

# Glaciers

By Sharon Fabian



- <sup>1</sup> When it snows, and schools close, we make the most of our time by sledding, building snowmen, and having snowball fights because snow usually doesn't last for long. At least in many places, snow falls, and then it soon melts away. But in other places snow falls and stays. And stays. And stays. When it snows in places that are cold enough, the snow packs down into larger and heavier ice crystals; and the air is pushed out. Eventually it turns into glacier ice. Ordinary ice usually looks white, and that is mainly from all of the tiny air bubbles in ice, but very dense glacier ice becomes a beautiful blue.
- <sup>2</sup> Some glacier ice forms on land, and some forms over the ocean. Wherever it forms, glacier ice is constantly changing. At the top edge, new ice is constantly being added. This is called accumulation. At the bottom edge, ice is wearing away. This is called ablation. Glaciers are always changing, but if a glacier is accumulating ice faster than it is losing ice, it is said to be growing.
- <sup>3</sup> Some glaciers extend out into the ocean from the land, forming a huge shelf of ice. Ice that extends out into the ocean like a peninsula is called tongue ice. Ice that floats on the ocean is called sea ice, but there are also different names for sea ice at different stages. Grease ice is an early state that consists of thin sheets of ice crystals floating on the water. Pancake ice consists of thicker, round plates that turn up at the edges and look a little like pancakes. When it has all packed down into one giant sheet, it is called pack ice or sea ice.
- <sup>4</sup> At the edge of a glacier, where it meets the open ocean, some interesting activity takes place. This is where icebergs form. When an iceberg breaks loose from a glacier, it is called calving. Icebergs float in the ocean with only one tenth of the ice showing above water. That leaves nine tenths hidden below water, so you can see why ships in icy water keep a sharp eye out for icebergs and try to stay far away from them.
- <sup>5</sup> Glaciers are not all in the Arctic and Antarctic regions. Even warm countries, like Chile, have glaciers. These are located in valleys between high mountains, where the temperatures are cold enough to keep the glacier ice frozen. These valley glaciers flow downhill, like rivers do, only much more slowly. Smaller valley glaciers flow into larger ones as they go down hill, just like streams flow into a bigger river.
- <sup>6</sup> Satellite photographs give us great pictures of the glaciers, and by comparing photos taken at different times, we can see how glaciers change from year to year. Pictures of the polar ice caps taken in different years look very different from each other.
- <sup>7</sup> In some years the ice extends much farther out into the ocean than in other years.
- <sup>8</sup> Over the millions of years of earth's history, the ice sheets have changed even more. Scientists think that there was one ice age about 600 million years ago, but they don't know much about that one. A second ice age probably happened around 275 million years ago. The ice sheets from this one probably covered parts of Africa, India, and Australia. The third ice age probably began about 1.5 million years ago. This ice has gradually receded to where it is now, mainly in the polar ice caps.
- <sup>9</sup> At one time, ice covered 32% of the earth's surface, but today, it covers only about 10%. That's why most of us don't see snow and ice every day, but when we do have a snow day, we definitely enjoy it!

## Glaciers

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| <p>1. Snow that packs down into ice forms</p> <p><input type="radio"/> A Popsicles</p> <p><input type="radio"/> B Sea water</p> <p><input type="radio"/> C Glacier ice</p> <p><input type="radio"/> D Rain</p>   | <p>2. Ice floating on the ocean is called</p> <p><input type="radio"/> A Sea ice</p> <p><input type="radio"/> B Pack ice</p> <p><input type="radio"/> C Valley ice</p> <p><input type="radio"/> D Either (a) or (b)</p>                                |
| <p>3. When new ice is added to a glacier, it is called _____.</p> <p><input type="radio"/> A Accumulation</p> <p><input type="radio"/> B Ablation</p> <p><input type="radio"/> C Growing</p> <p><input type="radio"/> D Calving</p>  | <p>4. When an iceberg breaks off from the edge of a glacier, it is called _____.</p> <p><input type="radio"/> A Growing</p> <p><input type="radio"/> B Ablation</p> <p><input type="radio"/> C Calving</p> <p><input type="radio"/> D Accumulation</p> |
| <p>5. For an iceberg to grow there must be more _____ than _____.</p> <p><input type="radio"/> A Accumulation, calving</p> <p><input type="radio"/> B Calving, ablation</p> <p><input type="radio"/> C Ablation, accumulation</p> <p><input type="radio"/> D Accumulation, ablation</p>                                | <p>6. _____ % of the earth's land is covered with ice.</p> <p><input type="radio"/> A 600 million</p> <p><input type="radio"/> B 100</p> <p><input type="radio"/> C 10</p> <p><input type="radio"/> D 32</p>   |
| <p>7. There can be glaciers in warm countries like Chile because _____.</p> <p><input type="radio"/> A It takes a long time for thick ice to melt</p> <p><input type="radio"/> B It is cold in the high mountains</p> <p><input type="radio"/> C It rains a lot</p> <p><input type="radio"/> D It is always cloudy</p> | <p>8. How do you think scientists know that there were previous ice ages millions of years ago?</p> <p>_____</p> <p>_____</p>  |