

# CBSE Class 6 Geography Notes

## Chapter 5 - Major Domains of the Earth

There are four major domains of the Earth, i.e. the lithosphere, the hydrosphere, the atmosphere and the biosphere. Lithosphere forms the solid part of the Earth and contains landforms like plateaus, mountains, plains and valleys. Hydrosphere is the next layer and covers three-fourth of the Earth in the form of water bodies. The Atmosphere forms a protective layer and shields the Earth from the intense sun rays. Biosphere is the last domain of the Earth and is made up of all the plants and animals and all non-living things. All the four major domains of the Earth are elaborately covered in the CBSE Class 6 Geography notes for Chapter 5 - Major Domains of the Earth.

### Overview

**Lithosphere** - The solid portion of the earth on which we live is called the Lithosphere.

**Atmosphere** - The gaseous layers that surround the earth, where oxygen, nitrogen, carbon dioxide and other gases are found.

**Hydrosphere** - The earth's surface surrounded by water is called the Hydrosphere. The Hydrosphere comprises water in all its forms, that is, ice, water and water vapour.

**Biosphere** - The Biosphere is the narrow zone where we find land, water and air together, which contains all forms 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 that contain nutrient elements which sustain organisms. There are two main divisions of the earth's surface. The large land masses are known as the continents and the huge water bodies are called the ocean basins. All the oceans of the world are connected with one another. The level of seawater remains the same everywhere. Elevation of land is measured from the level of the sea, which is taken as zero.

### Continents

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

Asia is the 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 in the west. The combined landmass of Europe and Asia is called Eurasia.

Europe is much smaller than Asia. The continent lies to the west of Asia. The Arctic Circle passes through it. It is bound by water bodies on three sides.

Africa is the second-largest continent after Asia. The Equator or 00 latitude runs almost through the middle of the continent. A large part of Africa lies in the Northern Hemisphere. The Sahara Desert, the world's largest hot desert, is located in Africa. The continent is bound on all sides by oceans and seas.

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North America is the 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.

South America lies mostly in the Southern Hemisphere. The Andes, the world's longest mountain range, runs through its length from north to south. South America has the world's largest river, the Amazon.

Australia is the smallest continent that lies entirely in the Southern Hemisphere. It is surrounded on all sides by the oceans and seas. It is called an island continent.

Antarctica, completely in the Southern Hemisphere, is a huge continent. The South Pole lies almost at the centre of this continent. As it is located in the South Polar Region, it is permanently covered with thick ice sheets.

#### Hydrosphere

The earth is called the blue planet. More than 71 per cent of the earth is covered with water and 29 per cent is with land. Hydrosphere consists of water in all its forms. More than 97% of the Earth's water is found in the oceans and is too salty for human use. A large proportion of the rest of the water is in the form of ice sheets and glaciers or under the ground and a very small percentage is available as freshwater for human use.

#### Oceans

Oceans are a major part of the hydrosphere. They are all interconnected. The three chief movements of ocean waters are the waves, the tides and the ocean currents. The five major oceans are the Pacific Ocean, the Atlantic Ocean, the Indian Ocean, the Southern Ocean and the Arctic Ocean.

The Pacific Ocean is the largest ocean. It is spread over one-third of the earth. Mariana Trench, the deepest part of the earth, lies in the Pacific Ocean. The Pacific Ocean is almost circular in shape. Asia, Australia, North and South Americas surround it.

The Atlantic Ocean is the second-largest ocean in the world. It is 'S' shaped. It is flanked by the North and South Americas on the western side, and Europe and Africa on the eastern side. The coastline of the Atlantic Ocean is highly indented. This irregular and indented coastline provides an ideal location for natural harbours and ports. From the point of view of commerce, it is the busiest Ocean.

The Indian Ocean is the only ocean named after a country, that is, India. The shape of the ocean is almost triangular. In the north, it is bound by Asia, in the west by Africa and in the east by Australia.

The Southern Ocean encircles the continent of Antarctica and extends northward to 60 degrees south latitude.

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The Arctic Ocean is located within the Arctic Circle and surrounds the North Pole. It is connected with the Pacific Ocean by a narrow stretch of shallow water known as Bering strait. It is bound by the northern coasts of North America and Eurasia.

#### Atmosphere

The earth is surrounded by a layer of gas called the atmosphere. It provides us with the air we breathe and protects us from the harmful effects of sun's rays. The atmosphere is divided into five layers based on composition, temperature and other properties. These layers starting from earth's surface are called the troposphere, the stratosphere, the mesosphere, the thermosphere and the exosphere.

The atmosphere is composed mainly of nitrogen and oxygen, which make up about 99 per cent of clean, dry air. Nitrogen 78 percent, oxygen 21 per cent and other gases like carbon dioxide, argon and others comprise 1 per cent by volume.

Oxygen is the breath of life while nitrogen helps in the growth of living organisms. Carbon dioxide, though present in a minute amount, is important as it absorbs heat radiated by the earth, thereby keeping the planet warm. It is also essential for the growth of plants.

The density of the atmosphere varies with height. It is maximum at sea level and decreases rapidly as we go up. The temperature also decreases as we go upwards. The atmosphere exerts pressure on the earth. Air moves from high pressure to low pressure. Moving air is known as wind.

#### Biosphere - The Domain of Life

The biosphere is the narrow zone of contact between the land, water and air. It is in this zone that life, that is unique to this planet, exists. There are several species of organisms that vary in size from microbes and bacteria to huge mammals. All the living organisms including humans are linked to each other and to the biosphere for survival. The organisms in the biosphere are broadly divided into the plant kingdom and the animal kingdom.

The three domains of the earth interact with each other and affect each other in some way or the other. For example, cutting of forests for fulfilling our needs of wood, or clearing land for agriculture may lead to fast removal of soil from slopes. Similarly, earth's surface may be changed due to natural calamities like earthquakes.

Discharge of waste material into lakes and rivers makes the water unsuitable for human use. It also damages other forms of life. Emissions from industries, thermal power plants and vehicles, pollute the air. Carbon dioxide (CO<sub>2</sub>) is an important constituent of air. But increase in the amount of CO<sub>2</sub> leads to increase in global temperatures. This is termed as global warming.