

15. The critical depth of snow and ice needed to cause the ice below to deform and flow is
 Q. 4 meters. R. 40 meters. S. 400 meters. T. 4 kilometers.
16. Each dark/light couplet in a sequence of varves represents
 Q. one year. R. about 10 years. S. about 1000 years. T. about 1000000 years.
17. The best explanation for short periods of glacial advance that span only a few centuries includes
 Q. plate tectonics.
 R. Milankovitch cycles.
 S. frequent volcanic eruptions coupled with variations in solar energy.
 T. all of the above
18. Glacial abrasion produces
 Q. rock flour. R. glacial polish. S. glacial striations. T. all of these
19. Medial moraines form when
 Q. two terminal moraines merge.
 R. two lateral moraines merge.
 S. an end moraine is over-ridden by a glacier.
 T. a mountain peak is surrounded on all sides by glaciers.
20. During periods of glacial advances the Sahara Desert was covered by
 Q. glaciers. R. forests. S. a shallow sea. T. volcanoes.

Completion. Write the answer that best completes the following statements. (2 points each)

21. A(n) _____ is large outburst flood that usually occurs when a glacially dammed lake drains catastrophically.
22. _____ are alternating bands of light and dark ice seen on a glacier surface.
23. _____ rounded, well-bonded snow that is older than one year, it has a density greater than 550 kg/m³ (35 lb/ft³).
24. _____ is flow that occurs when glacier motion is decelerating down-slope.
25. _____ is the sliding of a glacier over bedrock, the process is generally aided by the presence of meltwater at the rock/ice boundary.
26. _____ are nearly vertical channels in ice that is formed by flowing water; they usually found after a relatively flat section of glacier in a region of transverse crevasses.
27. In the 1860's, _____ proposed an Astronomical Theory of the Ice Ages

- True of False.** For the statements that are TRUE place the letter "Q" on your answer sheet. For statements that are FALSE, place the letter R on your answer sheet. (1 point each)
1. The "Great Ice Age" glaciers were most extensive and active in the Northern Hemisphere.
2. Sublimation is the loss of water by melting and infiltration at the base of the glacier.
3. Glacial ice is brittle at thicknesses less than approximately 40 meters.
4. Plucking is an erosional process that occurs due to melting and refreezing of meltwater in rock fractures.
5. U-trough valleys are characteristic of continental glaciers.
6. Glacial drift refers to the poorly sorted and unstratified sediment rafted by continental and valley glaciers.
7. The difference between glacial till and outwash is the removal of the fine fraction by running water.
8. Moraines are formed from outwash bulldozed by the glacier along its terminus.
9. According to the Milankovitch theory, small irregularities in Earth's rotation and orbit were sufficient to have caused Pleistocene glaciation.
10. The vast expanse of the Pleistocene glaciers and the limited extent of valley glaciers show that continental glaciers and ice caps flow more rapidly than valley glaciers.
- Multiple Choice.** Choose the best answer for the following questions and record it on your answer sheet. (1 point each)

11. During an Ice Age, which of the following occur?
 Q. warm, dry climates outside the glaciated area are more humid and cool
 R. continental and valley glaciers advance
 S. sea level is lowered
 T. R and S
 U. all of the above
12. Glaciers exist at
 Q. high latitudes and/or high altitudes R. high latitudes and/or low altitudes
 S. low latitudes and/or high altitudes T. low latitudes and/or low altitudes
 U. will soon exist nowhere due to global warming
13. Which of the following erosional landforms would be found in the zone of accumulation of a valley glacier?
 Q. cirques, arêtes, and eskers R. cirques, eskers, and moraines
 S. cirques, arêtes, and horns T. arêtes, horns, and moraines
 U. cirques, horns, and moraines
14. Which is NOT characteristic of a glacial trough?
 Q. a broad, flat valley floor R. steep, often vertical valley walls
 S. V-shaped cross-section T. truncated spurs
 U. None of the above

