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The Four Domains of the Earth

1. **Lithosphere:** The solid portion of the earth
2. **Atmosphere:** The gaseous layers that surround the earth
3. **Hydrosphere:** Water covers a very big area of the earth's surface and this area is called the Hydrosphere
4. **Biosphere:** It is the narrow zone where land, water and air together are found.

Lithosphere

1. The outermost part of the Earth which consists of Upper Mantle and Crust of the Earth is known as Lithosphere.
2. Tectonic plates are a subdivision of Lithosphere.
3. Lithosphere has rigid mechanical properties. Pedosphere is the uppermost part of the lithosphere which reacts chemically with other 3 other major domains of earth namely; hydrosphere, biosphere and atmosphere.
4. Thickness – about 100 km.

There are Two Main Divisions of the Earth's Surface

Continents – the large landmasses.

The Highest Mountain Peak on this earth is Mount Everest. The current official elevation is 8,848 metres above sea level. The elevation was measured and established by an Indian survey conducted in 1955. The border between Nepal and China runs across its summit points.

Ocean basins – the huge water bodies.



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Mariana Trench is the deepest Oceanic trench on Earth. The deepest portion is at 11,034 metres. Mariana Trench is located in the Pacific Ocean. Mariana Trench is 69 km in width and 2550 km in length. Mariana Trench derives its name from the nearby Mariana Islands which is located at around 200 km from the Mariana Trench in the Pacific Ocean.

Continents

There are seven major continents and these are separated by large water bodies.

1. Asia

1. The largest continent on Earth is Asia.
2. Asia is also the most populous continent on earth i.e. it is home to approximately 60% of the world's population as of 2019.
3. Asian continent occupies approximately 30% of the Earth's total land area.
4. To the south of the Asian continent lies the Indian Ocean, to its North lies the Arctic Ocean and to its East lies the Pacific Ocean.
5. Asia and Africa are separated by the Suez Canal.
6. Asia and Europe are separated by the Black Sea and the Caspian Sea.

2. Africa

1. The 2nd largest continent on Earth is Africa. Africa covers 20% of the Earth's total land area.
2. Africa is also the 2nd most populous country on Earth.
3. A large part of Africa lies in the Northern Hemisphere.



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4. The Equator, Tropic of Cancer and Tropic of Capricorn passes through Africa. It holds the distinction of the only continent having all 3 latitudes passing through it.
5. World's longest river Nile is in Africa. It has 2 main tributaries and passes through 11 countries. It flows from Tanzania located in South of Africa and flows till Egypt located in the North of Africa. This is a Northward flowing river and is around 6650 km long.
6. The largest hot desert on Earth is the Sahara Desert which is located in Africa. It extends from the Atlantic Ocean in the West, to the Red Sea located in the East. The Sahara Desert covers a large part of the African Continent. The Mediterranean Sea lies to the North of Sahara Desert.

3. Europe

1. Europe is the 6th largest continent of Earth, occupying around 2% of the surface of the Earth.
2. Russia is the largest country in the European continent.
3. Western Civilization was born in Europe.
4. Atlantic Currents has the biggest influence on the European Continent.
5. To the South of Europe lies the Atlantic Ocean, to the North of Europe lies the Arctic Ocean, to the West of Europe lies the Atlantic Ocean.

4. North America

1. North America is the third largest continent in the world.
2. The continent lies completely in the Northern and Western Hemisphere.
3. The Isthmus of Panama a narrow strip links North America and South America.



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4. This continent is surrounded by three oceans and they are the Atlantic Ocean, the Pacific Ocean, and the Arctic Ocean.

5. South America

1. There are 12 Sovereign States in South America.
2. This Continent is located in the Southern Hemisphere. In terms of total area, South America is the 4th largest continent.
3. The Pacific Ocean is located to the West of South America.
4. To the East of South America lies the Atlantic Ocean.
5. Brazil is the most populous country in South America.
6. The Andes Mountain is the worlds longest above water Mountain range and it is located in South America.
7. The worlds largest river is the Amazon river and it is located in South America.

6. Australia

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

7. Antarctica

1. Antarctica is a huge continent and lies completely in the Southern Hemisphere.



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2. The South Pole lies in the South Polar Region almost at the centre of this continent and is permanently covered with thick ice sheets.

Various countries have their research stations here. India also has its permanent research base stations here, namely **Maitri, Dakshin Gangotri, and Bharati.**

Hydrosphere

1. The hydrosphere includes water on earth in Oceans, Seas, Rivers, Lakes and even in frozen forms.
2. Only 2.5% of Earth's water is freshwater. And even in this 2.5%; approximately 69% is in the form of snow and ice.
3. 97.5% of Earth's water is salt water, which is unfit for human consumption.
4. Approximately 71% of the Earth surface is covered by oceans.

Oceans

1. The three chief movements of ocean waters are the waves, the tides and the ocean currents.
2. Oceans are the major part of the hydrosphere and they are all interconnected.
3. The **Five Major Oceans** in order of their size are
 1. **the Pacific Ocean:** It is almost circular in shape. Asia, Australia, North and South Americas surround it.
 2. **the Atlantic Ocean:** It 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.



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3. **the Indian Ocean:** It 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.
4. **the Southern Ocean:** It surrounds the continent of Antarctica
5. **the Arctic Ocean:** It is located within the Arctic Circle and surrounds the North Pole. The Bering strait a narrow stretch of shallow water connects it with the Pacific Ocean.

Atmosphere

The earth is surrounded by a layer of gas called the atmosphere.

1. The atmosphere extends up to a height of about 1,600 kilometres.
2. The atmosphere is divided into five layers based on composition, temperature and other properties and they are:
 1. the troposphere
 2. the stratosphere
 3. the mesosphere
 4. the thermosphere
 5. the exosphere
3. About 99 per cent of clean and dry air in the atmosphere is composed mainly of nitrogen and oxygen. Nitrogen 78 per cent, oxygen 21 per cent and other gases like carbon dioxide, argon and others comprise 1 per cent by volume.

Biosphere – The Domain of Life

1. The biosphere is the narrow zone of contact between the land, water and air.



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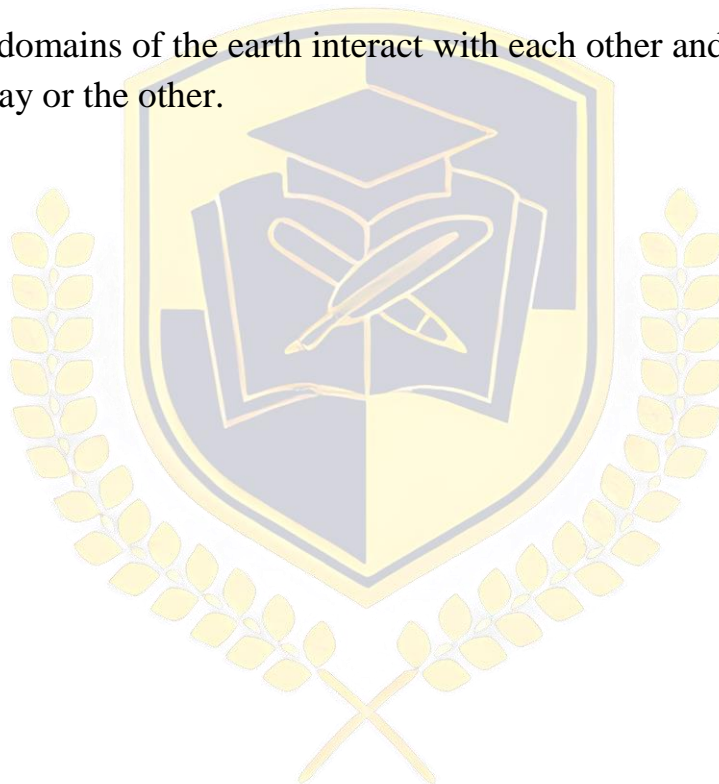
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2. It is the zone where life exists that makes this planet unique.
3. The organisms in the biosphere are commonly divided into:
 1. the plant kingdom
 2. the animal kingdom
4. The three domains of the earth interact with each other and affect each other in some way or the other.



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