.

9. Proposed causes of past ice ages include all of the following except
  - A. Continental drift.
  - B. Changes in the earth's magnetic field.
  - C. Changes in solar activity.
  - D. Volcanic eruptions.
10. Milankovitch cycles are caused by
  - A. Variations in earth's tilt on its axis and in its orbit.
  - B. Continental drift.
  - C. Melting of ice sheets.
  - D. Desertification.
11. The resultant sediment that is transported and deposited by the glacial meltwater is called
  - A. Till.
  - B. Moraine.
  - C. Drumlin.
  - D. Outwash.
12. Arête, horn, cirque, are features observed as a result of
  - A. Glacial erosion.
  - B. Glacial deposition.
  - C. Glacial accumulation.
  - D. Glacial ablation.
13. The southern-most active glaciers in the contiguous 48 United States are here
  - A. Sierra Nevada, California.
  - B. Olympic National Park, Washington.
  - C. Glacier National Park, Montana.
  - D. Rocky Mountains, Colorado.
14. In mid-western North America, the southern boundary of the north polar ice cap during past ice ages is marked by these two rivers
  - A. The North Platte and Ohio Rivers.
  - B. The Arkansas and Ohio Rivers.
  - C. The Missouri and Ohio Rivers.
  - D. The Missouri and North Platte Rivers.
15. Glacially derived wind deposited soil is called
  - A. Loess.
  - B. Pedocals.
  - C. Pedofers.
  - D. Loam.
16. The ice age is also commonly referred to as the
  - A. Pliocene age.
  - B. Miocene age.
  - C. Oligocene age.
  - D. Pleistocene age.
17. Deserts are classified on the basis of
  - A. Temperature.
  - B. Pressure.
  - C. Precipitation.
  - D. Plant and animal life.

18. Large, regional deserts, such as the Sahara of northern Africa, occur here relative to the equator
  - A. Directly on the equator.
  - B. At approximately N40 or S40 latitudes.
  - C. At approximately N20 or S20 latitudes.
  - D. At approximately N10 or S10 latitudes.
19. The natural sandblasting kind of erosion caused by wind-transported sediments is termed
  - A. Abrasion.
  - B. Deflation.
  - C. Desert pavement.
  - D. Undercutting.
20. The Dust Bowl era was caused by
  - A. Removal of native prairie vegetation to plant seasonal crops.
  - B. Excessive grazing by livestock.
  - C. Drought.
  - D. All of the choices are correct.
21. Which of the following statements is not true of dunes?
  - A. They have a characteristic shape, shallower in slope upwind
  - B. They need not necessarily be made of sand-sized particles
  - C. Once formed, they grow larger and larger but remain stationary
  - D. They may be stabilized by vegetation
22. A relatively small and localized wind vortex commonly observed in more arid climates is
  - A. A mini-tornado.
  - B. A dust devil.
  - C. A zephyr.
  - D. A nor'easter.
23. Removal of sediment on a large scale is a process best describes as
  - A. Ventifacts.
  - B. Inflation.
  - C. Deflation.
  - D. Dune formation.
24. Desertification is
  - A. The natural process of desert formation caused by global climate changes.
  - B. Caused by blowing sand from existing deserts that buries surrounding arid lands and converts them to desert.
  - C. Caused by the rain shadows cast by mountains.
  - D. Accelerated by intensive agricultural activity in arid and semiarid lands.
25. In the United States, desertification
  - A. Is not a concern, because we have few deserts.
  - B. May affect broad areas of the Sun Belt and plains states.
  - C. Can be avoided by more extensive use of ground water.
  - D. Is not a concern because few people live in the areas at risk.
26. Glaciers form only near the poles.  
True False
27. Glaciers represent the largest single reserve of -freshwater in the world.  
True False
28. Continental glaciers are smaller and much more common than alpine glaciers.  
True False
29. Calving is a process which results in the formation of icebergs.  
True False

30. Moraine is a landform that is made up by the deposition of till.  
True False
31. Over the course of a year, the length of an alpine glacier fluctuates seasonally, increasing in winter, melting back in summer.  
True False
32. Because ice is so efficient an agent of erosion, alpine glaciers carve steep-sided, V-shaped valleys.  
True False
33. The extent of ice sheets in North America during the last ice age can be determined, in part, by mapping terminal moraines.  
True False
34. The presence of polar ice caps reflects unusually heavy precipitation from the cold air at the poles.  
True False
35. Effects of ice ages are confined to regions directly covered by ice; global climate is unaffected and areas away from the glaciers preserve their usual temperature and moisture patterns.  
True False
36. Horizontal flow of air is driven, in part, by air-temperature differences over land and water.  
True False
37. Because winds blow everywhere, while surface water is found in limited areas, worldwide wind erosion is comparable in scale and impact to erosion by water.  
True False
38. Because wind is such an inefficient agent of erosion, wind-deposited sediments are poorly sorted, like glacial sediments.  
True False
39. The steeper sloping side (leeward side) of the dune is called stoss and the gentler sloping side (windward side) of the dune is called slip face.  
True False
40. Desert pavement is the barren, sandy dune surface common in deserts.  
True False
41. Loess derived from glacial rock flour is rich in soluble plant nutrients.  
True False

## 9 Key

1. A region of the U.S. having landforms of glacial origin  
**A.** Puget Sound, Washington.  
B. Ozark Mountains of Missouri and Arkansas.  
C. The Black Hills, South Dakota.  
D. The Grand Canyon, Arizona.

*Montgomery - Chapter 09 #1*

2. Formation of a glacier requires  
A. High elevation.  
**B.** Winter snow accumulation exceeds summer melt.  
C. Steep terrain to encourage ice movement.  
D. All of the choices are correct.

*Montgomery - Chapter 09 #2*

3. The two types of glaciers are  
A. Continental and marine.  
B. Alpine and marine.  
C. Continental and polar.  
**D.** Continental and alpine.

*Montgomery - Chapter 09 #3*

4. Glaciers  
**A.** Flow plastically down gradient, either down the slope of the land surface or in the direction of thicker ice to thinner ice.  
B. Are stationary features that "grow" because of the addition of snow and ice to their down slope edge.  
C. Are most likely to flow during the winter, as snow and ice accumulate on top.  
D. Depend upon lubrication from glacial flour for smooth, steady, down gradient movement.

*Montgomery - Chapter 09 #4*

5. Which of the following best describes the movement of a glacier?  
A. A glacier typically moves rapidly, on the order of several kilometers in a season  
**B.** A glacier typically moves slowly, on the order of a few tens of meters per year, although faster movement, called surging, can occur in alpine glaciers  
C. Glaciers never move up an incline, but always down a land slope  
D. Glaciers move during periods of climate cooling, such as the ice age and are stationary during warmer periods

*Montgomery - Chapter 09 #5*

6. When ice is lost from a glacier by a set of processes then the process is called  
A. Accumulation.  
B. Loss.  
**C.** Ablation.  
D. Melting.

*Montgomery - Chapter 09 #6*

7. Glacial striations are  
**A.** Carved by rock fragments frozen into the ice.  
B. Used to show the rate and direction of ice flow.  
C. Only found in till deposits.  
D. All of the choices are correct.

*Montgomery - Chapter 09 #7*

8. A landform made of sediment deposited by melting ice is  
A. Till.  
**B.** A moraine.  
C. U-shaped.  
D. A fjord.

*Montgomery - Chapter 09 #8*

9. Proposed causes of past ice ages include all of the following except  
A. Continental drift.  
**B.** Changes in the earth's magnetic field.  
C. Changes in solar activity.  
D. Volcanic eruptions.

*Montgomery - Chapter 09 #9*

10. Milankovitch cycles are caused by  
**A.** Variations in earth's tilt on its axis and in its orbit.  
B. Continental drift.  
C. Melting of ice sheets.  
D. Desertification.

*Montgomery - Chapter 09 #10*

11. The resultant sediment that is transported and deposited by the glacial meltwater is called  
A. Till.  
B. Moraine.  
C. Drumlin.  
**D.** Outwash.

*Montgomery - Chapter 09 #11*

12. Arête, horn, cirque, are features observed as a result of  
**A.** Glacial erosion.  
B. Glacial deposition.  
C. Glacial accumulation.  
D. Glacial ablation.

*Montgomery - Chapter 09 #12*

13. The southern-most active glaciers in the contiguous 48 United States are here  
**A.** Sierra Nevada, California.  
B. Olympic National Park, Washington.  
C. Glacier National Park, Montana.  
D. Rocky Mountains, Colorado.

*Montgomery - Chapter 09 #13*

14. In mid-western North America, the southern boundary of the north polar ice cap during past ice ages is marked by these two rivers  
A. The North Platte and Ohio Rivers.  
B. The Arkansas and Ohio Rivers.  
**C.** The Missouri and Ohio Rivers.  
D. The Missouri and North Platte Rivers.

*Montgomery - Chapter 09 #14*

15. Glacially derived wind deposited soil is called  
**A.** Loess.  
B. Pedocal.  
C. Pedofers.  
D. Loam.

*Montgomery - Chapter 09 #15*

16. The ice age is also commonly referred to as the
- A. Pliocene age.
  - B. Miocene age.
  - C. Oligocene age.
  - D. Pleistocene age.**

*Montgomery - Chapter 09 #16*

17. Deserts are classified on the basis of
- A. Temperature.
  - B. Pressure.
  - C. Precipitation.**
  - D. Plant and animal life.

*Montgomery - Chapter 09 #17*

18. Large, regional deserts, such as the Sahara of northern Africa, occur here relative to the equator
- A. Directly on the equator.
  - B. At approximately N40 or S40 latitudes.
  - C. At approximately N20 or S20 latitudes.**
  - D. At approximately N10 or S10 latitudes.

*Montgomery - Chapter 09 #18*

19. The natural sandblasting kind of erosion caused by wind-transported sediments is termed
- A. Abrasion.**
  - B. Deflation.
  - C. Desert pavement.
  - D. Undercutting.

*Montgomery - Chapter 09 #19*

20. The Dust Bowl era was caused by
- A. Removal of native prairie vegetation to plant seasonal crops.
  - B. Excessive grazing by livestock.
  - C. Drought.
  - D. All of the choices are correct.**

*Montgomery - Chapter 09 #20*

21. Which of the following statements is not true of dunes?
- A. They have a characteristic shape, shallower in slope upwind
  - B. They need not necessarily be made of sand-sized particles
  - C. Once formed, they grow larger and larger but remain stationary**
  - D. They may be stabilized by vegetation

*Montgomery - Chapter 09 #21*

22. A relatively small and localized wind vortex commonly observed in more arid climates is
- A. A mini-tornado.
  - B. A dust devil.**
  - C. A zephyr.
  - D. A nor'easter.

*Montgomery - Chapter 09 #22*

23. Removal of sediment on a large scale is a process best describes as
- A. Ventifacts.
  - B. Inflation.
  - C. Deflation.**
  - D. Dune formation.

*Montgomery - Chapter 09 #23*

24. Desertification is  
A. The natural process of desert formation caused by global climate changes.  
B. Caused by blowing sand from existing deserts that buries surrounding arid lands and converts them to desert.  
C. Caused by the rain shadows cast by mountains.  
**D.** Accelerated by intensive agricultural activity in arid and semiarid lands.

*Montgomery - Chapter 09 #24*

25. In the United States, desertification  
A. Is not a concern, because we have few deserts.  
**B.** May affect broad areas of the Sun Belt and plains states.  
C. Can be avoided by more extensive use of ground water.  
D. Is not a concern because few people live in the areas at risk.

*Montgomery - Chapter 09 #25*

26. Glaciers form only near the poles.  
**FALSE**

*Montgomery - Chapter 09 #26*

27. Glaciers represent the largest single reserve of -freshwater in the world.  
**TRUE**

*Montgomery - Chapter 09 #27*

28. Continental glaciers are smaller and much more common than alpine glaciers.  
**FALSE**

*Montgomery - Chapter 09 #28*

29. Calving is a process which results in the formation of icebergs.  
**TRUE**

*Montgomery - Chapter 09 #29*

30. Moraine is a landform that is made up by the deposition of till.  
**TRUE**

*Montgomery - Chapter 09 #30*

31. Over the course of a year, the length of an alpine glacier fluctuates seasonally, increasing in winter, melting back in summer.  
**TRUE**

*Montgomery - Chapter 09 #31*

32. Because ice is so efficient an agent of erosion, alpine glaciers carve steep-sided, V-shaped valleys.  
**FALSE**

*Montgomery - Chapter 09 #32*

33. The extent of ice sheets in North America during the last ice age can be determined, in part, by mapping terminal moraines.  
**TRUE**

*Montgomery - Chapter 09 #33*

34. The presence of polar ice caps reflects unusually heavy precipitation from the cold air at the poles.  
**FALSE**

*Montgomery - Chapter 09 #34*

35. Effects of ice ages are confined to regions directly covered by ice; global climate is unaffected and areas away from the glaciers preserve their usual temperature and moisture patterns.  
**FALSE**

*Montgomery - Chapter 09 #35*

36. Horizontal flow of air is driven, in part, by air-temperature differences over land and water.  
**TRUE**

*Montgomery - Chapter 09 #36*

37. Because winds blow everywhere, while surface water is found in limited areas, worldwide wind erosion is comparable in scale and impact to erosion by water.  
**FALSE**
38. Because wind is such an inefficient agent of erosion, wind-deposited sediments are poorly sorted, like glacial sediments.  
**FALSE** *Montgomery - Chapter 09 #37*
39. The steeper sloping side (leeward side) of the dune is called stoss and the gentler sloping side (windward side) of the dune is called slip face.  
**FALSE** *Montgomery - Chapter 09 #38*
40. Desert pavement is the barren, sandy dune surface common in deserts.  
**FALSE** *Montgomery - Chapter 09 #39*
41. Loess derived from glacial rock flour is rich in soluble plant nutrients.  
**TRUE** *Montgomery - Chapter 09 #40*
- Montgomery - Chapter 09 #41*

## 9 Summary

<u>Category</u>	<u># of Questions</u>
Montgomery - Chapter 09	41