

**Chapter 7**  
**CLIMATE AND ADAPTATION**  
**CLASS 7**  
**DAY 2**

**Climate and Adaptation**

- The climate of a place can affect the living organisms of that area.
- The animals living in a particular region adapt themselves so that they can survive the weather conditions of that place.
- The features and habits of the animals start to change as per the climate of the place.
- Animals living in different climates adjust themselves to survive there by adopting special characters which is known as adaptat

**Polar Region**



**Figure 6: The polar region on the earth**

- The area of the earth that surrounds the North Pole and the South Pole is called the **Polar Region**.
- The climate of the polar region is extremely cold throughout the year and receives heavy snow.
- The sun does not rise for 6 months of the year in the polar region and then It stays up for the next 6 months.
- The temperature in the polar region can be as low as - 37°C.

- Most common animals found in these regions are polar bears and penguins. Other animals that can be found in polar areas are fishes, birds, oxen, musk, reindeers, fox, whales and seals.
- They have adapted themselves so that they can survive easily in these places.



Leopard seal



Penguin



Arctic wolf



Walrus



Arctic Fox

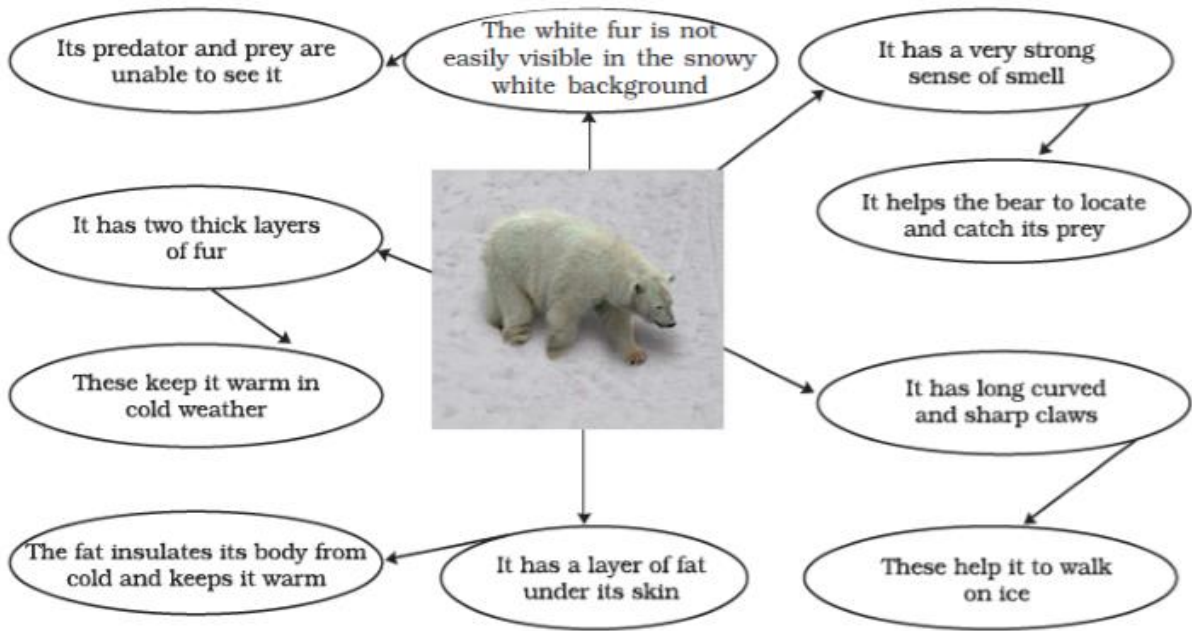


Polar bear

Figure 7: Animals in Polar Region

### The Polar Bear

- The white fur of the polar bear makes it easier for them to hide in the snow and therefore save them from predators.
- In the same way, it makes it easier for them to catch their prey.
- The polar bears have two layers of thick fur on them so that they can survive extremely cold conditions.
- The polar bears move slowly and rest a lot so that they do not get overheated because of their thick fur.
- The polar bears often swim on warm days to keep themselves cool.
- The paws of the polar bear are large and wide so that it can swim as well as walk easily in the snow.
- The polar bear can swim underwater as well because it can keep its nostrils closed for a long time.
- The strong sense of smell of polar bears makes it possible to locate its prey during such harsh weathers.



**Figure 8: Adaptation of Polar Bear**

## **The Penguins**

- The penguins are also white in colour so that they can hide in the snow.
- They have thick skin with large fat content in their body so that they can survive the cold weather easily.
- The Penguins generally live in a crowd or nest closely so that they can stay warm.
- The Penguins have webbed feet which allow them to swim.
- Seal and penguin also have a layer of blubber under their skin, which insulates their body from cold. The fat also provides energy to the animal when there is a scarcity of food.



**Figure 9: Adaptation of Penguin**

## **Migratory Birds in the Polar Region**

- The birds in order to protect themselves from cold weather of the winters in the polar region often migrate from these areas to warmer places.
- They then return back after the winter season.
- For example, The Siberian crane migrates to India in Rajasthan, Haryana and some North East regions during the winter season in Siberia.
- These birds that migrate to different places during a change in weather are often called migratory birds.
- They can travel used instances of 15000 km to protect themselves from the extremely cold environment.
- Such birds migrate to the same places every year.
- The migratory birds fly very high so that the heat generated by the flight wings can be disposed of in the cold conditions.
- The migratory birds have a sense of direction so that they can travel to the same place every time.
- The migratory birds also use landmarks or follow the direction of the sun and stars to migrate.
- Some birds also use the magnetic field of the earth and find direction.
- Apart from birds, fishes, insects and mammals also migrate.



Figure 10: The Siberian Crane

## Tropical Rainforests

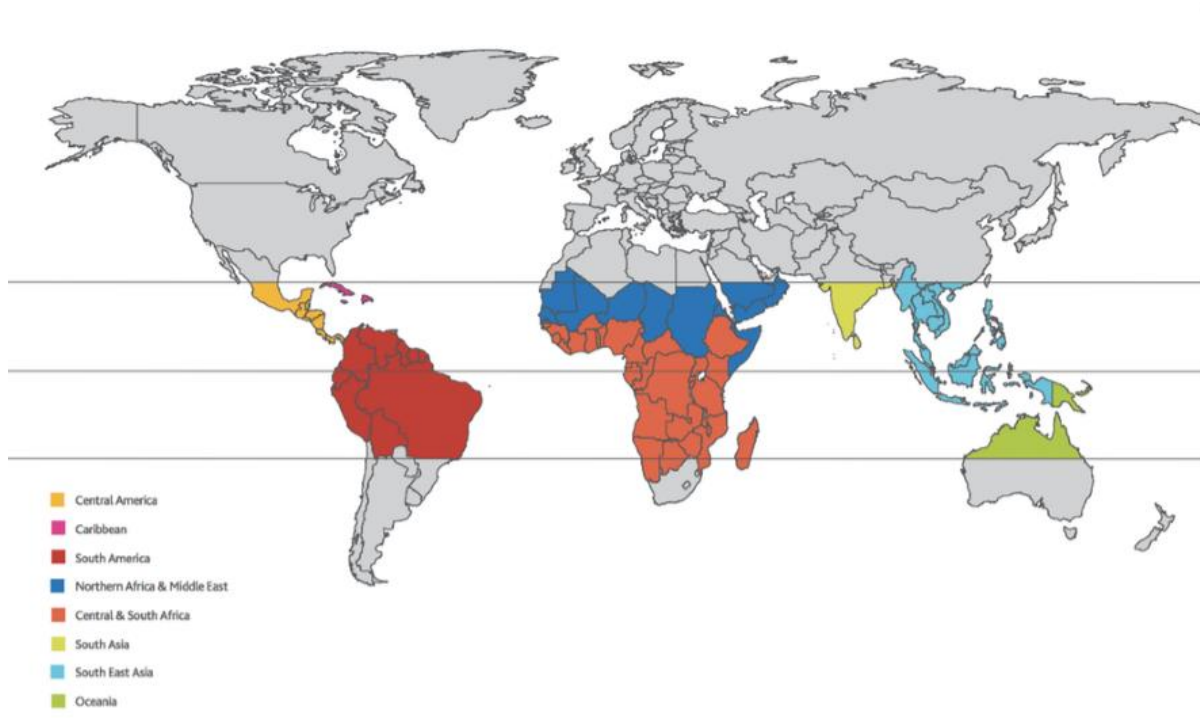



Figure 11: The tropical region on earth

- The tropical regions on the earth are the regions which are close to the equator and hence receive more amount of sunlight during the year.
- Because of this, these areas have a hot climate.
- The temperature in tropical regions can be as high as 40°C and can drop until 15°C only.
- The length of the day and night are almost equal in these regions.

- However, there is a lot of rainfall and so the tropical rainforests are found in this region.
- The Tropical rainforests are home to a wide variety of vegetation and animals.
- Due to large habitation, the animals often compete for food in these regions.
- Many animals have adapted themselves so that they can live on the trees and find their food easily. The skin colour of these animals is generally similar to that of the surroundings so that they can catch their prey easily and protect themselves from the predators. Also, many of these animals have a good eyesight and better sense of hearing.
- Some animals are nocturnal to avoid the heat of the day. They are active only during the early hours of the night and sleep in their burrows in the daytime to escape the heat. Some animals sleep throughout the summer months. This long summer sleep is known as aestivation.

**Different animals found in the tropical rainforests and their features:**

A	Animals	Adaptation	
	The red-eyed frog	It has a sticky feet so that it can climb up on the trees easily.	

**Figure 12: The red-eyed frog**

The monkeys

They have long tails so that they can climb the trees easily. Even their hands and feet have a structure that helps them in holding the branches of the trees easily.



**Figure 13: Monkey in Tropical Rainforest**

Toucan Birds

The Toucan birds adapt themselves so that they can find food easily. The Toucan bird has a large and long beak with which it can reach the food that is found on weaker branches as well.



**Figure 14: Toucan Bird**

Lions and Tigers

They have thick skin, sharp eyesight and sensitive hearing.



**Figure 15: Tiger in Tropical Rainforest**

The lion-tailed macaque (beard ape)

The beard ape lives generally on the trees in the tropical forest because it can find its food easily on them such as insects, seeds, fruits, leaves, flowers and stems. The beard ape also has a silver-white mane that starts from its head to its cheek.



**Figure 16: The lion-tailed macaque (beard ape)**

Elephants

The elephant found in the tropical rainforest also have adapted themselves according to the climate. Its huge trunk gives it a nice sense of smell and helps in picking the food easily. The elephant also eats the bark of the trees. The tusks or large teeth of elephant allow it to clear the bark of the trees. The large ears of the elephant allow it to hear sensitive sounds that make it easier for it to protect itself from predators. The ears also protect the



**Figure 17: Elephant in Tropical Rainforest**



elephant from the  
hot and humid  
climate of the  
rainforests.