



## Unit - 7

# Exploring Continents

## Africa, Australia and Antarctica



### Learning Objectives

- ▶ To study the Geographical location of the continents of Africa, Australia and Antarctica
- ▶ To learn the physical setting, climate and drainage of the continents
- ▶ To understand the nature of the flora and fauna of the continents
- ▶ To identify the major resources and economic activities
- ▶ To develop the mapping skill



### Introduction

A teacher handling class VIII entered the classroom and asked the students what they were talking about. The class monitor told the teacher that the students were talking about the ODI match between Australia and South Africa. The teacher said to the students, “Well today we will learn many things about them in this lesson”.

### Africa

#### Location and size

Africa is the second largest and second most populous continent after Asia. It stretches from 37°21' North latitude to 34° 51' South latitude and from 17°33' West longitude to 51°27' East longitude. It spreads over an area of about 30.36 million square kilometres (20.2% of the world's land area). The equator passes through the middle of Africa and cuts into two equal halves. It is the only continent through which the major latitudes such as Tropic of

Cancer, Equator and Tropic of Capricorn pass. Its north-south extent is 7623 km and east-west extent is 7260 km. The Prime Meridian passes near Accra the capital of Ghana in the West of this continent. Africa is located in all the four hemispheres.

The great explorers David Living Stone and H.M. Stanley were the first to explore the interior parts of this continent. The sources reveal that the early human ancestors have lived in Africa for more than 5 million years. Africa is nicknamed as the “**Mother Continent**” as it was the oldest inhabited continent on Earth. The diverse geographical condition of the Continent is the main reason for heterogeneous culture and home of several ethnic groups in Africa.




Africa is called a Dark Continent. In the beginning the interior of Africa was largely unknown to them. The European explorer Henry M. Stanley was the first to use the term the “**Dark Continent**” (1878).

## Political Divisions



The continent of Africa consists of 54 countries. On the basis of their geographical location, the countries are grouped as a) West Africa b) North Africa c) Central Africa d) Eastern Africa e) Southern Africa.



**DO YOU KNOW?**

The north-western African countries of Morocco, Algeria, Libya, Mauritania and Tunisia are collectively called '**Maghreb**' which means west in Arabic language.

## Physiographic Divisions

Africa consists of mixture of land forms such as mountains, plateaus and plains.

The following are the 8 major physical divisions of Africa. Madagascar is the major island of Africa.

### 1. Sahara

The world-famous Sahara Desert is located in the northern part of Africa. It is one of the largest hot deserts in the world. It has an area of 9.2 million sq km. The Sahara is bordered by the Atlantic Ocean in the west, the Red Sea in the east, the Mediterranean Sea in the north and Sahel in the south. This desert covers the areas of 11 countries: Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Western Sahara, Sudan and Tunisia.



## Physical Features of Africa



It consists of many topographical features such as mountains, plateaus, ergs, oases, sand- and gravel-covered plains, salt flats, basins and depressions. Mount Koussi, an extinct volcano in Chad, is the highest point in the Sahara with 3,445 m and the Qattara Depression in Egypt is the Sahara's deepest point (133 m below sea level). Nile and Niger rivers run through the desert.

Atlas Mountain lies in the north- west of Africa. It is a young fold mountain. It separates the Mediterranean sea and Atlantic ocean. The highest point is Mount Toubkal (4167m).

### 2. Sahel

Sahel means border or margin. Sahel is a semi-arid tropical Savanna region lies between the Sahara Desert in the north and Savanna

grassland in the south. It stretches east-west for a distance of 4000 km and covers an area of 3.0 million sq km. It is largely a semi-arid belt of barren, sandy and rocky land. This region marks the physical and cultural transition between the more fertile tropical regions in the south and desert in the north.

### 3. Savanna

Tropical dry grasslands with scattered trees are known as 'Savanna'. It is located near the equator and covers almost half of the area of Africa. This grassland is found in the regions just north and south of the rainforests that lie along the equator. Trees are the main features of the landscape in some parts of the savanna, while tall grass covers the other areas. Animals





of many species graze in this zone. The Serengeti Plain is one of the largest plains in Savanna. This is called the 'Open Air Zoo'.

#### 4. The Great Rift Valley and the Great Lakes of Africa

A rift valley is a large crack in the earth's surface formed by the shifting of tectonic plates. One of the major geographical and geological features of Africa is the Great Rift Valley. It stretches from northern Syria in Asia to central Mozambique in Africa for a distance of 6400 kilometers. It runs through the eastern Africa and contains many lakes.

##### ACTIVITY

Find out-the Great Rift Valley and the lakes connected with it from the atlas and mention them on the map of Africa.

The African Great Lakes are a series of lakes found in the rift valley. The water in the Great lakes of Africa constitutes about 25% of the planet's unfrozen surface fresh water. There are seven major lakes in this region.

Lake Victoria of this region is the largest fresh water body in Africa and second largest in the world, next to Lake Superior in USA. It is the source of river Nile. The other lake in the valley is Tanganyika which is the longest and deepest fresh water lake in the world. Lake Albert, Lake Edward, Lake Kivu, Lake Malawi, and Lake Turkana are the other important lakes in Africa.



The glaciers on the top of Kilimanjaro have been disappearing since 20th centuries. If this trend continues, Kilimanjaro summit will be ice-free by 2025.

#### 5. East African Highlands

Most African mountains are found in these high lands. It stretches from Ethiopia to Cape of Good Hope. Mt. Kilimanjaro (5895m)

is the highest peak located in these highlands. Mt. Kenya and Mt. Ruwenzori are the major mountains located in these high lands. This region is sparsely populated and covered with rich grassland, forests, streams and waterfalls of natural scenic beauty. It enjoys misty mornings and fresh mountain breezes which attract large number of tourists from other parts of the World.

#### 6. Swahili Coast

Swahili coast is located along the shores of East Africa. It stretches about 1,610 kilometers along the Indian Ocean from Somalia to Mozambique. It was a region where the Africans and Arabs mixed to create a unique culture referred to as Swahili Culture. People of this coast are also called 'Swahili'.

#### 7. The Congo Basin or Zaire Basin

Congo Basin lies on the both sides of the the equator in west Central Africa. It comprises an area of more than 3.4 million square kilometres and covered with dense evergreen forest. It provides food, shelter, medicine, water, and materials for over 7.5 million people. It is the world's second largest river basin next to Amazon.

#### 8. Southern Africa

Most part of the Southern Africa is a plateau region. *Drakensberg Mountain* is found in the eastern portion of the escarpment. It extends from north east to south west for 1125 km. Its highest peak is Thabana Ntlenyana (3482m). This region is covered with grasslands known as 'Veld'. Kalahari Desert lies in the south and Namib Desert is along the south -west shore of Africa. Kalahari Desert in this region is not actually a desert, but a bushy scrubland situated between the Orange and Zambezi Rivers.



Sheep rearing in semi-arid region of South Africa is called 'Karoos'.



## Drainage of Africa

### 1. River Nile

The Nile is the longest river in the world with a length of 6650 km. It has two main tributaries. They are the White Nile, which originates from Burundi, and the Blue Nile, which originates from Ethiopia. These two join and form the Nile River at Khartoum, in Sudan. It flows towards northward and drains into the Mediterranean-sea. Nile is known as the “Father of African Rivers”.



The country Egypt is called the “Gift of the Nile” as it is the lifeline of the Egypt. Without Nile the Egypt would have been a desert.

### ACTIVITY

On the outline map of Africa draw the courses of main rivers and name them.

### 2. River Congo or Zaire

Congo is the second largest river of Africa after Nile. Its length is about 4700km. Congo rises in the highlands of North Eastern Zambia between lakes Tanganyika and Nyasa. It flows through West Central Africa and drains into the Atlantic Ocean.

### 3. River Niger

Niger is one of the major rivers in West Africa and rises from the highlands of Guinea. It flows for about 4184 km and finally drains into the Gulf of Guinea on the Atlantic Ocean.

### 4. River Zambezi

The Zambezi River is the fourth longest in Africa. It rises in the north western Zambia. It is about 2574 km long and drains into the Indian ocean. The world famous waterfall ‘Victoria’ is formed by this river at the height of 108 meters. It is called the Southern Africa’s “River of Life”.

River Limpopo and river Orange are the other important rivers of Africa.

## Climate

Africa is divided into six major climatic zones. They are:

1. **Arid and semi-arid climate:** Northern Africa and Southern Africa have this climate. Rainfall is scanty in this part.
2. **Tropical savanna climate:** It is found from 10°-20° latitudes on either side of the equator. It is a tropical wet and dry climate.
3. **Equatorial climate:** It is found in the equatorial region covering the Congo River basin and east African highlands. Temperature and rainfall are high all the year round in this region
4. **Temperate climate:** It prevails in southern tip of South Africa. Since this part is located on the coast, the climate of this region is equable.
5. **Mediterranean climate:** It is found in the north-western and south western tips of Africa. These regions get rainfall in winters while in summers it is hot and dry.
6. **Tropical Monsoon climate:** It is found in the eastern shore of Africa. Summers are hot with monsoon winds bringing good rainfall while winters are cool and dry.

### FACT

Tropical deserts are located between 20° and 30° north and south of the equator on the western margin of the continents. The deserts lie in the belt of the trade winds which blow from northeast in the northern hemisphere and southeast in the southern hemisphere. Therefore, the general direction of the trade winds is from east to west. These winds shed their moisture on the eastern margins of the continents and by the time they reach the west, they lose their moisture.

## Flora and Fauna

African vegetation develops in direct response to the interacting effects of rainfall, temperature, topography and type of soil. Forests cover about 20% of the total land area of the continent. The flora and fauna currently found in Africa are descended from plant and animal species that were present in the continent when it was separated from other land masses during the break up of Gondwanaland.

Baobab, Fever tree and Sausage are the major trees of Africa. There are over one million species of animals in Africa, including both the heaviest (elephants) and the tallest (giraffes) land animals on the earth. White Rhinoceros, Western Green Mamba, Zebra, African Elephants, chimpanzee, gorilla, Wildebeest, Hippopotamus, and Giraffe are the major animals of Africa. Bonobo, Wild Dogs, hyena and Lemur are the typical animals of Africa.



Lemur



Tsetse Fly



Okapi



Bonobo



Ostrich



Fox In Sahara



Wildebeest



- A hot and dry dusty local wind blowing from the Sahara desert to Guinea coast is called '**Harmattan**'.
- A hot local wind blowing from Sahara to Mediterranean Sea is called '**Sirocco**'.
- Tropical rain forest is called the '**Jewel of the earth**' and the World's largest pharmacy.

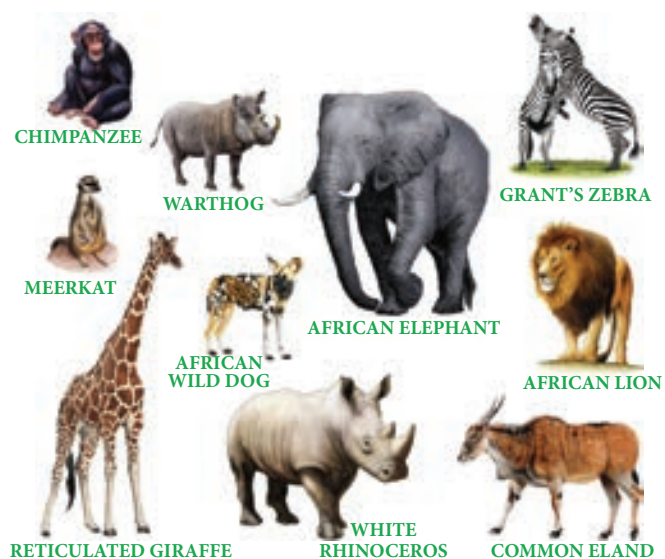


Baobab Tree



Rain Forest

## ANIMALS OF THE AFRICAN SAVANNA







## Agriculture

Agriculture is a major economic activity of the African continent. Wheat is grown in the temperate grasslands, Mediterranean region and the Nile valley. Rice is cultivated in Guinea coast, Mozambique, Madagascar and Nile valley. Maize and millets are grown all over the plateau regions. Cotton is the chief cash crop of Africa. Egypt and Sudan cultivate the best quality long staple cotton in the world. Coffee is grown in Ethiopia. Ghana is the chief producer of cocoa. Oil palm is cultivated in West African countries. Sugarcane, rubber, sisal and tobacco are the other major crops and are mostly grown in East African countries.

## Minerals

Africa is rich in few mineral deposits. The region at the south of Sahara and the plateaus of Africa are the major mineral regions of the continent. Diamonds are found in South Africa, Congo, Botswana, Sierra Leone and Angola. Kimberly in South Africa is the important producer of diamond. Angola, Nigeria, Gabon and Congo have more oil reserves. Gold is found in South Africa, Namibia, West Africa and Ghana. Chromium, cobalt, copper, iron ore, manganese. Zinc and nickel are scattered across the continent.

## Transport

Transports play an important role in the economic development of a region. The physical features and slow economic growth hinder the transport system in many African countries.

### 1. Land ways

Roadways and Railways in Africa are poorly developed due to the presence of many barriers. It is very difficult to lay the roads and rails across the deserts and the dense forests. South Africa, Kenya, Egypt, Libya, Morocco and Nigeria have roadways and railways to some extent.

### 2. Waterways

Africa has trade routes between Asia and Australia in the east, Europe in the north and

America in the west. The major sea ports of Africa are Durban, Dar es Salaam and Mogadishu on the Indian Ocean, Port Said, and Alexandria, on the Mediterranean Sea, Cape Town, Algiers and Abidjan on the Atlantic Ocean.

### 3. Airways

They connect the capital cities of Africa and the other parts of the world. The major international airports of the continent are Cairo, Johannesburg, Nairobi, Dakar, Addis- Ababa, Casablanca, Durban, Douala and Logos.

## Population

Africa is the world's second most populous continent. The United Nations estimated the population of Africa as 131 crores in 2019. The population is unevenly distributed due to physical barriers. The population density in Africa is 45 persons per sq km. 41% of the population lives in urban and 59% in rural areas. Nile delta region and South Africa are the densely populated regions of Africa. Nigeria is the most populous country of Africa followed by Ethiopia.

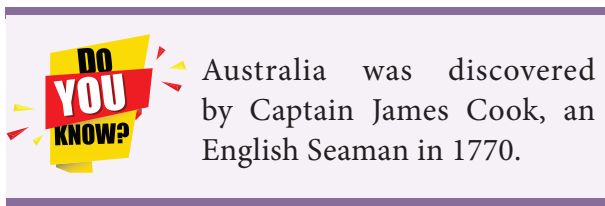


The major tribes of the world are called the first indigenous people. These people have a strong sense of their own identity as unique with their own lands, languages and cultures. Afar, Fatwa, Bushmen, Dinka, Masai, Pygmies, Zulu, Tswan, and Efe are the major tribes of Africa.

## Australia

Australia was the last of all the continents to be discovered, and this was due to its remoteness.

Australia is the largest island and smallest continent in the world. It is the only continent that completely occupies a single country. It has diverse in unique flora and fauna. Now let us explore the continent.



### Location and Size:

Australia extends from 10°4' south to 39° 08' south latitudes and 113° 09' east to 153°39' east longitudes. The Tropic of Capricorn cuts the continent almost into two equal halves. Area of the country is about 7.68 million sq km.

### Political Divisions

There are six states and two Union Territory in Australia 1) New South Wales 2) Queensland 3) South Australia 4) Tasmania 5) Victoria 6) Western Australia 7) Northern Territory 8) Capital Territory (Canberra). Each state has its own state constitution. Canberra is the capital of Australia. Sydney, Brisbane, Adelaide, Hobart, Melbourne, Perth and Darwin are the other important cities of Australia.

Australia has 8,222 islands. Rottneest Island, Magnetic Island, Fitzroy Island, Fraser Island, Phillip Island, Lord Howe Island, Kangaroo Island and Whitsunday Islands are the major islands.



### Physical Divisions

It is the continent with very low irregularities in topography. Based on the nature of topography, it can be divided into three physical divisions namely:

### Physical Divisions of Australia







1. The Great Western Plateau
2. The Central Low lands
3. The Eastern High lands

## The Great Western Plateau

The Western Plateau is Australia's largest physical division. It incorporates one third of the continent. Its area is about 2,700,000 square kilometers. It is an arid land covering large part of Western Australia, Southern Australia and the Northern Territory. The flat surface is covered by sandy and rocky features.

Ayers rock or Uluru is the largest monolith rock in the world. It is found in the central part of this arid region. It is 863 meters high above the sea level. It is one of the natural wonders of Australia. The pointed limestone pillars called Pinnacles are common in this region.



**Ayers rock**



**Pinnacles**

The McDonnell and Musgrave ranges are located in this plateau the treeless region of Nullarbor Plain is located in the southern part of this plateau. The Great Victoria Desert is the largest desert in Australia located in Western Australia and South Australia.

## The Central Low lands

The central lowlands extend from the Gulf of Carpentaria in the north to Indian Ocean in the south. In the centre of these low lands lies

the large inland drainage basin of Australia. Lake Eyre is the largest salt lake lies in this region. The Murray–Darling River system lies in the south-eastern part of the central lowlands. Beneath the central lowlands, huge artesian basins are found.

## The Eastern Highlands

The eastern highlands extend for about 3860 km along the eastern edge of Australia. It stretches from Cape York in the north to Tasmania in the south. They are also known as the '**Great Dividing Range**' as it separates the west and east flowing rivers.

Australian Alps mountain range is the highest mountain range of Australia. It is covered with ice. The highest peak of this range is Mt. Kosciuszko (2230m) and is located in the New South Wales.

Australia has two important natural features that have enriched the country. They are

1. The Artesian Basin
2. The Great Barrier Reef.

## The Great Artesian Basin

The Artesian Basins are regions on the earth's surface where water gushes out like a fountain. The great artesian basin in Australia is the largest and deepest basin in the world. The artesian basin is located in the west of the Great Dividing Range. It is found in the arid and semi-arid parts of Queensland, New South Wales, South Australia and Northern Territory. It extends for 1.7 million square km and it is also a major source of water in this region.



**Artesian Well (Queens Land)**

## Great Barrier Reef

Great Barrier Reef is located in the North East of Australia along the East Coast of Queensland in the Pacific Ocean. It is formed by the tiny coral polyps. It is about 2300 kilometers long. It is one of the natural wonders of the world.



Great Barrier Reef



Coral Polyps

## Drainage

Australia receives low average rainfall. Being a hot dry country, the rate of evaporation is high in this country. So, there is a very little amount of water left to flow as river to the seas. The River Murray and its tributary are the main rivers and a major drainage basin of Australia. This drainage basin is found in the interior part of the lowlands of Australia. It covers more than



Bourke is the place in Australia where the highest temperature is recorded ( $53^{\circ}\text{C}$ ). It is located in the central low lands. The lowest temperature of the country is recorded in Canberra, the capital of Australia ( $-22^{\circ}\text{C}$ ).

one million sq km which is about 14 per cent of area of Australia.

River Murray is the longest river in Australia. It runs 2508 km from Australian Alps to the Indian Ocean. Darling, Alexandria, Murrumbidgee, Lachlan and Swan are the other important rivers of this continent.

## Climate

Australia contains the second largest area of extremely arid land in the world. The Tropic of Capricorn divides the Australia into two equal parts. The Northern half is in the warm tropical zone and the southern half is in the cool temperate zone. The north coastal region experiences monsoon type of climate and there is a heavy rainfall during summer. The east coastal region receives good rainfall from south east trade wind. The hot desert climate extends from central lowlands to western shores. The rainfall in this region is less than 25cm per annual. Mediterranean type of climate prevails in the southern tip of Australia in the region around Perth and Adelaide. Tasmania gets rain throughout the year from westerly winds.

## Flora and Fauna

Australia is a semi-arid region. Hence, the vegetative cover is not mainly composed of trees but of scattered shrubs and herbs. Bird's eye view of Australia would reveal a very simple vegetation pattern. The plants and trees in Australia are adapted to dry conditions and can survive for long period without water. They are called **Xerophytes**. Eucalyptus is the most common tree in the west as it can withstand long period of drought. Forests and woodlands together represent about 16 per cent of the area of Australian continent. Eucalyptus, Acacia and Melaleuca (swamp forests) are the major trees of Australia.

About 80 percent of animals in this country are not found in the other parts of the world. Australia has almost 400 mammal species and about 140 species of marsupials. These are the animals that carry their young ones in their pouches. Kangaroo is the national animal of





Kangaroo



Koala



kookaburra



platypus



Bottle tree



Rainbow lorikeet




Emu



Merino sheep

Australia. Koala, platypus Wallaby and Dingo are the other important animals of Australia. The bird species like the laughing kookaburra, emu, and rainbow lorikeet are the major birds of Australia.




The people who work in the sheep stations in Australia are known as **Jackaroos**. **Aborigines** are the indigenous people of the Australia.

### Economic Activities

Agriculture, forestry, fishing, mining, manufacturing, trade and services are the major economic activities of Australia. Wheat is the chief grain crop of Australia. Rice, sugarcane Mediterranean fruit like grapes, oranges and apricots are produced around Perth, Adelaide and Melbourne. Tasmania is known as the **Apple Island**. Rice, tobacco and cotton are grown in the northern parts of Tasmania. Sheep rearing is carried out along with cultivation in the regions of warm climate. Oats, maize and barley are also cultivated to some extent. Australia is well known for Vineyards and Orchards. Cattle rearing is common in the tropical savannas and sheep farming in the temperate grassland. **Merino sheep** are rearing in southern Australia, Tasmania, Victoria and

New South Wales. Dairy cattle are reared in farms close to the cities of east and south coast. Among dairy cows Illawarra, Jersey and Ayrshire are the most popular in Australia.

Fishing is also a major economic activity of Australia. Marine fishing is popular in the entire coastal regions of the country. Inland fishing is very limited. Forest resources are also very limited in the country.



The sheep industry is well developed in Australia. The wool is described as the '**Cash Crop**' of Australia.

### Mineral Resources

Minerals are the largest export item of Australia. It contributes about 10 percent of country's GDP. Australia is the world's leading producer of bauxite, limonite, rutile and zircon, the second largest producer of gold, lead, lithium, manganese ore and zinc, the third largest producer of iron ore and uranium and the fourth largest producer of black coal. The coal belts of the country stretches from New Castle to Sydney on the south eastern coast. Iron ores are found mainly in southern and Western Australia.





Bauxite is mined around the gulf of Carpentaria, Perth and Tasmania. Petroleum and natural gas is obtained from Bass Strait and west of Brisbane. Uranium is mined in northern territory at Ram jungle and Queensland. Gold is mined in the western desert at Kalgoorlie and Koolgarlie. Lead, Zinc, Silver, Manganese, Tungsten, Nickel and copper are also mined in parts of Australia.

## Industries

Food and beverage manufacturing industry is the primary industry in Australia. Finance, ship building, information and technology, mining, insurance, aviation and telecommunication industries are the other important industries.

### ACTIVITY

There are eight deserts in Australia. List them out with the help of Atlas.



The temperate grass land of Australia is known as '**Downs**'.

## Transport

Many form of transports are available in Australia. This country is highly dependent on road transport. There are more than 30 airports with paved runways. Passenger rail transport includes widespread commuter networks in the major cities with limited intercity and interstate networks.

## Population

As of 2019 the population of Australia is about 25.2 million. It constitutes only 0.33% of the total world's population. The population density of Australia is 3 persons per sq km. Urban population of the country is about 85.7 percent. Southeastern part of Australia is the densely populated region.

## Antarctica

### Location and Size

Antarctica is a unique continent but it does not have a native population. There is no country in Antarctica. Antarctica is the southernmost and fifth-largest continent in the world. Since it is located in the polar region, it is the coldest continent with a permanent cover of ice. It is separated from the rest of the world by the icy water of the southern portions of the Indian, Atlantic and Pacific Oceans. It covers about 9.3% of the earth surface with an area of over 14 million sq km. This continent's landform consists of some mountain ranges, peaks, valleys, glaciers plateau, ice shelf, lakes and volcanoes. The length of the Trans-Antarctic mountain is 3200 km which divides the entire continent into two halves:

1. West Antarctica
2. East Antarctica

The West Antarctica faces the Pacific Ocean. The Antarctic Peninsula which points towards the South America shows that it is the continuation of the Andes mountain range. The East Antarctica faces the Atlantic and the Indian Oceans. The Mt. Erebus in this region is an active volcano. It is located in the Ross Island.

It is the only continent called white continent. In some places its ice cap is 4,000 meters deep.



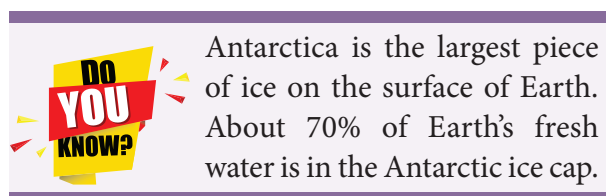
Scientists of any country are free to conduct experiments and collect data from Antarctica. Hence it is called '**continent of Science**'.

## Climate

The climate of Antarctica is freezing cold, because of its distance from the Equator. During the months of May, June and July (winter period of Antarctica) the sun never rises in this region. So, the temperature at the South Pole falls to  $-90^{\circ}\text{C}$ . In the summer months of December, January



and February, the sun never sets and there is a continuous day light. The summer temperature is about 0°C. Extremely Cold and icy winds blow throughout the year.

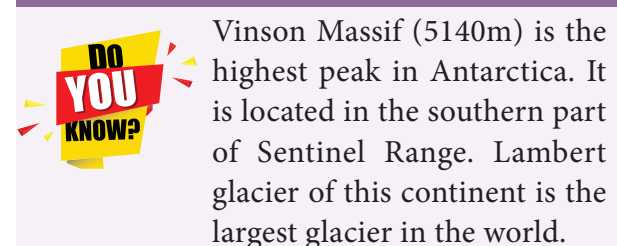


## Flora and Fauna

Since the temperature is below freezing point almost throughout the year, no major vegetation is found in this continent. Simple plants like algae, mosses, liverworts, lichens and microscopic fungi can survive and grow in Antarctica. Some algae live in the snow, while other plants grow on the coastal rocky land that is ice free. A few species of plants,

such as plankton, algae and mosses are seen in and around Antarctica's fresh and saltwater lakes.

Small red fish called krill are found in large shoals. It is the food for many warm blooded sea animals. The living creatures of this region include whales, seals, walrus and sea birds like penguins, albatross, polar Skua and Stout. The blue whale is the largest animal which feeds on plankton. All these animals and birds have a thick layer of fat called blubber which helps them to





Penguin



Seal



Walrus



Albatross



Polar Suka



Blue Whale

withstand the cold condition. Penguin birds in Antarctica cannot fly. They have webbed feet and flipper instead of wings. Small invertebrates are the only land animals which lives in the continent.

## Minerals

Scientific studies show that the Antarctic continent is to be rich in gold, platinum, nickel, copper and petroleum. Traces of chromium, lead, molybdenum, tin, uranium, and zinc are also seen. The possible resources of this region also include silver, platinum, iron ore, cobalt, manganese and titanium. Coal and hydrocarbons have been explored in minimal non-commercial quantities.



1. **Mcmurdo** is the largest research station in Antarctica. It was set up by the United States of America.
2. **Dakshin Gangotri** was the first Indian Scientific research base station in Antarctica

The international agreement on this continent does not permit the extraction of minerals. So, the extraction of minerals does not take place.

## Expedition to Antarctica



Maitri Research Station (Antarctica)

In 1912, British and Norwegian teams reached the South Pole. Indian expedition team to Antarctica had 21 members with Dr.S.Z.Quasim as its leader. The team left Goa on 6<sup>th</sup> December 1981 and landed in Antarctica on 9<sup>th</sup> January 1982. Dakshin Gangotri, the first Indian scientific research station was established in this continent. Maitri and Bharathi are the other research stations of India in Antarctica.



## Aurora



Alaska (Aurora Borealis)

A natural Curtain of combination of bright pink, red and green colour light that appears in the sky near the north and south magnetic poles is called Aurora. The effect is caused by the interaction of



charged particles from the sun with atoms in the upper atmosphere. It is also called Aurora Australis or Southern Lights in the South Pole and Aurora Borealis or Northern Lights in the North Pole. These amazing colours appear in the earth's sky, especially in the high latitudinal countries like Alaska in the north and New Zealand of Falkland in the south.



New Zealand (Aurora Australis)

## Recap

- Africa consists of a mixture of landforms such as mountains, plateaus and plains.
- Australia is the largest island and smallest continent in the world.
- Antarctica is the southernmost and fifth largest continent in the world.
- The interaction of charged particles from the sun with atoms in the upper atmosphere is called Aurora.

## Glossary

Continent	A large land mass	கண்டம்
Strait	A narrow water channel which connect two large water bodies and separates two land masses.	நீர்ச்சந்தி
Isthmus	A narrow strip of land that connects two large land masses and separate two water bodies.	நிலச்சந்தி
Gulf	A deep inlet of the sea, surrounded by a narrow mouth.	வளைகுடா
Rift Valley	A linear shaped low land between the mountains.	பிளவு பள்ளத்தாக்கு
Reef	A thin layer of calcium carbonate	பவளப்பாறை
Cataracts	A fast flowing water falls over a cliff	சிறு அருவி
Pinnacles	Pointed limestone pillars found in Australian desert	சுண்ணாம்புப் பாறை தூண்
Regs	These are plains of sand and gravel in the arid regions	மணற்பாங்கான சமவெளி
Hamada	Elevated plateaus of rock and stones.	பாறை மற்றும் கற்களால் உயர்த்தப்பட்ட பீடபூமி
Oasis	A hub of water in the desert region.	பாலைவனச் சோலை



## Evaluation

### I Choose the correct answer

1. The southernmost tip of Africa is \_\_\_\_\_.

- a) Cape Blanca
- b) Cape Agulhas
- c) Cape of Good Hope
- d) Cape Town



2. The manmade canal through an isthmus between Egypt and Sinai Peninsula is

- a) Panama Canal      b) Aswan Canal
- c) Suez Canal      d) Albert Canel

3. In respect of the Mediterranean climate, consider the following statements and choose the correct answer.

- 1. The average rainfall is 15cm
  - 2. The summers are hot and dry; winters are rainy.
  - 3. Winters are cool and dry; Summers are hot and wet
  - 4. Citrus fruits are grown
- a) 1 is correct
  - b) 2 and 4 are correct
  - c) 3 and 4 are correct
  - d) All are correct

4. The range which separates the west and east flowing rivers in Australia is

- a) Great Dividing Range
- b) Himalayan range
- c) Flinders range
- d) Mac Donnell range

5. Kalgoorile is famous for \_\_\_\_\_ mining.

- a) Diamond      b) Platinum
- c) Silver      d) Gold

### II Fill in the blanks

1. Atlas Mountain is located in \_\_\_\_\_ continent.

2. \_\_\_\_\_ is the highest peak of Africa.

3. \_\_\_\_\_ is the most common tree in Australia.

4. A temperate grass land of Australia is called \_\_\_\_\_.

5. \_\_\_\_\_ is the first Indian research station in Antarctica.

### III Match the following

- |                       |                             |
|-----------------------|-----------------------------|
| 1. Pinnacle           | - Equatorial forest         |
| 2. Krill              | - salt lake                 |
| 3. Ostrich            | - small red fish            |
| 4. Lake Eyre          | - flightless bird           |
| 5. Jewel of the earth | - pointed limestone pillars |

### IV Let us learn

1. **Assertion (A):** Aurora is a curtain of colour lights appear in the sky.

**Reason (R):** They are caused by magnetic storms in the upper atmosphere.

- a) Both A and R are individually true and R is the correct explanation for A.
- b) Both A and R are individually true but R is not the correct explanation for A
- c) A is true but R is false.
- d) R is true but A is false

2. **Assertion (A):** A geological feature of Africa is the Great Rift Valley.

**Reason (R):** A Rift valley is a large crack in the earth's surface formed by tectonic activity.

- a) Both A and R are individually true and R is the correct explanation for A.
- b) Both A and R are individually true but R is not the correct explanation for A
- c) A is true but R is false.
- d) R is true but, A is false

### V Answer briefly

- 1. Why Africa is called a "Mother Continent"?
- 2. What are the important rivers of Africa?
- 3. Name the physical division of Australia.
- 4. Write about the nature of Antarctic continent.
- 5. Mention any four economic activities of Australia.

## VI Distinguish between

1. Sahel and Sahara
2. Western Antarctica and Eastern Antarctica
3. Great Barrier Reef and Artesian Basin.

## VII Give reasons

1. Egypt is called the gift of the Nile.
2. Deserts are found in the western margins of continents.
3. Antarctica is called the continent of scientists

## VIII Answer in a paragraph

1. Give an account on mineral wealth of Australia.
2. Describe the flora and fauna of Antarctica
3. Name the physical divisions of Africa and explain any one.

## IX Map skill

**Mark the following on the outline map of Africa and Australia**

**Africa:** Equator, Atlas Mountain, Sahara, Eastern highlands, Mediterranean Sea, Atlantic Ocean, Indian Ocean, Suez Canal, Mount Kilimanjaro,

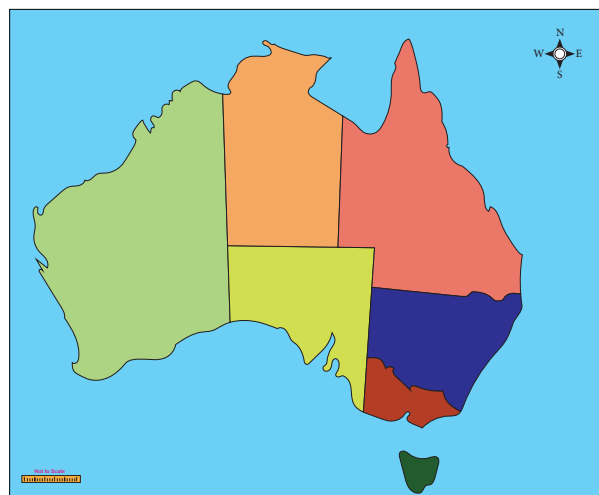
**Australia:** Great Dividing Range, Great barrier reef, Tasmania, tropic of Capricorn, pacific ocean, Great Australian Sandy Desert, Indian ocean, Sydney, Canberra

## X Activities

1. Find out the hemisphere and season during December for the following countries

Country	Hemisphere	Season
South Africa		
Morocco		
Australia		
Niger		
Egypt		
Tasmania		
India		

2. Label the different states of Australia in the following map.



## REFERENCE BOOKS

1. Richard G. Boehm (2002), *World Geography*, Texas Edition McGraw Hill/Glencoe, USA.
2. Jojo Mathew (2017), *India and World Geography*, Wizard India private limited, New Delhi.
3. Majid Husain (2017) *India and World Geography*, McGraw Hill education series private India limited, New Delhi.



## INTERNET RESOURCES

- <https://www.gph.gov.au/pups>
- <https://www.worldatlas.com>
- <https://www.blogs.nasa.gov>
- <https://www.worldwildlife.org>
- <https://books.google.com.in>
- [www.waterencyclopedia.com](http://www.waterencyclopedia.com)
- [www.worldometers.info](http://www.worldometers.info)
- [www.agriculture.gov.au/b.national](http://www.agriculture.gov.au/b.national)
- <https://www.queensland.com>
- [www.dk.com](http://www.dk.com) concise atlas of the world
- <https://www.earthobservatory.nasa.gov>