

Why is the Mackenzie river of little value for commerce?

The Cordilleran region is drained chiefly by the *Fraser* and *Columbia* rivers. The *Peace* river drains a small portion of the plateau, then passes through a low gap or *pass* in the Rocky Mountains and joins the Mackenzie system. The *Fraser* rises west of the Rocky Mountains, runs northward, and then southward through the central plateau to the Gulf of Georgia. The *Columbia* rises in some lakes in the same valley as the *Fraser*, runs northwest for some distance, then turns to the south, passes into the United States and empties into the Pacific Ocean.

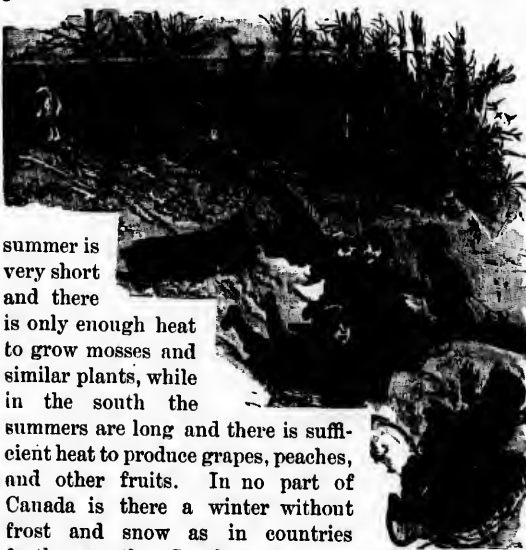
The Appalachian region, or the Maritime Provinces, are drained by many comparatively small rivers, the chief of which is the *St. John* in New Brunswick. Other rivers of this region are the *Restigouche* and the *Miramichi*.

ORAL OR WRITTEN EXERCISES.

Draw a map of Canada, showing all the rivers mentioned above, the chief lakes whose waters they receive, and their principal tributaries. Name three rivers that cross mountain ranges. What are the gaps through which they cross called? Account for the rapids and falls in the rivers flowing south from the Laurentian plateau. Of what value are these rivers to Canadian commerce and industry?

24. Heat and Rainfall.

Canada is so wide from north to south that there is great difference between its northern and southern parts at the same season. In the north the



summer is very short and there is only enough heat to grow mosses and similar plants, while in the south the summers are long and there is sufficient heat to produce grapes, peaches, and other fruits. In no part of Canada is there a winter without frost and snow as in countries further south. In those countries

Winter in Canada.

the children know none of the joys of skating and sleighing, pastimes which make children in Canada often long for winter to come.

What is needed by plants to make them grow, in addition to heat? How is water supplied to the fields and forests of our country? Farming can only be carried on where there is sufficient supply of water for plants, either from rain or some other way. Where does the rain come from? How does this water get into the clouds? When clothes are hung out to dry what becomes of the water in them? It passes into the air in particles so small that they cannot be seen and so light that *they rise into the air*. When water takes this form it is called *vapor*. Vapor is continually rising into the air from the surface of every pond and stream, but most of all from the immense surface of the ocean. Although the water of the ocean is salt and bitter, the vapor that rises from it is fresh and pure, all the salt being left behind in the ocean. The vapor mingles with the air and is blown about with the wind, much of it being brought over the land.

Vapor, although it is invisible, is easily changed back again into water that can be seen. In the summer, fill a jug with ice water. What do you find on the outside of it? This water did not come through the jug from the inside. Where, then, did it come from? When air is chilled it is not able to hold so much vapor as before. The air around the jug was cooled by the cold surface of the jug and it dropped some of its vapor on the outside of the jug in the shape of tiny drops of water.

The air above the sea is loaded with vapor. When it moves about as wind and comes in contact with colder air, some of its vapor is changed into tiny drops of water or ice crystals. These float in the air forming clouds or unite in large drops or flakes which fall to the ground as *rain* or *snow*. Thus we can easily trace the rain or the snow to the water of the sea.

Most of the winds blowing over Canada come from the *westward*. Where, then, do the winds blowing over the western half of Canada get their moisture? They are so chilled in crossing the Coast Range of British Columbia that most of the moisture falls as rain on the western slopes of these mountains, giving that part of British Columbia an annual rainfall almost the greatest in the world. On the plateau to the east of this range the rainfall and snowfall are nowhere great, and at some places are very scanty. When these nearly dry winds reach the