

# 1 Earth— The Blue Planet

## Get Going

Look at the pictures. Answer the questions.



- ❖ Identify the planets shown here.
- ❖ Which colours are unique to the Earth? What do they signify?
- ❖ What are the other colours you can notice in these pictures? What do they signify?

Our Earth is a unique planet. This is because it has the most favourable conditions for life. Approximately, 71 per cent of its surface is covered with water giving the planet its dominant blue colour. The remaining 29 per cent of its surface is land.

## Continents

Large land masses are called continents. There are seven continents, namely, Asia, Africa, Antarctica, Australia, Europe, North America and South America. They have a great variety of physical features like forests, mountains, deserts, plains, rivers and lakes.

### FAST FACT

In the beginning, our Earth had one big consolidated land mass called supercontinent. Scientists believe that it consisted of all the seven continents and named it Pangaea. Gradually, due to geological activities, the supercontinent broke up into pieces and gave way to the continents and islands, as we know them today.



Continents and oceans

## Asia

Asia is the largest and the most diversified of the seven continents in terms of physical features, climatic variations and even cultural profile. Although Asia has only 30 per cent of the Earth's total land area, it is home to 60 per cent of the world's total population. It is surrounded by the Pacific Ocean in the east, the Indian Ocean in the south and the Arctic Ocean in the north.

Asia's climate is mostly tropical. It has rich physical features including the Himalayas, the tallest mountain range in the world; the Gobi Desert in China, the coldest desert in the world; and the Thar Desert in India, one of the hottest deserts in the world.



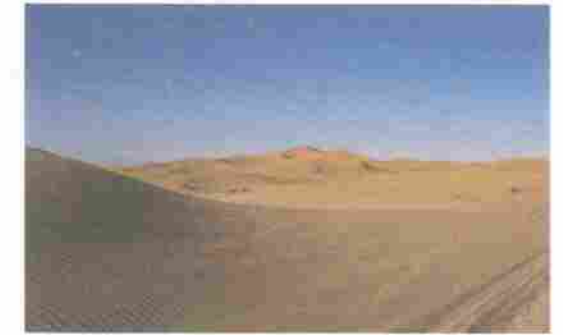
The Himalayas



The Thar Desert

## Africa

Africa is the second-largest continent. It occupies almost 20.4 per cent of the Earth's total land area. It is also the second-most populous continent accounting for about 15 per cent of the world's total population. Africa is surrounded by the Indian Ocean in the east, the Atlantic Ocean in the west and the Southern Ocean in the south. The Mediterranean Sea in the north separates Africa from Europe. The equator passes through Africa which has resulted in great climatic variations. More than half of Africa is covered with dry lands and deserts. The Sahara Desert in Africa is the hottest desert in the world.



The Sahara Desert

## North America

North America is the third-largest continent. It is surrounded by the Arctic Ocean in the north and the Atlantic Ocean in the east. The Pacific Ocean surrounds it in the west and south. North America is connected to South America by the Isthmus of Panama.

North America has a large number of mountain ranges and waterfalls such as the Appalachians and the Rockies, and the Niagara Falls. Its great plains are drained by many rivers and lakes.



The Appalachians



The Rockies



The Niagara Falls

## South America

South America is the fourth-largest continent. Due to its topography, most of the people inhabit its western and eastern coasts. South America has an extremely short coastline in comparison to other continents.

The world's highest waterfall – the Angel Falls, and the second-largest river – the Amazon River, flow through this continent.



The Angel Falls

The Amazon River is the world's largest river in terms of the amount of water that flows through it. This continent is most famous for its rich **biodiversity**, thriving in the world's largest forest, the Amazon Rainforest.



The Amazon Rainforest

## Antarctica

Antarctica, also called the 'white continent', is the fifth-largest continent.

It is the coldest, driest and the windiest continent. Being a desert of ice, it is practically inhabitable and hence no country has a political boundary on this continent. Whales, seals and penguins, live on this continent.

Antarctica lies in the Southern Hemisphere of the Antarctic region and the geographic South Pole lies in Antarctica. It is completely surrounded by the Southern Ocean.

Many countries including India, the USA, Russia, etc. have set up their research laboratories here to explore Antarctica.



Maitri India's second permanent research station in Antarctica

## Europe

Europe is the second-smallest continent. It has 6.8 per cent of the world's total land area. However, it is the third-most populous continent in the world accounting for the world's 11 per cent population.

The Arctic and the Atlantic oceans lie to the north and west of this continent respectively. The Mediterranean Sea, the Caspian Sea and the Black Sea lie to the south of Europe. The continent's southern region is mountainous, whereas its northern region has a vast plain extending towards the east. It is popularly known as the Great European Plains.



The Alps

**FAST FACT**

About 98 per cent of Antarctica's surface is covered by ice which on an average is at least 1.9 kilometres thick. It has 90 per cent of the world's total ice. This ice accounts for 70 per cent of the world's total freshwater.

## Australia

Australia, the smallest continent in the world, is often also known as the 'Island Continent' due to its small size. Despite its small size, it is one of the most developed countries in the world in all respects and standards.

It is located in the Southern Hemisphere and is surrounded by the Indian Ocean in the west, the Pacific Ocean in the east, the Southern Ocean in the south, and the Arafura Sea in the north.

The Great Barrier Reef, world's largest coral reef, lies in the north-east coast of Australia. Australia is popular for physical features like the Great Dividing Range and the Blue Mountains.



The Great Barrier Reef is rich in marine life.

### Spot Check

Write Yes or No.

1. There are five continents and seven oceans. \_\_\_\_\_
2. Asia is the largest continent. \_\_\_\_\_
3. The Sahara Desert is in Africa. \_\_\_\_\_
4. Australia is the coldest continent. \_\_\_\_\_

## Oceans

The oceans contain 97 per cent of the Earth's total water. The five oceans in the descending order of their size are the Pacific, Atlantic, Indian, Southern or Antarctic and the Arctic.

### The Pacific Ocean

The Pacific Ocean is the largest ocean in the world covering 46 per cent of the Earth's water surface. It divides North America and South America from Asia and Australia.

The Mariana Trench in the Pacific Ocean is the deepest point of the Earth. The Pacific Ring of Fire is a horse-shoe shaped area in the Pacific basin. It is home to almost 75 per cent of the world's active and dormant volcanoes. This is also one of the most earthquake sensitive zones in the world. It accounts for thousands of tremors that are experienced around the globe every year.



The Pacific Ring of Fire

## The Atlantic Ocean

The Atlantic Ocean, also known as the 'Sea of Atlas', is the second-largest ocean. It covers 29 per cent of the Earth's water surface. It has an elongated S-shaped basin separating North America and South America from Europe and Africa. It is connected to all the other oceans in the world.

The Mid-Atlantic Ridge is a big submarine mountain range in the Atlantic Ocean.



The Mid-Atlantic Ridge

## The Indian Ocean

The Indian Ocean is the third-largest ocean covering 20 per cent of the Earth's water surface. The Indian Ocean surrounds Asia in the north, Africa in the west, Australia in the east and the Southern Ocean in the south.



The Suez Canal

It is connected to the Mediterranean Sea by the Suez Canal. It provides major sea routes to the world.

## The Southern Ocean

The Southern Ocean, also known as the Antarctic Ocean, lies in the Southern Hemisphere. It encircles Antarctica and gets water through the merger of the Pacific, Atlantic and Indian Oceans into it.

## The Arctic Ocean

This is the smallest ocean in the world and is partially covered with ice throughout the year. It is lowest in salinity level in comparison to the other oceans due to low evaporation of water. It surrounds Europe, Asia, North America and Greenland.

### Word Bank

**equator:** an imaginary line on the Earth's surface that divides it into the northern and southern hemispheres

**isthmus:** a strip of land connecting two mainlands separated by water

**topography:** the physical features of an area

**biodiversity:** variety of living organisms

**trench:** deep hole in the ocean bed

**submarine mountain range:** a mountain range under the surface of the sea

### In a Nutshell

- ❖ Our Earth is the only planet that supports all forms of life.
- ❖ More than two-third of its surface is covered with water.
- ❖ There are seven continents and five oceans.

### Exercises

#### A. Match the following.

Column A	Column B
1. Africa	a. the smallest ocean 4
2. Atlantic Ocean	b. South America 5
3. Australia	c. Sahara Desert 1
4. Arctic Ocean	d. S-shaped basin 2
5. River Amazon	e. island continent 3

#### B. Fill in the blanks.

1. Earth is the only planet that supports life.
2. 29 per cent of Earth is land and 71 per cent is water.
3. Africa is the second-most populous continent in the world.
4. Antarctica is the windiest continent.
5. The Mariana Trench in the Pacific Ocean is the deepest point of Earth.

#### C. Circle the correct options.

1. A big consolidated land mass on Earth that consisted of all the present-day continents has been named as ( Pangaea / Subcontinent ).
2. The third-largest continent is ( South / North ) America.
3. ( South America / Europe ) has the shortest coastline of all the continents.
4. The largest ocean is the ( Pacific / Indian ) Ocean.
5. The ( Southern / Indian ) Ocean provides the major sea routes of the world.

#### D. Answer the following questions in short.

1. What per cent of the Earth's area is covered with water?
2. Name the largest and the smallest continents.
3. What is an isthmus?
4. What connects North America to South America?
5. What are oceans? Name the largest ocean in the world.

#### E. Answer the following questions in detail.

1. What are continents? Name the seven continents of the world in the decreasing order of their size.

2. Describe some features of Antarctica.
3. Write three sentences about the Indian Ocean.
4. Write a short note on the Southern Ocean.

**F. Think and answer.**

If you had the choice to live on any one continent, which one would you choose? Why?

**EXPERIENTIAL LEARNING**

**Activity**

**A.** Answer the following questions. You can surf the Internet for help.

1. Find out the names of five famous islands of the world.
2. Name the countries that lie on the equator.
3. Which two continents combine to form Eurasia? What separates these two continents?
4. How many countries are there in South America?
5. Name the largest and the smallest countries in the world.

**B.** Take a physical map of the world. Cut out the shapes of the seven continents with seven different coloured papers. Now paste them on the map at their respective places and mark them.

**Project**

Divide the class into seven groups. Assign one continent to each. Collect more information about the continents. Each group will make a PowerPoint Presentation in the class.

**Life Skills**

A continent consists of many countries. These countries are defined by their political boundaries. Can you tell how many countries are there in your continent?

**Values**

Asia is not only the most populated but also among the poorest continents in the world. We need to understand that we become prosperous not by the number of people or by the amount of land but by the level of knowledge, skills and education of the people of a place.

**Map Work**

On an outline map of the world, mark the following.

1. The five oceans
2. The seven continents
3. The Isthmus of Panama
4. The Mariana Trench

**INFO ORGANISER 1**

Time to explore the seven continents further! Find out and fill in the information.

