

# 1 Globes

## Get Going

Tick (✓) the correct statements.

1. The Earth is shaped like an orange.
2. The Earth is also called the 'Blue Planet'.
3. There is no life on Earth.
4. The Earth is the fourth planet in the solar system.


For a long time, it was believed that the Earth is flat. Ferdinand Magellan, an explorer proved it wrong by sailing westwards and returning to the same place after several years. This would not have been possible, if the Earth was flat. Later, many other explorers also proved that the Earth is round. Today, satellite pictures taken from the outer space and accounts of astronauts also prove that the Earth is round in shape.

### The Globe

The photograph of the Earth shows that it is a huge body. We cannot see or study the entire Earth at one go. Therefore, to do an in-depth study of the Earth, a small model of the Earth called a **globe** is used.



The Earth as seen from the outer space

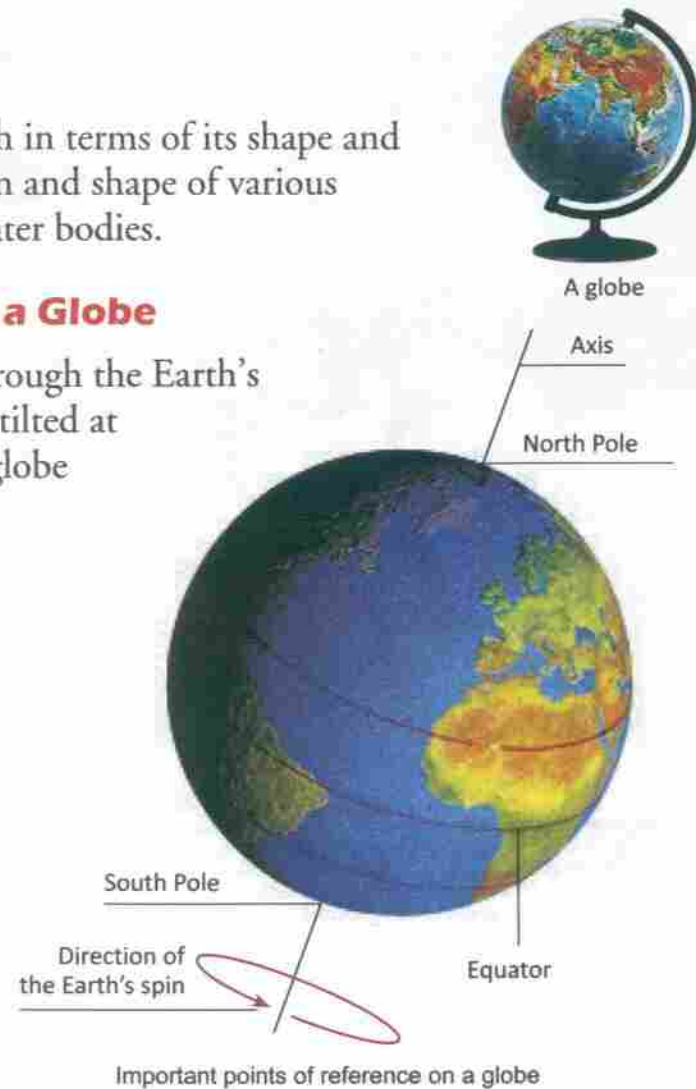
## Uses of a Globe

The globe is an exact replica of the Earth in terms of its shape and surface. It gives a fair idea of the location and shape of various landforms, continents, countries and water bodies.

## Important reference points on a Globe

The **axis** is an imaginary line passing through the Earth's centre, on which the Earth rotates. It is tilted at an angle of  $23\frac{1}{2}^\circ$ . The rod on which a globe spins represents the Earth's axis. The northernmost point of the axis is the **North Pole** and the southernmost point is the **South Pole**.

Halfway between the North Pole and the South Pole, lies an imaginary line called the **Equator**. This imaginary line divides the Earth into two equal halves. Each half is called a **hemisphere**. To the north of the Equator, lies the Northern Hemisphere and to the south, lies the Southern Hemisphere.



### Spot Check

Write Yes or No.

1. We can see the Earth at one go. \_\_\_\_\_
2. The Earth rotates on its axis. \_\_\_\_\_
3. The South Pole is the northernmost point of the Earth's axis. \_\_\_\_\_
4. The Equator divides the Earth into two halves. \_\_\_\_\_

## Latitudes and Longitudes

**Latitudes**, also known as parallels, are the imaginary lines running parallel to the Equator. These lines of latitude are at an equal distance from each other. Lines of latitude are marked in degrees. The Equator is marked as 0 degree.

Some latitudes are:

- ❖ The North Pole at  $90^\circ\text{N}$  (in the north)
- ❖ The Arctic Circle at  $66\frac{1}{2}^\circ\text{N}$
- ❖ The Tropic of Cancer at  $23\frac{1}{2}^\circ\text{N}$
- ❖ The Tropic of Capricorn at  $23\frac{1}{2}^\circ\text{S}$
- ❖ The Antarctic Circle at  $66\frac{1}{2}^\circ\text{S}$
- ❖ The South Pole at  $90^\circ\text{S}$  (in the south)

**Longitudes** are imaginary lines running through the North Pole and the South Pole. They are also called meridians.

Like latitudes, longitudes are also marked in degrees. The 0 degree meridian is known as the Prime Meridian which runs through Greenwich (a place near London). It divides the Earth into two halves, the Eastern Hemisphere and the Western Hemisphere. There are 180 degrees of longitude east of the Prime Meridian, and 180 degrees of longitude west of the Prime Meridian. In all, there are 360 degrees of longitude. The meridians to the east of Greenwich are East Meridians and the meridians to the west of Greenwich are West Meridians.

The lines of latitude and longitude together form a criss-cross pattern known as the **grid** on the globe. This helps to locate the exact position of a place on the globe.

### Latitude

Lines of latitude go across the Earth from East to West, but they measure the globe from North to South starting at the Equator.

### Longitude

Lines of longitude run across the globe from North to South, but measure East and West starting at the Prime Meridian.



The grid of the lines of longitude and latitude

### Word Bank

- globe:** a spherical model of the Earth  
**axis:** an imaginary line passing through the centre of the Earth on which the planet rotates  
**hemisphere:** one half of the Earth  
**latitudes:** the lines running parallel to the Equator  
**grid:** a pattern of lines that forms a series of squares  
**longitudes:** the imaginary lines running through the North Pole and the South Pole

### In a Nutshell

- ❖ A small model of the Earth is called a globe.
- ❖ The globe gives a fair idea of the location and shape of various landforms, continents, countries and water bodies.
- ❖ An imaginary line passing through the Earth's centre on which the planet rotates is known as its axis. The imaginary lines running parallel to the Equator are called latitudes.
- ❖ The imaginary lines running through the North Pole and the South Pole are called longitudes.
- ❖ The latitudes and longitudes together form a criss-cross pattern called grid on the globe.

## Exercises

### A. Match the following.

Column A	Column B
1. replica of the Earth	a. helps to find location
2. grid	b. imaginary lines parallel to the Equator
3. latitude	c. 23½ degrees S
4. longitude	d. 90 degrees N
5. Tropic of Capricorn	e. globe
6. North Pole	f. imaginary lines from the North Pole to the South Pole

### B. Circle the correct answers.

1. A small model of the Earth is called ( *an atlas / a globe* ).
2. A globe shows us the location of different ( *continents / flags* ) of different countries.
3. The northernmost point on the globe is the ( *South Pole / North Pole* ).
4. The imaginary lines running parallel to the Equator are called ( *latitudes / axis* ).
5. The Prime Meridian is a 0° ( *latitude / longitude* ).

### C. Fill in the blanks.

1. \_\_\_\_\_ was an explorer who proved that the Earth is round.
2. The \_\_\_\_\_ is an imaginary line passing through the Earth's centre.
3. \_\_\_\_\_ are imaginary lines running through the North Pole and the South Pole.
4. Longitudes are also called \_\_\_\_\_.
5. The criss-cross pattern formed by latitudes and longitudes on the globe is called a \_\_\_\_\_.

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

1. What is a globe?
2. Name the 0 degree and 66½ degrees N lines of latitudes.
3. Name the hemispheres formed by the Equator.
4. Name the 0 degree line of longitude and the place through which it passes.
5. Define grid.

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

1. How did we get to know the actual shape of the Earth?
2. What are the important reference points on a globe?
3. What is the difference between latitudes and longitudes?

### F. Think and answer.

What are the different colours you find on a globe? Name any two prominent colours and find out what they represent.

## EXPERIENTIAL LEARNING

### Activity

Form teams. Each team will have students playing the role of Magellan and his crew. Each team gets two minutes to describe the historic voyage to the class.

### Project

- A. Form teams. Each team will be given a globe. The teacher will ask each team to identify and mark the places on it. The team who locates all the places accurately, wins.
- B. Visit a planetarium to understand the movement and appearance of the Earth.

### Life Skills

Globe search: Find out the latitudes and longitudes in which India lies.

### Map Work

On a sheet of chart paper, draw the shape of the Earth and mark the following latitudes.

1. Equator
2. Tropic of Cancer
3. Tropic of Capricorn
4. Antarctic Circle
5. Arctic Circle
6. North Pole
7. South Pole

### Webquest

Type the link given below to play a game and understand the concept of longitude and latitude.

<http://www.kidsgeo.com/geography-games/latitude-longitude-map-game.php>