

Skills Worksheet

Directed Reading**Section: Glaciers: Moving Ice**

1. What is a glacier?

FORMATION OF GLACIERS

_____ 2. An almost motionless mass of permanent snow and ice is called a
a. glacier. c. snowline.
b. snowfield. d. snowball.

_____ 3. How do snowfields form?
a. Wind blows snow into drifts.
b. Snow melts into ice in sunlight.
c. Overlying layers flatten ice grains.
d. Ice and snow accumulate above the snowline.

_____ 4. The elevation above which snow and ice remain throughout the year is called the
a. glacier. c. snowline.
b. snowfield. d. air.

_____ 5. How can snow accumulate year after year at high elevations and in polar regions?
a. It is very dry at high elevations and in polar regions.
b. There is little wind to blow the fallen snow away.
c. Very little rain falls, so the snow does not melt and run off.
d. The average temperature is near or below the freezing point of water.

_____ 6. Cycles of partial melting and refreezing cause snow to change into grainy ice called
a. firn. c. hail.
b. drizzle. d. rain.

_____ 7. What squeezes air out from between the ice grains in deep layers of snow and firn?
a. more snowfall c. constant wind
b. melting ice d. pressure from overlying snow

Directed Reading *continued*

15. Massive sheets of ice that may cover millions of square kilometers are called _____ glaciers.

16. Another name for a continental glacier is a(n) _____.

17. In which two regions of the world do continental glaciers exist?

18. The maximum thickness of the Antarctic ice sheet is more than _____ in some places.

19. If the Antarctic and Greenland ice sheets melted, the water they contain would raise the sea level worldwide by more than _____.

MOVEMENT OF GLACIERS

_____ 20. What causes glaciers to flow downward?

- a. melting
- b. gravity
- c. wind
- d. snowfall

_____ 21. By how many basic processes do glaciers move?

- a. one
- b. two
- c. three
- d. four

_____ 22. The process that causes a glacier's base to melt and the glacier to slide is called

- a. glacial flow.
- b. ice sheeting.
- c. basal slip.
- d. glacial impact.

_____ 23. In the process of basal slip, the glacier moves

- a. after ice particles change shape and slide past one another.
- b. after temperatures drop below freezing.
- c. by sliding over a thin layer of water and sediment.
- d. when wind pushes the ice downhill.

_____ 24. A glacier that moves by basal slip can work its way over small barriers by

- a. melting and refreezing.
- b. moving more slowly.
- c. moving more quickly.
- d. touching the ground.

25. Describe the process of internal plastic flow.

Directed Reading *continued*

26. Name three factors that determine the rate at which ice flows at a given point.

27. Why do the edges of a glacier move more slowly than its center?

FEATURES OF GLACIERS

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

- | | |
|---------------------|---|
| _____ 28. crevasse | a. large block of ice that breaks from an ice shelf |
| _____ 29. ice shelf | b. part of an ice sheet that moves out over the ocean |
| _____ 30. iceberg | c. large crack on the surface of a glacier |

31. Why does the ice on the surface of a glacier remain brittle?

32. How does a crevasse form on the surface of a glacier?

33. A crevasse on the surface of a glacier can be as deep as

34. In which direction do continental glaciers move?

35. Rising and falling tides can cause a(n) _____ to break off of an ice shelf.

36. Why do icebergs pose a hazard for ships?
