Name:_____

FLPS

Science

Taiga Worksheet

1. What continents does the Taiga span?

2. What is a taiga?

3. What does coniferous mean?

4. Where do insects breed in the taiga?

5. How have trees adapted to wildfires in the taiga?

6. In Fahrenheit, what does the temperature range?

7. Describe decomposition in the taiga.

8. Why is there not much diversity in the taiga?

9. Name four trees that are dominant in the taiga?

10. How do trees save energy in the taiga?

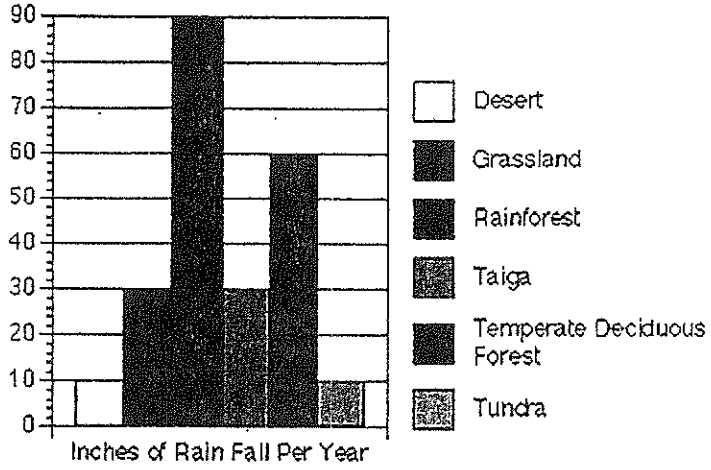
11. How have trees adapted to life in the extreme cold?

12. What are needles and how ling do conifers typically keep their leaves for?

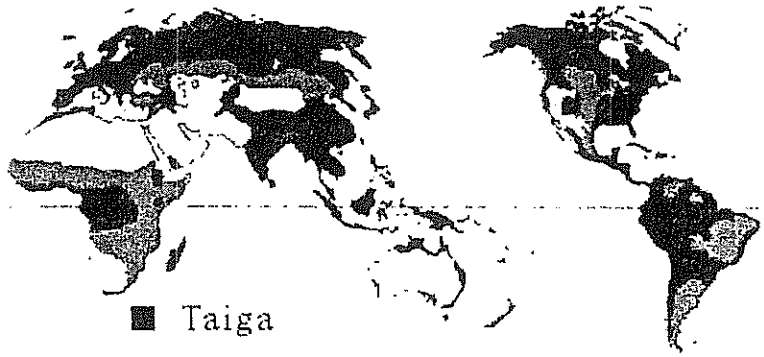
TAIGA

The Taiga biome stretches across a large portion of Canada, Europe and Asia. It is the largest biome in the world. Winters are cold. Summers are warm. Lots of conifers grow here.

Where is the Taiga Located?



The taiga is the largest biome. The taiga is primarily a coniferous forest (evergreen trees with needles) like the temperate rainforest, but the taiga is located between 50 degrees latitude north and the Arctic circle. Many coniferous trees (evergreens with needles) grow in the taiga. The taiga has fewer animal species than the tropical or temperate deciduous forests. The taiga is very, very cold in the winter. But when the warm summer comes, the ice and snow melt. The sun shines for days in the summer, because the taiga is near the top of the world. Insects breed in the melting water. Birds come to the taiga to nest and lay their eggs in the spring and to eat the plentiful insects.



In the taiga, the average temperature is below freezing for six months of the year. Total yearly precipitation in the taiga is 12 - 33 inches (30 - 85 centimeters). Although the cold winters have some snowfall, most of the

precipitation comes during the warm, humid summer months.

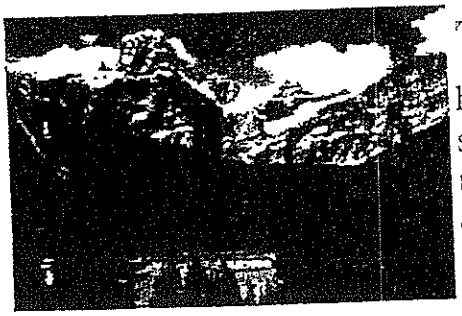
Taiga Temperatures		
	Low	High
Winter	-65 F (-54 C)	30 F (-1 C)
Summer	20 F (-7 C)	70 F (21 C)

Because of the tilt of the earth on its axis, in the taiga you'll find long nights in the winter and long days in the summer. During the summer months, the taiga fills up with millions of insects. Birds, who eat insects, migrate every year for the plentiful food supply. The taiga is prone to wildfires. Many trees have adapted to this by growing thick bark, which can protect a tree from a mild fire.

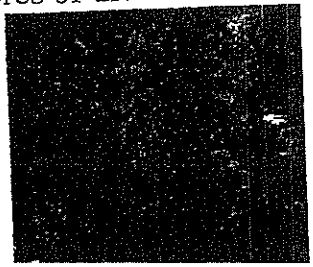
Decomposition

Because of cool temperatures decomposition is slow in the taiga. Undecayed vegetation builds up on the forest floor, making it feel like a sponge. Since decomposition is slow, the soil is thin and lacking in nutrients. Trees grow taller where warmer temperatures allow for faster decompostion or by streams and rivers which carry nutrients from higher ground.

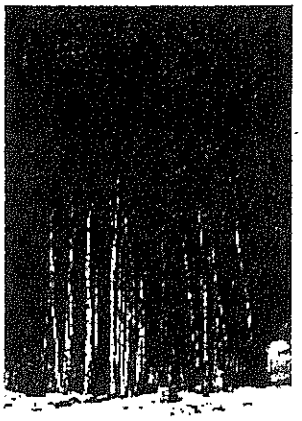
TAIGA PLANTS



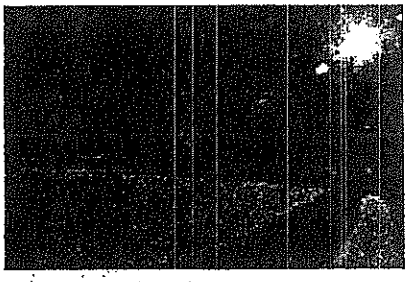
The taiga is large and seemingly homogeneous. Acres and acres of the exact same tree species are often the case. The lack of diversity is pretty amazing, especially when compared to other biomes such as the rainforest. Yet within the endless sea of similar conifers,



There is not much diversity in the taiga. Evergreen trees reign supreme -- miles upon miles of the exact same species are tree is often the case in the taiga. Most trees in this biome tend to grow in dense patches of one or a few species. Spruce, hemlock and fir are the primary trees of the taiga. There are a few broad leaf trees in the taiga: birch, poplar, and aspen. These species lose their leaves in the fall. By shedding their leaves, these deciduous trees save energy during the winter months. But in the spring, these trees have to grow back new leaves. In contrast, evergreen trees do not have to regrow leaves in the spring. However, they risk a chance of breakage from heavy snow falls.



Life in the Taiga



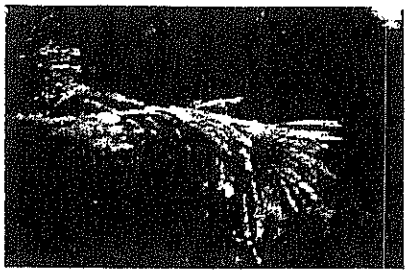
Life in the taiga is cold. Really cold. And it snows. Over many years, evergreen species have gained adaptations to improve their chances of surviving the taiga. Trees in the temperate deciduous biome drop their leaves in the fall. That way they can survive a heavy snowstorm without risking their branches. Evergreen trees in the taiga keep their leaves, but their cone shape helps prevent damage. Branches droop downward, which helps shed excess snow. If the branches held more snow it would increase the chance of them breaking during a heavy storm. The needles help keep the trees warm during the winter.

aiga trees tend to be conifers. Conifers, many of which are evergreen, produce cones in late winter or early fall. If a cone becomes fertilized, it grows bigger. Only then do the seeds

inside develop. Once the seeds ripen, the cone dries up and the seed falls out. It can take up to two years to produce a mature seed. Squirrels like to feed on these seeds.

Needles

Needles on evergreen trees of the taiga are thin and wax-covered. They do not fall off in the fall. Needles are leaves. Most taiga conifers, with the exception of the tamarack and a few other species, keep their leaves in the winter. Most conifers keep their leaves for 2 - 3 years. A spruce can keep its needles for 15 years! Conifers lose their leaves a few at a time, so the change is not always noticeable. Needles are adapted to the taiga environment. Needles lose less water and shed snow more easily than broad leaves.



Fall in The Taiga

In the temperate deciduous forest most leaves fall off in autumn. In the taiga, the change is much more subtle. Leaves slow down the chemical process for winter. The tamarack's leaves turn brown and drop. It is one of only a handful of evergreen species that drop their leaves for the fall. The leaves of many shrubs turn deep red. Aspen and birch, deciduous trees, have leaves that turn golden before falling for the winter. All in all, the taiga fall show is less dramatic than the temperate deciduous show.

http://www.mbgnet.net/sets/taiga/index.htm