

# The Earth

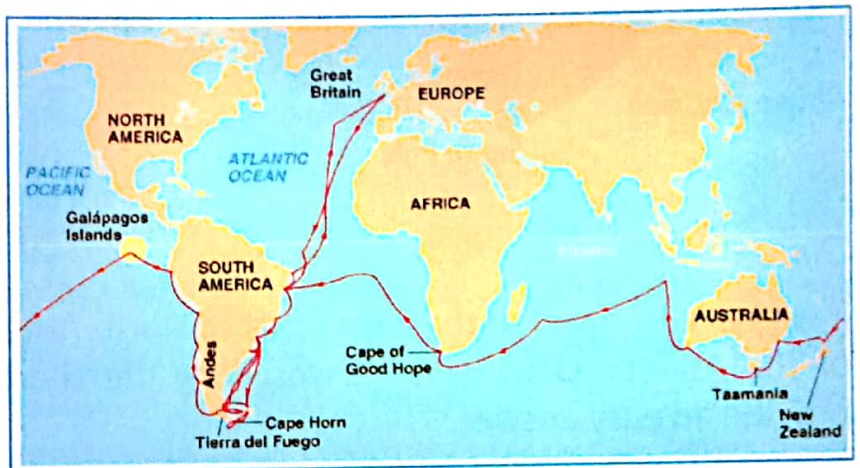
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Where do we live? What is the name of our planet? What is its shape?



Ravivar, Mangalvar, Shukravar, or Shanivar are some of the names of the days of the week. It is interesting to know that these names have been derived from heavenly bodies. The Sun (ravi), Mars (mangal), Venus (shukra) and Saturn (shani) are all heavenly bodies that can be seen from the earth. When man first landed on moon (July 19, 1969) the earth was seen as a shining spherical ball, the way we see other heavenly bodies.

Ordinarily, the earth appears flat. That is so because we can, at any point of time see only a very small part of it. Remember the Portugese navigator Magellan, who sailed round the world and proved that the earth is round. It should, however, be remembered that our earth is not exactly like a sphere. More like an orange, it is flat at the poles.



The route of fardinand Magellan

We live on the outer layer of the earth called Crust. The earth's surface is made up of land and water. There are seven large masses of land called Continents. Asia is the largest of them all. India is a part of the continent of Asia. All continents are divided into smaller units called countries.

Antarctica is the only continent where there is no habitation except that of visiting scientists. Asia and Europe are separated by the Ural mountains. Australia is the only continent which is entirely made up of islands. North America and South America are linked by Central America, which forms the Southern part of North America. The continent Africa was one time known as the **Dark Continent**. Why? There are large masses of water on earth called oceans. One of them is named after a country. Which one? The other oceans are the Pacific, Atlantic, Arctic and the Southern Ocean.

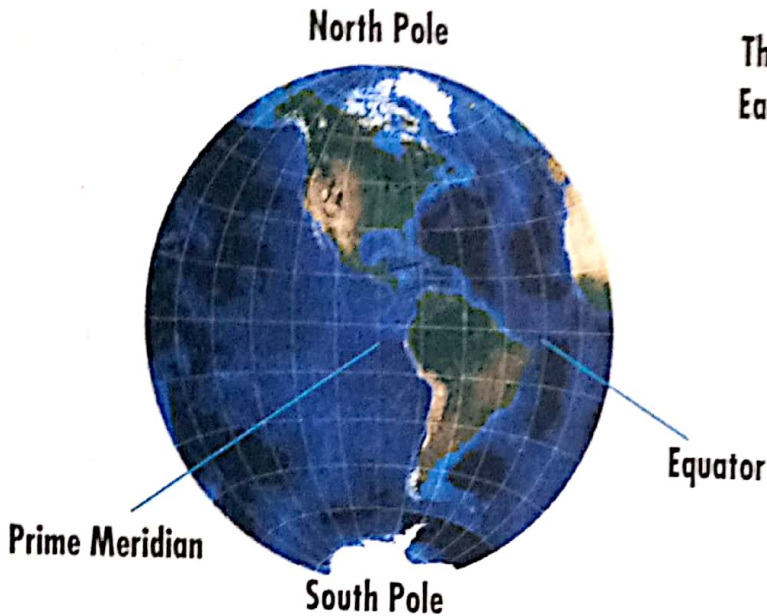
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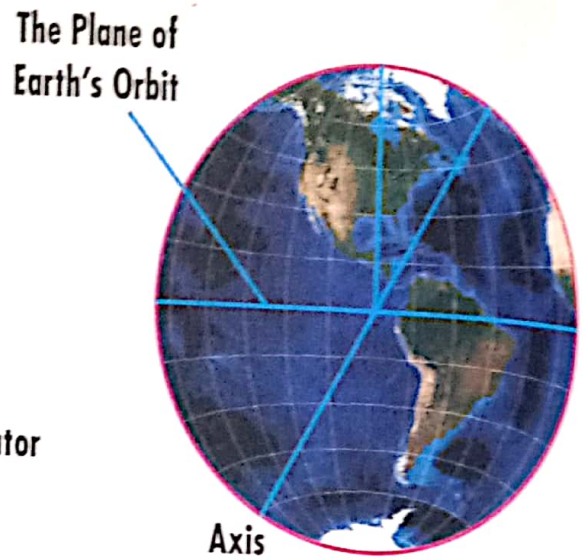
Smaller bodies of water are called sea. Sea water is salty. There are lakes and rivers whose water is fit for drinking. What made the sea water salty? The distribution of land and water on the surface of the earth can be easily seen on the globe. Similarly, we can have a good idea of the relative sizes of the various continents by looking at the globe.



Continents and Oceans



The Equator divides the earth into two equal hemispheres the Northern and the Southern hemispheres



Axis is the imaginary line joining the North and South poles. It runs within the globe

If we have to travel to the west coast of North America, we may cross the Pacific Ocean or the Atlantic Ocean. Which would be the shorter route? A look at the globe can provide an easy answer.

The globe that you would see in your classroom is a sphere. It has an axis running through the two extreme ends– the North and the South poles. The globe can rotate around the axis. The axis is not exactly vertical. It is mounted on a horizontal bases at a certain inclination.

The globe is divided into two hemispheres– Northern and Southern. The central line passing from the globe is called equator. There are concentric circles on both sides of the equator. Their circumferences keep on diminishing with their distance from the equator. These circles are called **Latitudes**, North or South depending on which side of the equator they are placed. The latitudes are marked from  $0^\circ$  to  $90^\circ$  N/S. The equator marks the latitude  $0^\circ$  while those at the poles mark  $90^\circ$  N or S. The latitude  $23\frac{1}{2}^\circ$  N is called the **Tropic of Cancer**. The latitude  $23\frac{1}{2}^\circ$  S is called the **Tropic of Capricorn**. The



Tropic latitudes with special names are the Arctic Circle ( $66\frac{1}{2}^{\circ}$  N) and the Antarctic Circle ( $66\frac{1}{2}^{\circ}$  S).

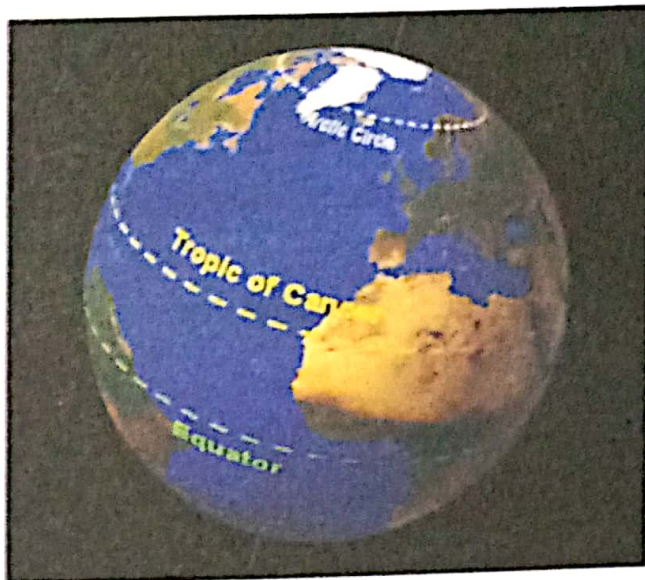
The semicircular lines joining the poles are called Longitudes or Meridians. The Meridian passing through the Greenwich Observatory (near London in Britain) is taken as the reference point. It is the Prime Meridian. There are longitudes, marked  $0^{\circ}$  to  $180^{\circ}$  E and  $0^{\circ}$  to  $180^{\circ}$  W. The latitudes, vary in circumference. The longitudes are all of equal length.

All these are only imaginary lines drawn on the globe. If you visit Greenwich, you would find no such line physically marked on the earth's surface.

The latitudes and longitudes make a network on the surface of the globe. The squares thus formed by these intersecting lines are called 'grid'. Once we know about the latitude and the longitude nearest to any particular place, we can easily locate it on the globe.

Puducherry, in India, is situated near the latitude  $12^{\circ}$  N. It also lies near the longitude  $80^{\circ}$  E. With this information, it would be very easy to locate Puducherry on the globe.

The nearest latitude for Bhopal in Madhya Pradesh is the Tropic of Cancer. The nearest longitude is  $78^{\circ}$  E. The mountain K2 (height 8611 m.) lies near the latitude  $36^{\circ}$  N. It lies within the grid formed by latitudes  $34^{\circ}$ – $36^{\circ}$  N and the longitudes  $76^{\circ}$ – $78^{\circ}$  E. These imaginary and artificial lines on the globe help us in the study of lands and people in many more ways. The location of a place in terms meridian determines its local time. The latitudes influence the climates of the various regions on the earth.



The Earth showing the Tropic of Cancer at  $23.5^{\circ}$  North of the equator











## Wrap Up

- We live on the outer layer of the earth called crust.
- There are seven large masses of land called continents.
- Asia and Europe are separated by the Ural mountains.
- Smaller bodies of water are called sea.
- The globe that you would see in your classroom is a sphere.





## A. Tick (✓) the correct option:

- The continent Africa was one time known as the \_\_\_\_\_ continent.  
(i) light  (ii) white  (iii) dark
- Smaller bodies of water are called \_\_\_\_\_.  
(i) sea  (ii) ocean  (iii) river
- All these are only imaginary make a network on the \_\_\_\_\_ of the globe.  
(i) surface  (ii) earth  (iii) river
- \_\_\_\_\_ is the largest of them all.  
(i) Asia  (ii) India  (iii) USA
- All continents are divided into smaller unit called \_\_\_\_\_.  
(i) cities  (ii) countries  (iii) continents

## B. Fill in the blanks:

### Help Box

July 1969, Antarctica, ellipse, continent

- In the continent of \_\_\_\_\_ no man has permanent home.
- Man first landed on moon on \_\_\_\_\_.
- Asia is a \_\_\_\_\_.
- Our earth is more like an \_\_\_\_\_ than a sphere.

## C. Write True or False:

- Oceans are small bodies of water.
- The earth is a heavenly body.
- All countries are parts of some continent.
- The continent Australia is made up entirely of islands.

## D. Answer the following questions:

- Which two continents are spread over both hemispheres?
- Which ocean surrounds the continent of Antarctica?
- Why does the level of water in all the oceans remains the same?
- Which of the two hemispheres has greater land area?
- Which continent lies only in the Southern hemisphere?

\* Name these:

1. The line that divides the globe into two hemispheres.
2. The half part of the globe
3. The  $23\frac{1}{2}^{\circ}$  N latitude
4. The  $23\frac{1}{2}^{\circ}$  S latitude
5.  $90^{\circ}$  N latitude
6.  $66\frac{1}{2}^{\circ}$  S latitude

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## Do and Learn

- A. Which meridian determines the local time in India? Find out.
- B. If you travel on the equator and go round the earth you would cover 40,075 km. Would this distance be less or more if you travel from the North pole to South Pole and back? What would be the difference? Find out.
- C. Life exists on earth because it has land, water and air. Find out, if there are any other heavenly bodies where life is known to exist.