The Arctic belongs to the tundra biome, which is the coldest of all the biomes. The word tundra comes from the Finnish word tunturia, meaning ‘treeless plain.’

Land within the Arctic Circle is known as the Arctic tundra, and it supports less life than most other biomes because of the cold temperatures, strong, dry winds, and permafrost (permanently frozen soil). Long periods of darkness (in the winter) and light (in the summer) also affect Arctic life.

Interesting facts about some Arctic animals

The narwhal (Monodon monoceros) is a small whale that lives most of its life north of the Arctic Circle. One of the male narwhal’s two teeth grows into a distinctive tusk, which can reach three metres in length — earning the animal the name “unicorn of the sea.”

Arctic Tern (Sterna paradisaea)

This bird undertakes one of the world’s longest migrations — travelling nearly from pole to pole every year. The bird breeds in the Arctic Circle, but migrates during the Northern Hemisphere winter to the edges of the Antarctic ice-pack. The annual journey is some 35,000 kilometres — nearly equal to flying all the way around the world!
The Arctic is extremely vulnerable to Climate Change. Arctic indigenous communities are already noticing some of these changes: warmer winters, earlier break-up of ice in the spring, and thinner ice year round. While Arctic ice is always dynamic (increasing during winter and shrinking during summer), during recent decades the ice cap has been shrinking in both area and thickness.

Oil and gas development, and the ever-increasing pressure on fish stocks (overfishing), are two of the biggest threats to Arctic marine ecosystems. Fish stocks in some Arctic waters are being fished to extinction, while seabirds and even polar bears suffer from overhunting in parts of the Arctic.

Another threat is the increase in ship container traffic in Arctic seas. Many pollutants found in the Arctic were not produced or ever used in the Arctic. The Arctic acts as a final ‘sink’ where pollutants become trapped after travelling great distances via air and water currents, finally ending up in the remote Arctic.

Is the Polar Bear in trouble?

Polar bears could become extinct by the end of this century if there is an almost complete loss of summer sea ice cover.

The main sources for concern are due to our modern western ways. The bears have a tendency to bioaccumulate (build up) toxins in their fat, such as PCBs and heavy metals which have travelled to the Arctic via air and water currents. They may also be affected by changes to their habitat or den sites due to oil and gas exploration and tourism.

But by far the biggest threat to the very survival of the species is global climate change. The bears depend on the sea ice for food, and if the sea ice disappears then so will their food. Recent studies have shown changes in bear habits, with bears spending more time on shore eating whale carcasses than out on the dwindling ice-packs hunting their favourite prey. More bears than ever are also being found far out to sea or drowned during storms due to the shortage of ice-floes and seals.

A simple Arctic foodchain:

Phytoplankton (Ceratium Arcticum)

Polar Cod (Boreogadus saida)

Hooded Seal (Cystophora cristata)

Polar Bear (Ursus maritimus)
What does the Polar Bear’s Latin name (Ursus maritimus) mean?

Sea Bear

Where does the polar bear live?
The polar bear lives on the shifting ice-sheets and floes that surround the Arctic land masses. The ice provides a base from which the polar bear can hunt.

Why are polar bears white?
The bear’s white colour is an adaptation, helping to camouflage the bear as it hunts for prey in snow and ice. The fur has no pigment (colour).

How big are polar bears?
Polar bears are the largest bear.

Large males sometimes exceed 800kg in weight (an average man weighs 75kg).
Males are almost twice the size of females, weighing between 400-600kg (female: 200-400kg), and considerably longer – males measure 240-260cm, females 190-210cm.
The height at the shoulder ranges between 130-160cm (the average European man stands 170cm tall).

How long do polar bears live?
They live for an average of 25-30 years, though in captivity some have lived beyond 40.

How many cubs can a female polar bear have?
Four. The female polar bear’s milk is the richest bear milk, having up to 35.8% fat content (human milk only contains 4.6% fat). This ensures that the cubs put on an insulating fat layer very quickly, so can stay warm. Mothers with cubs stay on land during the long winter. With this exception, polar bears are solitary (live on their own).

Are Polar Bears hunters?
For its great size, the polar bear is remarkably agile, both in and out of the water. A strong swimmer, it can swim for up to 100km without resting.
Polar bears are carnivorous (meat eaters). They have a very good sense of smell but their eyesight isn’t very good for a carnivore. In water, the large, rounded forepaws help the bear to swim strongly.

On land, the paws spread the bear’s weight like snow-shoes. They have five toes on each paw, with non-retractable 5-7cm-long claws. The polar bear has 42 teeth, including long, sharp canines for piercing flesh.

A favoured hunting method involves the bear waiting by a seal’s breathing hole in the ice. The bear remains silent and still, sometimes for hours, until a seal comes to the surface for air. Lunging forward, the bear clubs the seal, or strikes with open jaws. Delivering more crushing bites, the polar bear drags the carcass onto the ice to feed on the meat and the thick, blubbery fat.

How have Polar Bears adapted to life in the Arctic?
The polar bear’s immense size and thick, fluffy coat with a 5cm-thick layer of underfur helps to keep it warm. Under this coat is a thick layer of blubber (fat) which is 5-10cm thick. Also, they have translucent hair shafts that transfer solar energy (from the sun) down to be absorbed by their black skin. The polar bear’s coat is waterproof. It has small, fur-lined ears and a short head.
Polar bears can store a great deal of energy as fat, using it during lean times when there is no food. Unlike other bears, if they do not eat for 10-14 days their body goes into hibernation, even in summer!

Dressed in insulating fur and fat, the polar bear is able to sleep through biting blizzards and does not need a shelter or plunge into the Arctic’s near-freezing waters.

Predators and Enemies
Apart from human hunters, polar bears are hunted by no animal and are the Arctic’s top predator. The only natural enemies of the polar bear are Inuit hunters, starvation, parasites such as Trichinella spiralis and other, larger, adult male polar bears.