TUNDRA BIOME

The tundra biome is a cold and treeless plain where harsh conditions make it hard for plants and animals alike to survive. Around 20% of the Earth's land surface is covered with tundra.  
  
**Characteristics of the Tundra Biome**

* It's cold - The tundra is the coldest of the biomes. The average [temperature](https://www.ducksters.com/science/physics/temperature.php) in the tundra is around -18 degrees F. It gets much colder in the winter and warmer during its short summer.
* It's dry - The tundra gets about as much precipitation as the average desert, around 10 inches per year. Most of this is snow.
* Permafrost - Below the [top soil](https://www.ducksters.com/science/earth_science/soil_science.php), the ground is permanently frozen year round.
* It's barren - The tundra has few nutrients to support plant and animal life. It has a short growing season and a slow rate of decay.

**Two Types of Tundra**

* Alpine tundra - Alpine tundra is the area of land high in the mountains above the tree line.
* Arctic tundra - The Arctic tundra is located far north in the northern hemisphere along the Arctic Circle. There are large areas of tundra in northern North America, northern Europe, and northern Asia.



**Tundra Seasons**  
  
The tundra has two distinct seasons: a long winter and a short summer. Being so far north, the tundra has long nights in the winter and long days in the summer.  
  
The winter lasts around 8 months and is extremely cold. In the middle of winter the sun may not rise for weeks. The tundra is frozen and often covered with snow during the winter and will reach temperatures of -60 degrees F.  
  
The summer is shorter and is marked by the other extreme of the sun not setting. In the middle of summer the sun will be up for 24 hours. During the summer the temperatures may reach 50 degrees F causing the snow to melt in areas and wetlands to form.

**What is permafrost?**  
  
Permafrost is a layer of ground below the topsoil that remains frozen throughout the year. This layer is generally only a few feet below the surface. Permafrost prevents trees from growing in the tundra because trees need to have deep roots and they can't grow in the frozen ground.  
  
**Plants in the Tundra**  
  
Plants that grow in the tundra include grasses, shrubs, herbs, and lichens. They grow in groups and stay low to the ground to stay protected from the icy winds. They tend to have shallow roots and flower quickly during the short summer months.  
  
Most of the plants in the tundra are perennials that come back each year from the same root. This allows them to grow during the summer and save up nutrients as they lay dormant for the winter. They also tend to have hairy stems and dark leaves. This helps them in absorbing energy from the sun.  
  
**Animals in the Tundra**  
  
The tundra has a lot more animal activity during the summer than the winter. This is because most birds migrate south for the summer, insects lay eggs that wait for the summer to hatch, and some mammals hibernate for the winter. There are even some animals, like the caribou, which migrate south for the winter.  
  
There are some animals that have adapted to winter in the tundra. Some of them change coats from brown in the summer to white in the winter so they can blend in with the snow. These include the arctic hare, the ermine, and the arctic fox. Other animals that are active in the winter include the snowy owl, musk oxen, and ptarmigans.  
  
During the summer, the tundra will be teeming with insects. Wetland areas will be filled with mosquitoes. There will also be a lot of bird activity as they come to eat the insects and fish. Animals will be more active, coming out of hibernation or migrating from the south.

**Facts about the Tundra Biome**

* The word tundra comes from a Finnish word tunturi, which means treeless plain or barren land.
* The tundra is a very fragile biome that is shrinking as the permafrost melts.
* Lemmings are small mammals that burrow under the snow to eat grasses and moss during the winter.
* [Polar bears](https://www.ducksters.com/animals/polarbear.php) come to the tundra for the summer where they have their babies.
* Animals in the tundra tend to have small ears and tails. This helps them to lose less heat in the cold. They also tend to have large feet, which helps them to walk on top of the snow.
* Plants that grow in tight groups to protect themselves from the cold are sometimes called cushion plants.
* The [Inuit people](https://www.ducksters.com/history/native_americans/inuit_peoples.php) of [Alaska](https://www.ducksters.com/geography/us_states/alaska_history.php) live on the tundra.