

Glaciers

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Violet 1c
Power Builder

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- 1 Winters are very cold in many places. Hills and valleys are covered with snow. Big lakes freeze. Ice covers rivers from shore to shore. If the winter stays cold, the ice gets thicker and thicker. The snow piles deeper and deeper.
- 2 In springtime the snow melts from hills and valleys. The ice disappears from lakes and rivers. But some places on the earth are cold all the time. There snow and ice don't melt away even in summertime. On very high mountains, snow and ice stay all through the summer. Greenland is covered with snow all the time. At the South Pole, miles and miles of thick ice cover the land.
- 3 Year after year, more snow falls. It piles deeper and deeper. Snow that does not melt for years turns into ice. The ice piles up for hundreds, even thousands of years. Year after year, it becomes thicker and thicker. The ice may pile up ten feet or a hundred feet. That's as high as a ten-story building. In some places the ice may pile up a thousand feet!
- 4 These big fields of thick ice are called glaciers. Glaciers are rivers of ice. The weight of the ice makes the glaciers move. They move down the mountains toward the sea. Glaciers move so slowly that you cannot see that they are moving. Some move ten feet in one day. Some move less than an inch a day.
- 5 Nothing can stop these big fields of ice from moving. As they move over land they pick up stones and boulders. As they move through valleys they cut them deep and wide. Slowly, slowly the glaciers move, grinding and crushing rocks, hillsides, trees, and forests. A glacier could push a whole city out of its path. Glaciers move on and on, year after year.
- 6 Glacial ice is packed with soil, trees, rocks, and boulders that have been picked up along the way. Rocks, boulders, soil, and trees are rubbed together for hundreds and thousands of years. Boulders may be ground down into sand or dust.
- 7 Sometimes the ice stretches and makes huge cracks. The cracks may be a hundred feet deep. Some are so wide you could not throw a stone across them.
- 8 When the edge of the glacier comes to warmer weather, it slowly melts. Streams run from the melting edge. They may be milky white from the ground-up rocks. As the glacier melts, rocks, boulders, trees, and tons of soil are dropped. Rocks, boulders, trees, and soil may be piled into long low hills. These hills are called moraines.
- 9 Glaciers that form near the North or South Pole move into the sea. Gigantic pieces break off and become icebergs. These icebergs float out to sea. When they melt, they drop soil, sand, rocks, and boulders into the sea.
- 10 Thousands of years ago glaciers covered large parts of the earth. Today they are found only at the North and South Poles and on high mountains. But they are still scraping up rocks, boulders, trees, and soil — and grinding, grinding, grinding.
- 11 Maybe the place where you lived used to be under a glacier. If you live near a gravel pit, it was a glacier that made the gravel. The rocks you pick up may have been dropped by a glacier as it melted. They may have been dragged from a faraway place. A big rounded boulder that stands all alone may have been carried by a glacier. Some of the hills you slide down may have been made by a glacier long, long ago.

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COMPREHENSION

A Choose the best ending for each sentence. Write *a*, *b*, or *c*.

- 1 The story is mainly about how
 - a** rocks and trees get into glaciers.
 - b** glaciers cut through canyons.
 - c** glaciers form, move, and melt.
- 2 Glaciers are able to move because the ice
 - a** is so heavy.
 - b** melts so quickly.
 - c** becomes so slippery.
- 3 You might live where a glacier once was if
 - a** you live near a moraine.
 - b** you live where people mine gravel.
 - c** Both **a** and **b**

- 4 If a mountain stream looks white, it probably means the water comes from
 - a** underground.
 - b** a glacier.
 - c** rain.
- 5 You know that Earth's weather has changed over the years because
 - a** snow turned into ice many years ago.
 - b** glaciers no longer cover large parts of Earth.
 - c** glaciers have kept moving every year.

LEARN ABOUT WORDS

B Often you can find out the meaning of a word by seeing how it is used in a story. The other words in the story give you clues.

Find the word in the story that best fits each meaning. (A paragraph number tells you where to look.) Write the word.

- 1 stacks up; heaps up (1)
- 2 filled very full (6)
- 3 earth; land; dirt (6)
- 4 large rocks (6)
- 5 enormous; huge (9)
- 6 large floating pieces of glacial ice (9)
- 7 crushing; rubbing things roughly together (10)

C A word may have more than one meaning. Its meaning will depend on how it is used.

The *fly* buzzed around the room.
The bird will *fly* to its nest.

Look at each word in **bold type** below. Note the paragraph number. Look back at the paragraph. Which meaning does the word have there? Write *a* or *b*.

- 8 **feet** (4)
 - a** units of measurement
 - b** parts of the body used for standing
- 9 **cracks** (7)
 - a** openings; splits
 - b** sudden, sharp noises
- 10 **soil** (10)
 - a** to make dirty
 - b** earth; dirt

THINK ABOUT IT

D A word was left out of each sentence. Look at the two words in **bold type**. Which word best completes the sentence? Write the word.

- 1 A glacier can make moraines, valleys, and _____.
forests lakes
- 2 In certain places, like the North Pole, South Pole, and _____, the snow does not melt.
Greenland Midwest
- 3 A glacier crushes _____, boulders, and rocks.
trees rivers
- 4 Boulders, _____, and rocks are ground into sand.
stones moraines
- 5 Moraines are made of soil, trees, and _____.
buildings boulders

E Read each question. Write *a* or *b*.

- 6 Which sentence says that the glacier is very powerful?
a The glacier reached hills and forests.
b The glacier flattened hills and forests.
- 7 Which sentence says that glaciers no longer cover the United States of America?
a The glaciers disappeared.
b The glaciers move several feet a year.

8 Which sentence says that the glacier was very tall?

- a** The glacier slid over the trees.
- b** The glacier towered over the trees.

9 Which sentence says that the glacier moved slowly?

- a** The glacier continued onward.
- b** The glacier crept onward.

10 Which sentence says that the river was moving?

- a** The milky water passed through her fingers.
- b** The milky water froze her fingers.

F Suppose that you are going to write a report called "Glaciers Today." Read each item. If it fits your main topic, write *Yes*. If it does not, write *No*.

- 11** Glaciers are mostly found at the North and South poles.
- 12** Glaciers that move into the sea form icebergs.
- 13** Glaciers on high mountains scrape up rocks, boulders, trees, and soil.
- 14** Glaciers cover large parts of the earth.
- 15** Glaciers made moraines in the midwestern United States.