



## INDIAN SCHOOL AL WADI AL KABIR



<b>Class: VII</b>	<b>DEPARTMENT OF SCIENCE-2021-22</b>	<b>Date: 23.01.2022</b>
<b>HANDOUT</b>	<b>Topic: WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE</b>	<b>Note: A4 FILE FORMAT</b>
<b>Name of the student:</b>	<b>Class &amp; Section:</b>	<b>Roll no.</b>

**Weather:** The day-to-day changes that take place in atmospheric conditions at a given place and time is called as weather. The scientific study of weather is called meteorology.

**Climate:** The average weather condition of a place over a long period of time is known as climate.

### **Difference between weather and climate:**

<b>Weather</b>	<b>Climate</b>
Weather is the atmospheric condition of a place on a particular day.	Climate is the average weather condition of a place over a long period of time.
Weather changes every day and may change several times a day.	Climate generally remains unchanged for a few days.
Weather conditions generally depend on temperature, humidity and rainfall of a place. These factors are known as elements of weather.	The climate of a place generally depends on altitude, latitude and distance from the sea and wind.

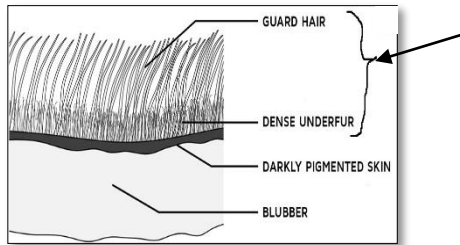
### **Adaptation-**

A special feature displayed by an organism to live and reproduce successfully in a particular environment.

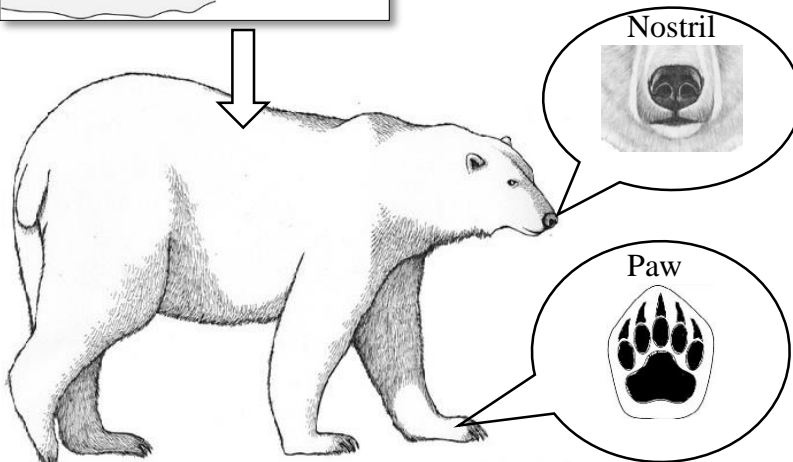
### **POLAR REGION**

The Polar Regions have extremely cold climatic conditions. These regions are covered with snow for most part of the year. In winters, the temperature can dip to as low as  $-37^{\circ}\text{C}$ .

## Adaptations in Polar bear



- Polar bears protect themselves with the thick fur on their bodies.
- **The thick white fur** provides warmth and also helps the animal to **camouflage** as the colour blends with the snow.
- Thick layer of fat called **blubber** present under its skin acts like an **insulator**.

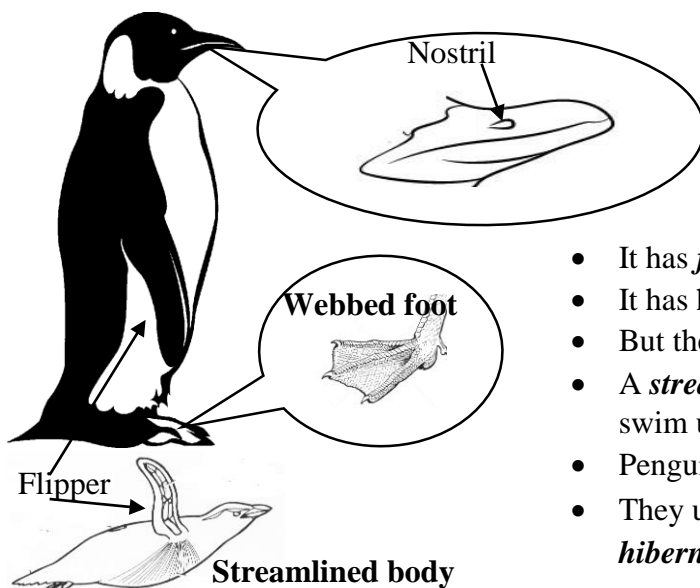


- The polar bear often goes for a swim to cool off on warm days.
- The polar bear can keep its **nostrils** closed for a very long time while swimming.
- The polar bear has strong sense of smell and can catch its prey's smell from as far as one kilometer.

- It has **wide and large paws** that help in swimming and walking on snow.

## Adaptations in Penguins

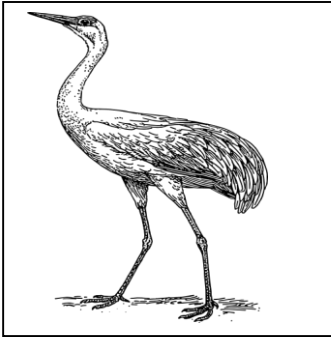
- The penguin has thick layers of stiff and densely packed feathers that block the cold Antarctic waters from reaching its skin while swimming.
- A thick layer of blubber is present under its skin which keeps it warm.



- It has special nasal passage that prevents loss of heat during exhalation.

- It has **flippers** that help in swimming
- It has heavy solid bones and hence cannot fly.
- But these solid bones help flippers for swimming
- A **stream lined body** and webbed feet help the penguin to swim under water.
- Penguins often huddle together to conserve heat.
- They undergo long sleep during cold climate called **hibernation**.

### Adaptations in Siberian crane



- They undergo seasonal journey from colder to warmer place in order to cope up with cold weather and shortage of food supply during winter months. This seasonal journey is called **migration**.
- They can accumulate fat as the source of energy.
- They fly in flocks to reduce energy loss and to avoid predators.
- They undergo a process of **moulting** or shedding of feathers after wear and tear once or twice a year.

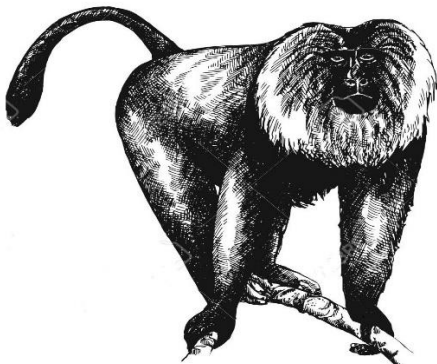
### Migratory birds



- Birds must remain warm to survive, so they migrate to warmer regions when winter sets in. They come back after the winter is over.
- Some birds travel 15000km to escape extreme climatic conditions.
- They fly high where the wind flow is helpful. They have a built-in sense of direction.
- They are guided by the sun during the day and stars at night.
- Some birds use landmarks to guide them.
- Some birds use magnetic field of earth to find direction.

## TROPICAL RAINFOREST

The tropical rainforest has a warm and wet climate. The summer temperature can be as high as **50°C** and in winters, the minimum temperature seldom goes below 15-20°C. The tropical rainforest get plenty of rainfall. Because of the highly favourable climatic conditions in tropical rain forests, wide varieties of flora and fauna are found here. The days and nights are almost equal in length throughout the year.

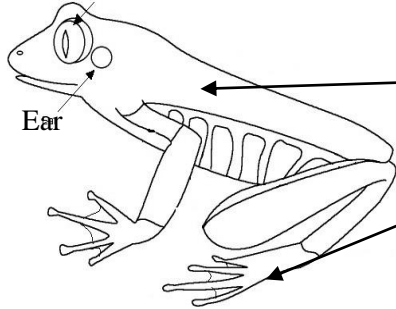


### Adaptations in Lion-tailed Macaque

- Lion- tailed macaque has a characteristic mane around the face.
- It feeds on fruits, seeds, flowers, leaves and some insects.
- It is an **arboreal** animal and is adapted to grasp the branches with its hand and long muscular tail.

### Adaptations in Red-eyed Frog

- **Large red eyes** with silt-like black pupil scares away predators.



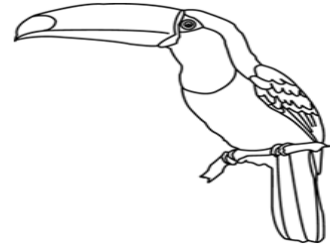
- The red-eyed tree frogs live on treetops, branches and leaves.
- It is nocturnal animal and sleeps during the day underside large tree leaves.

**Bright green skin** with blue and yellow markings, helps in camouflaging.

**Feet have suction cups** on the toes to stick to the trees. It has powerful legs.

### Adaptations in Toucan

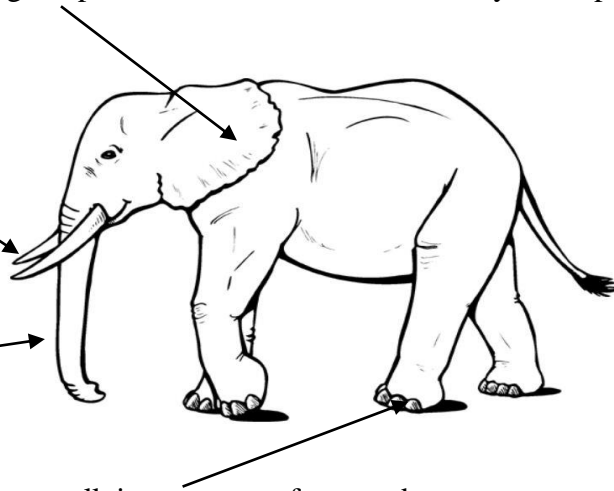
- The toucan has a big, strong and sharp beak to squash many kinds of nuts and berries found on trees.
- It also feeds on small birds and lizards using its beak and narrow leather-like tongue.



### Adaptations in Asian Elephant

Elephants feed on large amounts of food.

- **Large ears** with keen sense of hearing, help them to lose heat from the body to keep themselves cool.
- **Tusks** are modified teeth and are used to tear the barks of trees, which is their favourite food.
- Their upper lip is fused with the nose and is modified in the form of a long **trunk**, which is used for breathing, smelling, feeding, drinking, and lifting load, grasping and defense.
- **Unique foot** structure, which helps them to walk in uneven surfaces and swampy ground.



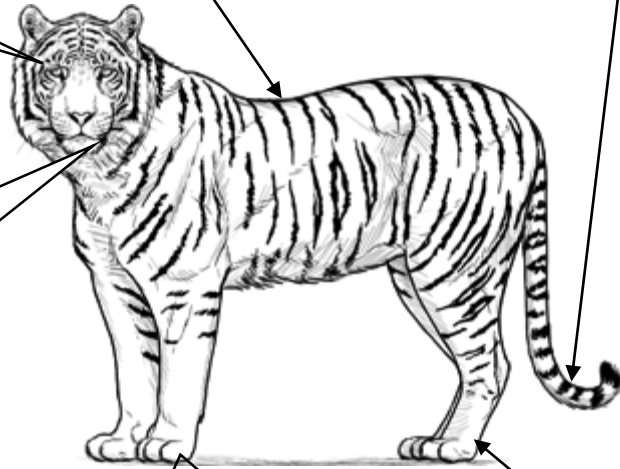
**Adaptations in Tiger**



Eyes in the front of the head, allows better perception while hunting

Stripes enables camouflage into the wilderness

Long, sturdy tail enables balance



Strong jaws help them to consume bigger prey.  
Canines to tear flesh of prey.

Long legs aid in jumping.



Strong, retractable claws to hold prey.

**PREPARED BY**  
**Mrs. SOBHANA RANI.P**

**CHECKED BY:**  
**HOD - SCIENCE**