

Lesson at a Glance

- The earth is the only planet where human beings find three life sustaining elements—**land, water and air**.
- The surface of the earth is a complex zone. Here three main components of the environment—**lithosphere, atmosphere and hydrosphere** meet, overlap and interact.
- The lithosphere refers to the solid portion of the earth where we live.
- The atmosphere refers to the gaseous layers which surrounding the earth.
- The hydrosphere refers to the water bodies that exist on the earth's surface.
- Biosphere is the narrow zone where we find land, water and air together. Life exists here.
- The earth's surface is divided into **continents** and **ocean basins**.
- Continents are large landmasses of the earth while ocean basins are huge water bodies.
- Mount Everest is the **highest mountain peak**. Its height is 8,848 metres above the sea level.
- The **greatest depth** of 11,022 metres is recorded at Mariana Trench in the Pacific Ocean.
- There are seven continents—**Asia, Europe, Africa, North America, South America, Australia and Antarctica**.
- Asia is the **largest continent** while Australia is the **smallest continent**.
- Antarctica is permanently covered with thick ice sheets. Hence, it is not suitable for human settlement.
- More than 71% of the earth is covered with water and 29% is with land.
- More than 97% of the earth's water is found in the oceans. Ocean water is salty. It is of no human use. A large proportion of the rest of the water is in the form of ice sheets and glaciers or under the ground. Only 0.03% of water is available as fresh water which is usable by human beings.

- There are four major oceans—the Pacific Ocean, the Atlantic Ocean, the Indian Ocean and the Arctic Ocean in order of their size.
- The Indian Ocean is the only ocean named after a country, *i.e.* India.
- The atmosphere is divided into five layers. These layer starting from earth's surface are—the **troposphere**, the **stratosphere**, the **mesosphere**, the **thermosphere** and the **exosphere**.
- The atmosphere is composed of several gases—Nitrogen (78%), Oxygen (21%), other gases like carbondioxide, argon and others comprise 1%.
- Oxygen is essential for our life. We can not live without it. Nitrogen is essential for the growth of living organisms. Carbondioxide absorbs heat radiated by the earth and in this way it keeps the earth warm. It is also essential for plants.
- Biosphere is the zone where life exists. From tiny microbes and bacteria to huge mammals are found in the biosphere. There is a close link between all these organisms including humans.
- The organisms in the biosphere are divided into plant kingdom and the animal kingdom.
- The three domains of the earth interact with each other and affect each other. For example: emission from industries pollute the air.
- Increase in the amount of CO₂ leads to increase in global temperatures which is known as global warming.

■ TEXTBOOK QUESTIONS SOLVED ■

Q. 1. Answer the following questions briefly.

- What are the four major domains of the earth?
- Name the major continents of the earth.
- Name the two continents that lie entirely in the Southern Hemisphere.
- Name the different layers of atmosphere.
- Why is the earth called the 'blue planet'?
- Why is the Northern Hemisphere called the land Hemisphere?
- Why is the biosphere important for living organisms?

Ans. (a) The four major domains of the earth are—Lithosphere, Atmosphere, Hydrosphere and Biosphere.

- Asia, Europe, Africa, North America, South America, Australia and Antarctica.
- Australia and Antarctica.
- Troposphere, Stratosphere, Mesosphere, Thermosphere and Exosphere.
- More than 71% of the earth is covered with water. Hence, its is known as the 'blue planet'.
- The greater part of the landmass lies in the Northern Hemisphere. Hence, it is called the land Hemisphere.
- Biosphere is important for living organisms because it is here that three essential elements of life (land, water and air) are found.

Q. 2. Tick the correct answer.

- The mountain range that separates Europe from Asia is
 - the Andes
 - the Himalayas
 - the Urals.
- The continent of North America is linked to South America by
 - an Isthmus
 - a Strait
 - a Canal.
- The major constituent of atmosphere by percent is
 - Nitrogen
 - Oxygen
 - Carbon dioxide.
- The domain of the earth consisting of solid rocks is
 - the Atmosphere
 - the Hydrosphere
 - the Lithosphere.
- Which the largest continent?
 - Africa
 - Asia
 - Australia

Ans. (a)—(iii), (b)—(i), (c)—(i), (d)—(iii), (e)—(ii).

Q. 3. Fill in the blanks.

- The deepest point on the earth is in the Pacific Ocean.
- The Ocean is named after a country.
- The is a narrow contact zone of land, water and air that supports life.

- (d) The continents of Europe and Asia together are known as
- (e) The highest mountain peak on the earth is

Ans. (a) Mariana Trench, (b) Indian, (c) Biosphere, (d) Eurasia, (e) Mt. Everest.

THINGS TO DO

Q. 1. Cut the outline of the continents from an outline map of the world and arrange them according to their decreasing sizes.

Ans. For self-attempt.

Q. 2. Cut the outline of the continents from an outline map of the world and try to fit them together as a jig-saw puzzle.

Ans. For self-attempt.

Q. 3. Collect pictures of expeditions to the Himalayas. Write about the kind of equipment carried by the climbers for protection against sunshine, temperature and the lack of air.

Ans.



Fig. Expeditions to the Himalayas.

The mountaineers carry oxygen cylinders to be able to breath at high altitudes. They wear special jacket to avoid temperature. They also wear sunglasses and cap to save themselves from the scorching heat of the sun.

MAP SKILLS

Q. 1. On the outline map of the world, mark the following:
Europe, Asia, Antarctica, South America, Australia, Indian Ocean, Pacific Ocean, Atlantic ocean, Ural Mountains and Isthmus of Panama.

Ans.

