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## Glaciers

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Winters are very cold in many places. Hills and valleys are covered with snow and 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. 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; the ice and snow never melt.

Year and 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.

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. 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.

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. 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. 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.

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. 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.

Maybe the place where you live 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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