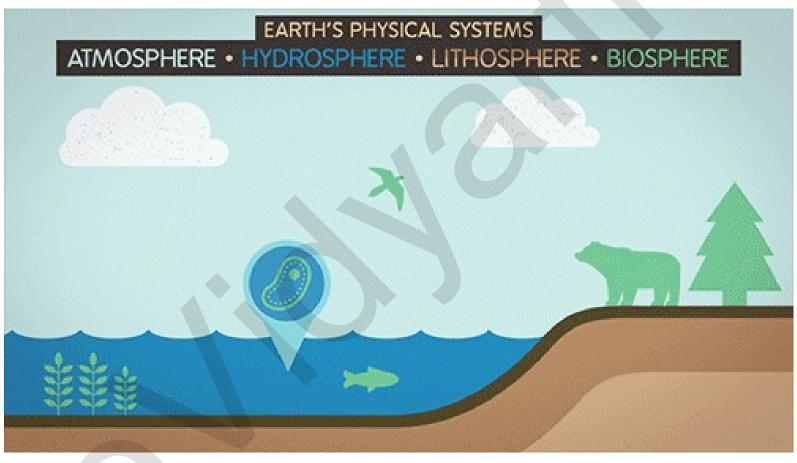
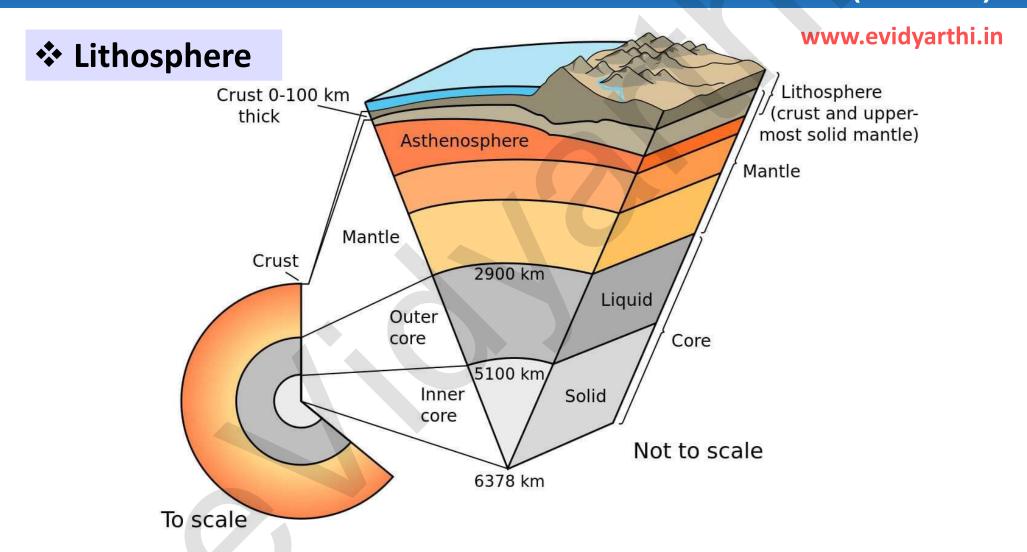
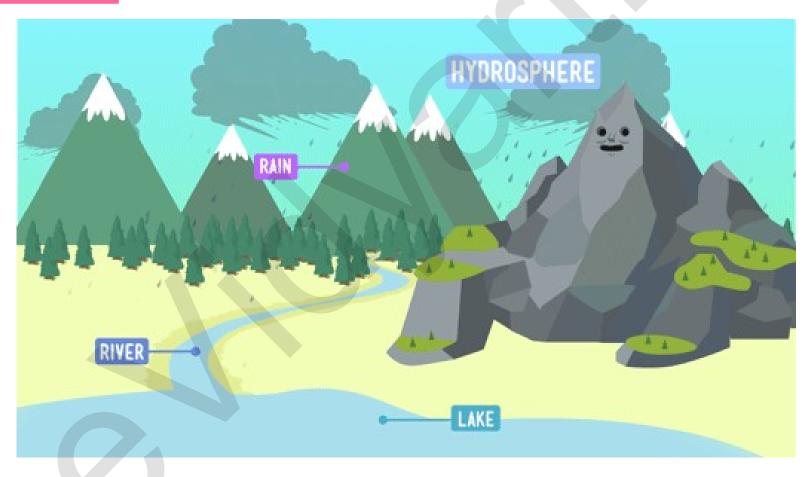
# MAJOR DOMAINS OF THE EARTH



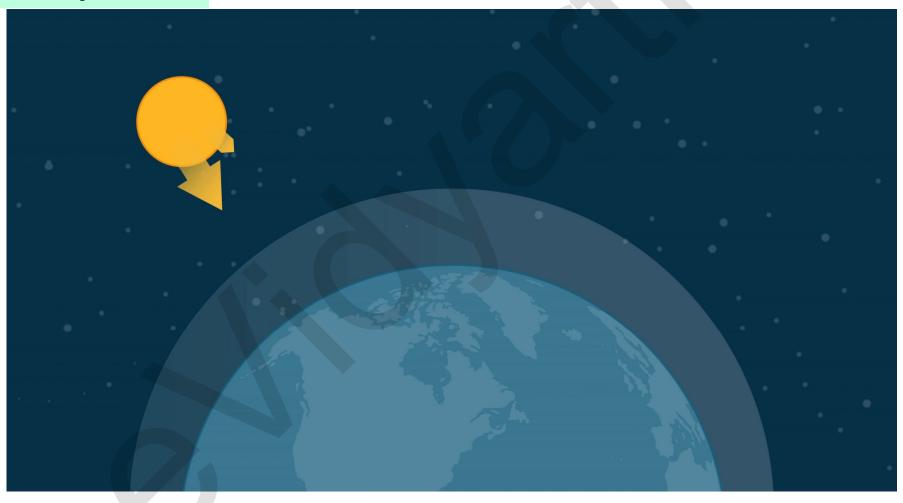




Hydrosphere

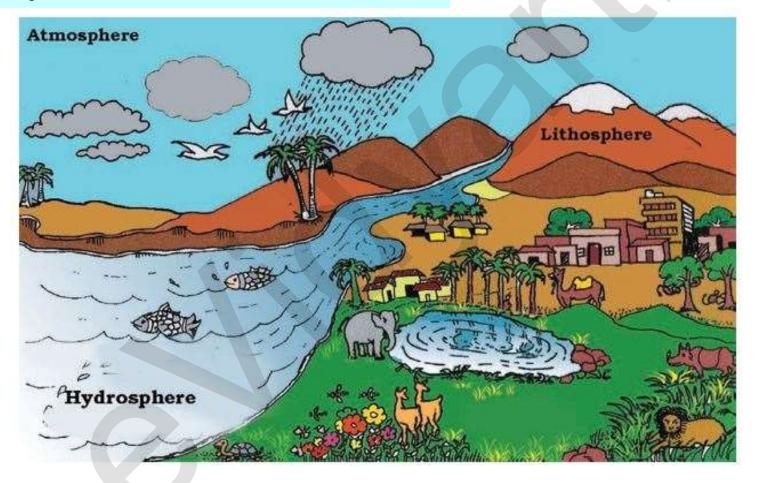


Atmosphere

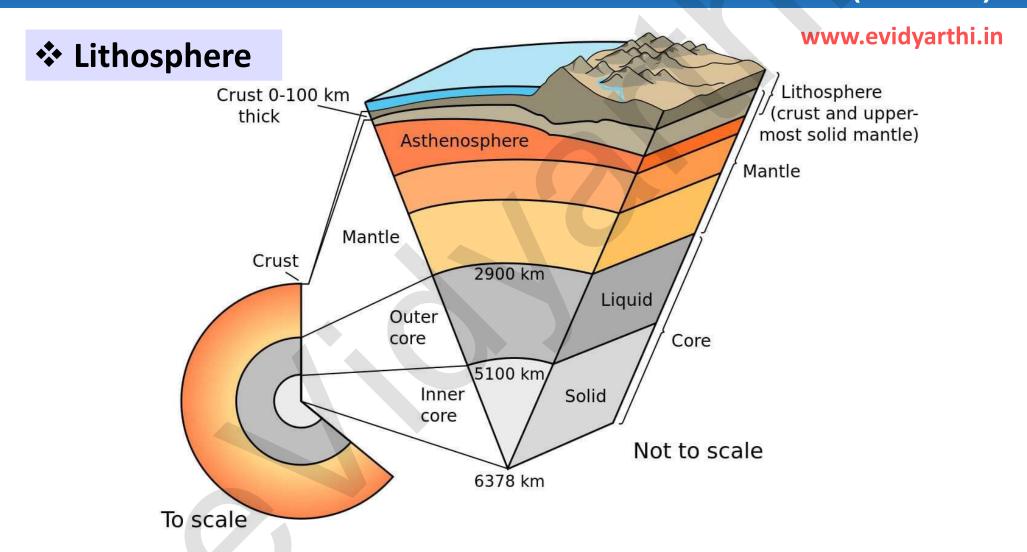


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#### **Biosphere - The Diamond of life**

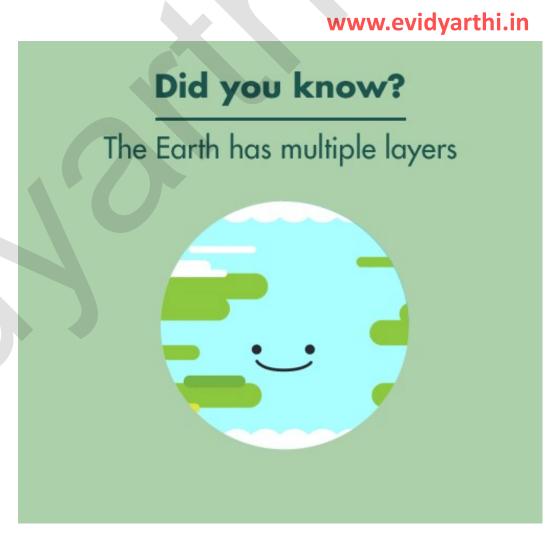






#### Lithosphere

- The solid portion of the earth is called the Lithosphere.
- It comprises the rocks of the earth's crust and the thin layers of soil.
- There is a thin layer of soil on top that contains mineral nutrients which sustain various organisms.



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 The earth's surface can be divided into two main parts, viz. the continents and the ocean basins.

The large landmasses are known as the continents.

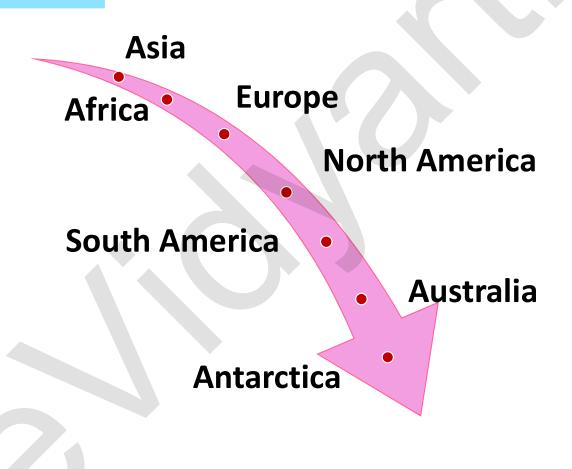
The huge water bodies are called the ocean basins.

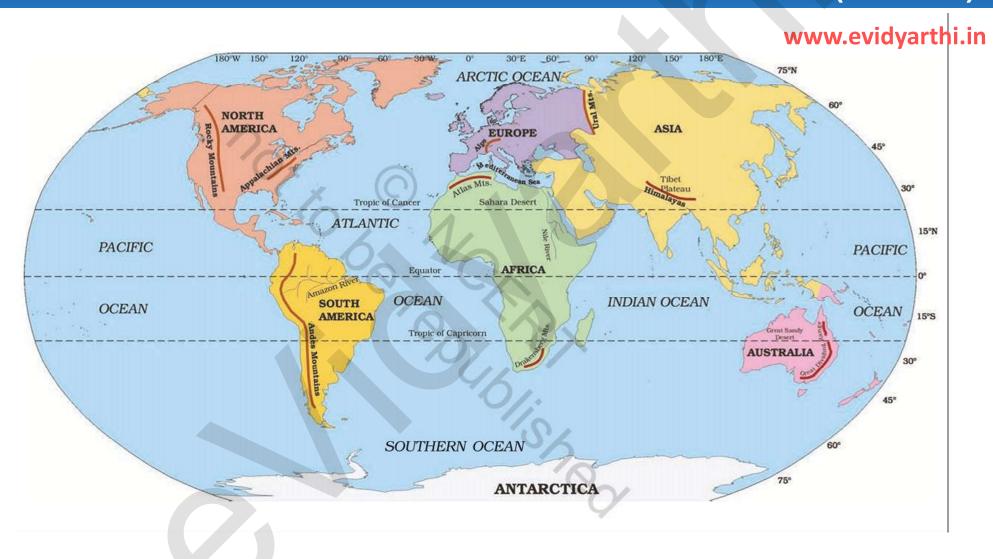
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#### Continents

- There are seven major continents.
- separated by large water bodies.
- These continents are Asia, Europe,
   Africa, North America, South America,
   Australia and Antarctica.





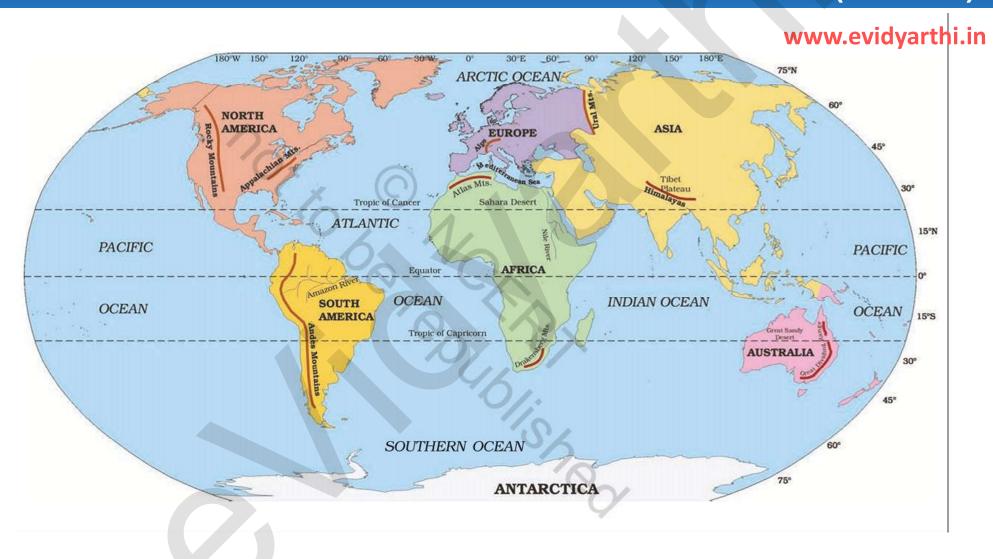




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#### largest continent

- ✓ It covers about one third of the total land area of the earth.
- ✓ The continent lies in the Eastern Hemisphere.
- ✓ The Tropic of Cancer passes through this continent.
- ✓ Asia is separated from Europe by the Ural Mountains on the west
- ✓ The combined landmass of Europe and Asia is called the Eurasia (Europe + Asia).



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lies to the west of Asia.

- ✓ The Arctic Circle passes through it.
- ✓ It is bound by water bodies on three sides.

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is the second largest continent after Asia.

- ✓ The Equator or 0 latitude runs almost through the middle of the continent.
- ✓ A large part of Africa lies in the Northern Hemisphere.
- ✓ it is the only continent through which the Tropic of Cancer, the Equator and the Tropic of Capricorn pass.

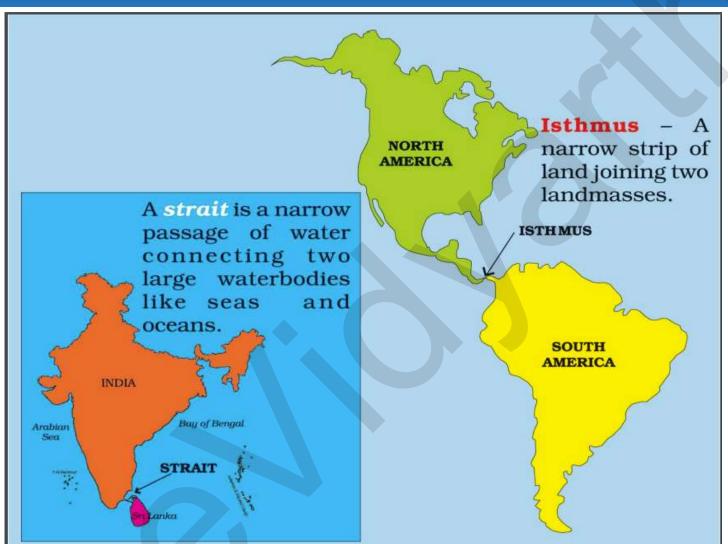
- ✓ The Sahara Desert, the world's largest hot desert, is located in Africa.
- ✓ The continent is bound on all sides by oceans and seas.
- ✓ world's longest river the Nile, flows through Africa.

**☐** North America

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third largest continent of the world.

- ✓ It is linked to South America by a very narrow strip of land called the Isthmus of Panama.
- ✓ The continent lies completely in the Northern and Western Hemisphere.
- ✓ Three oceans surround this continent.
- Can you name these oceans?



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✓ **Isthmus:** A narrow strip of land which joins two landmasses is called isthmus. North America lies in the northern hemisphere and western hemisphere. E.g – isthmus of panama

✓ Strait - a narrow piece of sea that joins two larger seas. E.g – Palk strait

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## **☐** South America

A major portion of South America is in southern hemisphere.

- ✓ This continent is surrounded by two oceans, viz. the Atlantic and Pacific oceans.
- ✓ The Andes, world's longest mountain range, runs through its length from north to south
- South America has the world's largest river, the Amazon

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This is the smallest continent.

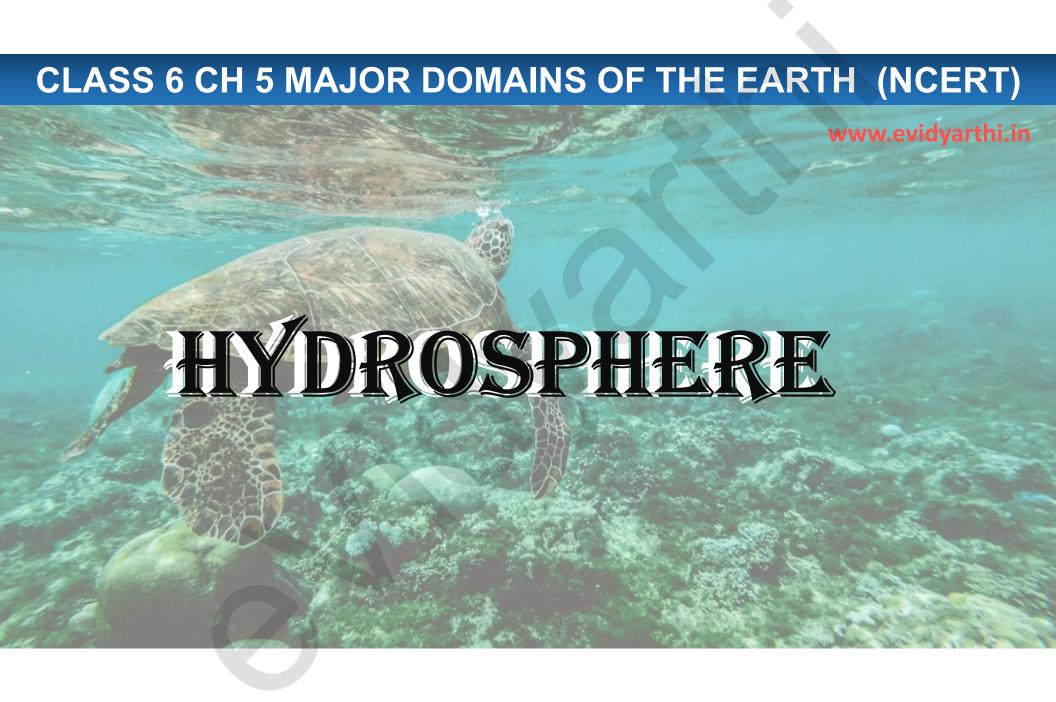
- ✓ It lies entirely in the southern hemisphere.
- ✓ Since Australia is surrounded by ocean hence it is called the island continent.

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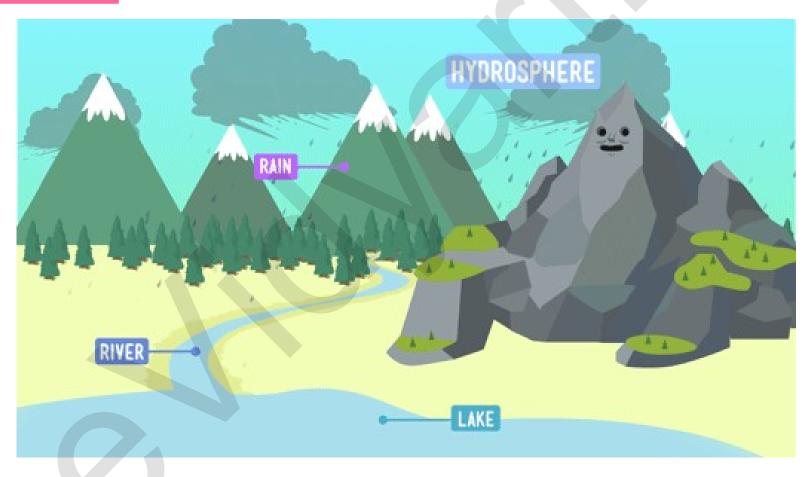
#### □ Antarctica

This is a huge continent and is present on the South Polar Region. In fact, the South Pole lies at the center of this continent.

- ✓ it is permanently covered with thick ice sheets.
- ✓ Many countries have research stations in Antarctica. India also has research stations there.
- ✓ These are named as Maitri and Dakshin Gangotri

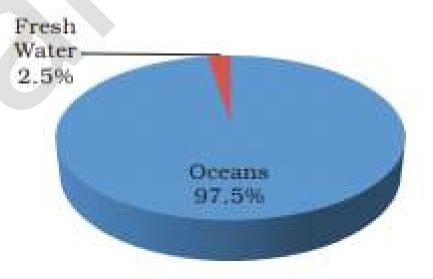


Hydrosphere



#### Hydrosphere

- The earth is called the blue planet
- More than 71 % per cent of the Earth is covered with water, therefore, the Earth is called the blue planet.
- More than 97% of the Earth's water is found in the oceans.



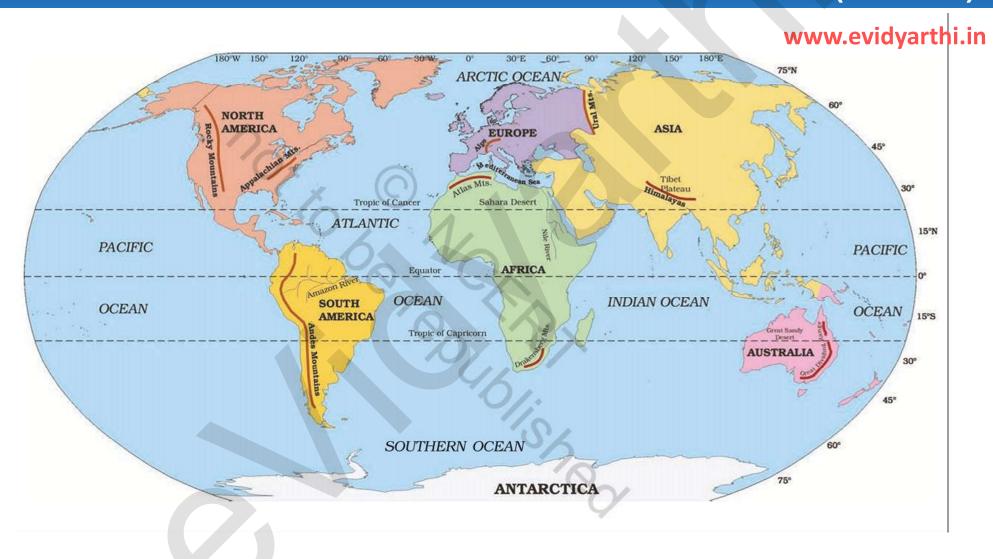
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#### ✓ Oceans

- The five major oceans are the Pacific Ocean, the Atlantic Ocean, the Southern Ocean the Indian Ocean and the Arctic Ocean.
- The Pacific Ocean is the largest ocean.
- The Atlantic Ocean is the second largest ocean.
- The Indian Ocean is the only ocean named after a country, that is, India.
- The Arctic Ocean is located within the Arctic Circle.

- All the oceans of the world are connected to each other. Due to this, the level of sea water is same everywhere. Elevation of land is measured from the sea level and the sea level is taken as zero.
- Waves, tides and ocean currents are the three main movements of ocean water.





Pacific Ocean: This is the largest ocean. It is almost circular in shape. The Pacific Ocean is surrounded by Asia, Australia, North America and South America.



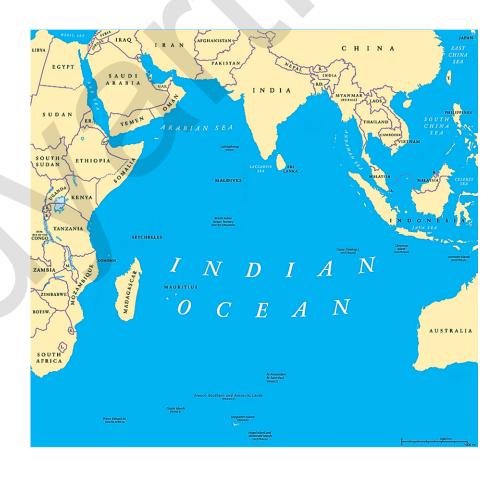
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Atlantic Ocean: This is the second largest ocean. It is S-shaped. North America and South America are to the west of this ocean. Europe and Africa are on the east of this ocean.



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Indian Ocean: Indian
 Ocean is the only ocean to be named after a country.
 This ocean is almost triangular. Asia is towards north, Africa is towards west and Australia is towards east of this ocean.



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Southern Ocean: This
 Ocean encircles
 Antarctica. It extends
 northwards up to 60`S
 latitude.



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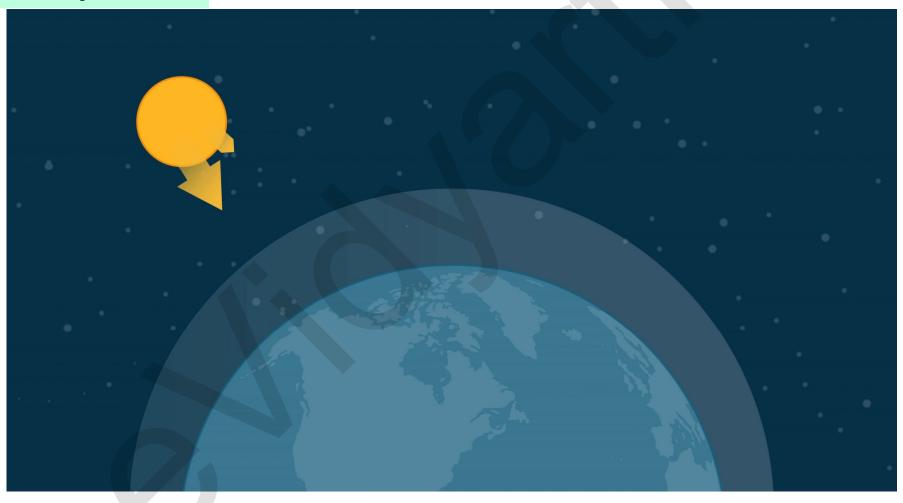
Arctic Ocean: This Ocean is within the Arctic Circle. It surrounds the North Pole. It is bound by the northern coasts of North America and Eurasia.



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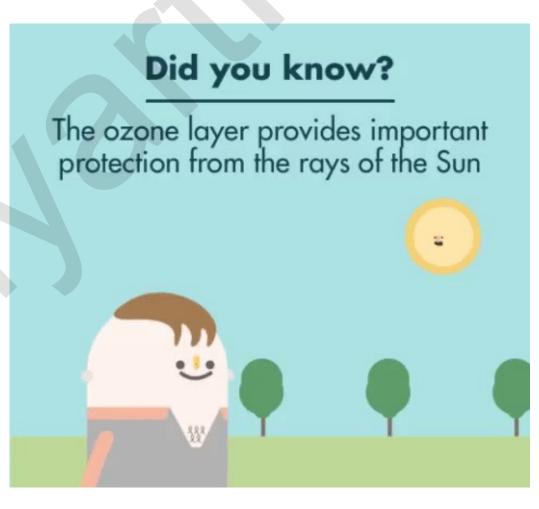
# Atmosphere

Atmosphere



#### **Atmosphere**

- The atmosphere protects us from the harmful effects of the sun's rays.
- The atmosphere extends up to a height of about 1,600 kilometers.

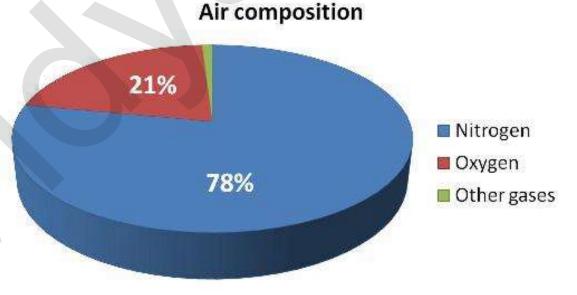


Did you know? Earth's atmosphere is 78% nitrogen, 21% oxygen and 1% other gases

- The atmosphere is divided into five layers—the troposphere, the stratosphere, the mesosphere, the thermosphere and the exosphere.
- The atmosphere is composed mainly of nitrogen and oxygen.
- Atmosphere plays an important role in the environment on earth.
- Atmosphere is made of air which is composed of many gases, water vapor and dust particles.

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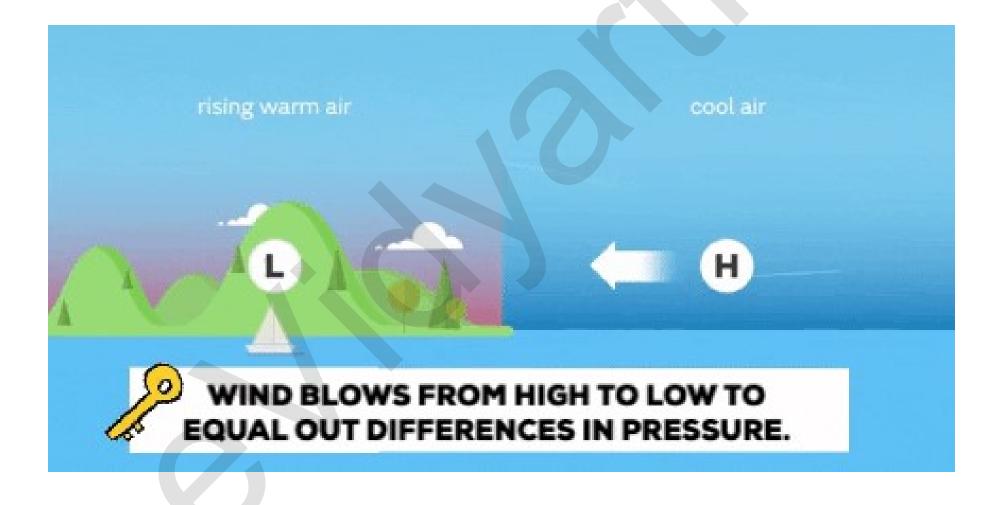
 Composition of Air: Air is mainly composed of nitrogen and oxygen. 78% of the air is composed of nitrogen, 21% is composed of oxygen and rest 1% is composed of carbon dioxide, argon and many other gases.



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The density of atmosphere changes with height. Air is at maximum density at the sea level and becomes rarer as we go higher.

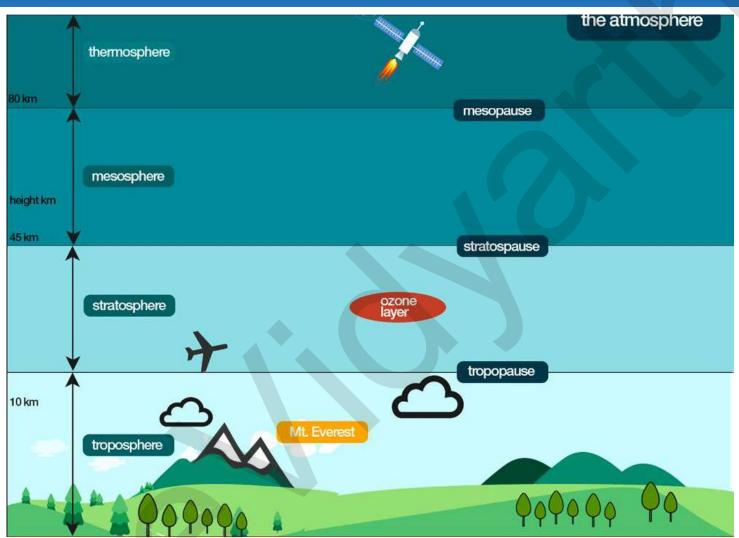
Humans are comfortable while breathing under normal pressure. When the atmospheric pressure becomes low, it becomes difficult to breathe.



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Atmospheric pressure is very low at high mountains. Due to this, mountaineers need to carry oxygen cylinders so that they can breathe comfortably at high altitude. The difference in pressure also plays a role in wind movements.

Air moves from high pressure to low pressure. Moving air is called wind.



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#### ✓ Layers of Atmosphere

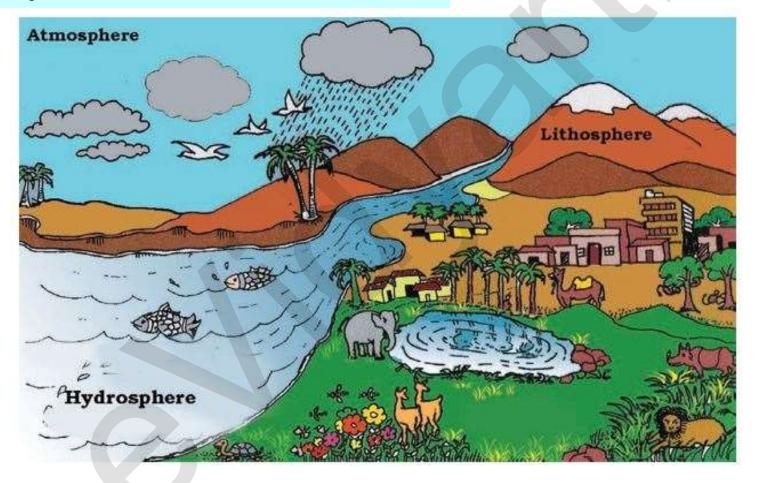
- The atmosphere can be divided into many layers.
- Troposphere is at the bottom. This is followed by stratosphere, mesosphere, thermosphere and exosphere.

- Role of Nitrogen: Nitrogen is important for plants because plants make many important molecules from nitrogen.
- Role of Oxygen: Oxygen is required by living beings for respiration. Moreover, oxygen is also required for burning various fuels.
- Role of Carbon Dioxide: Carbon dioxide is utilized by plants during photosynthesis. You may recall that photosynthesis is the process by which plants make food.

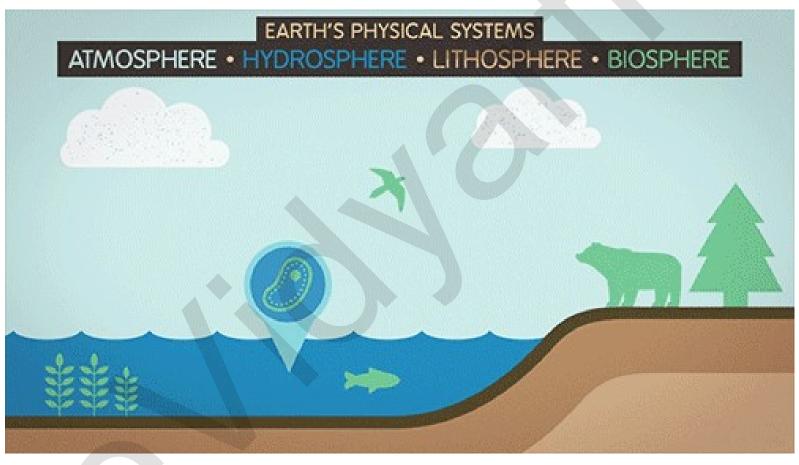


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#### **Biosphere - The Diamond of life**



- Biosphere The Diamond of life
  - The biosphere is the narrow zone of contact between the land, water and air.
  - All the living organisms including humans are linked to each other and to the biosphere for survival.
  - The organisms in the biosphere may broadly be divided into the plant kingdom and the animal kingdom.



- Life exists in this zone. A variety of organisms exist on earth. All the living beings are linked to each other for their survival. They are also linked to various non-living things for their survival.
- Increase in the amount of CO2 leads to an increase in global temperature. This is termed as global warming.