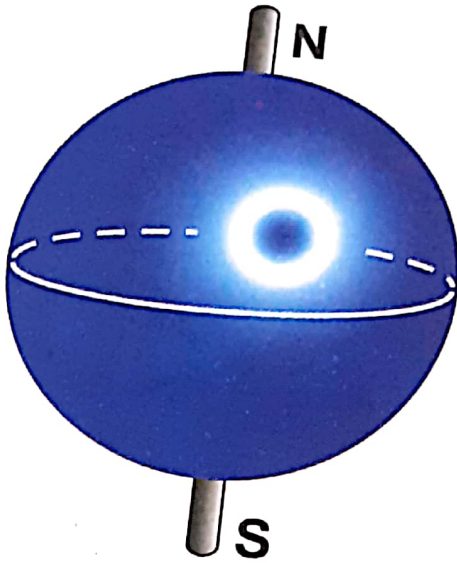
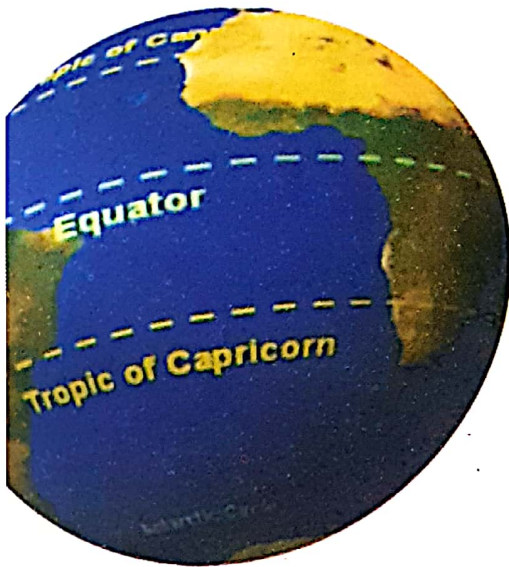


2. LATITUDES AND LONGITUDES

LONGITUDES



Globe Showing North and South Pole



Latitudes Showing Equator on Globe

The Earth is like a ball which means that it has no top, bottom, sides or corners. So, without any point of reference it is really difficult to find the location of a place as well as its direction.

To overcome this difficulty we take the help of a **globe**. A globe rotates on its axis having two end points or poles. The point at the top is called the **North Pole** and the point at the bottom is called the **South Pole**. Imaginary lines in the form of full and semi-circles can be drawn on the globes.

The full circles drawn on the surface of the globe run from East to West. These circles are called lines of latitudes. The longest line of latitude is called the equator. It is situated midway between the North Pole and the South Pole. Thus, the equator divides the Earth into two equal hemispheres. The portion of the Earth which lies to the north of the equator is the Northern Hemisphere.

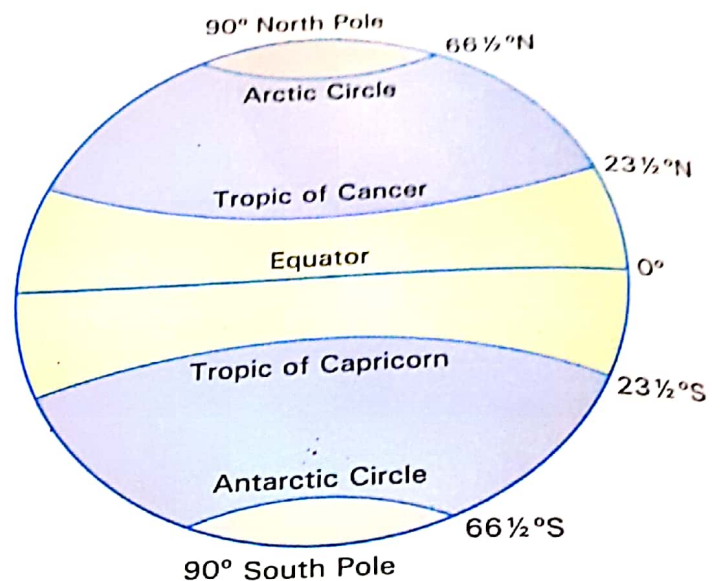
The other portion which lies towards the South of the equator is called the Southern Hemisphere. The lines of latitude are often called parallels as they run parallel to each other. The length of other parallels starts decreasing when we move from the equator towards the poles.

Latitude is the distance in degrees on the Earth's surface measured from the North and

South of the equator. Each line of latitude is designated with a number. The longest line of latitude is designated as 0 degree (0°). The North Pole is 90 degrees North (90° N) and the South Pole is 90 degrees South (90° S). The numbers given to parallels are as per their distance from the equator and their location in the hemispheres. Each degree of latitude spans about 111 kilometers.

There are four more important lines of latitude besides the equator, North Pole and South Pole. These are:

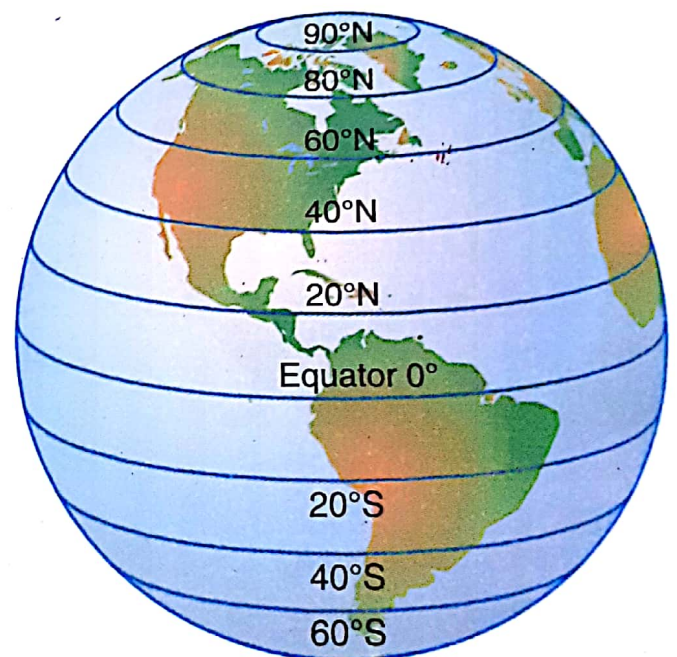
1. **Tropic of Cancer** in the Northern Hemisphere, designated with $23\frac{1}{2}^\circ$ N latitude.
2. **Tropic of Capricorn** in the Southern Hemisphere, designated with $23\frac{1}{2}^\circ$ S latitude.
3. **Arctic Circle** in the Northern Hemisphere, designated with $66\frac{1}{2}^\circ$ N latitude. And
4. **Antarctic Circle** in the Southern Hemisphere, designated with $66\frac{1}{2}^\circ$ S latitude.



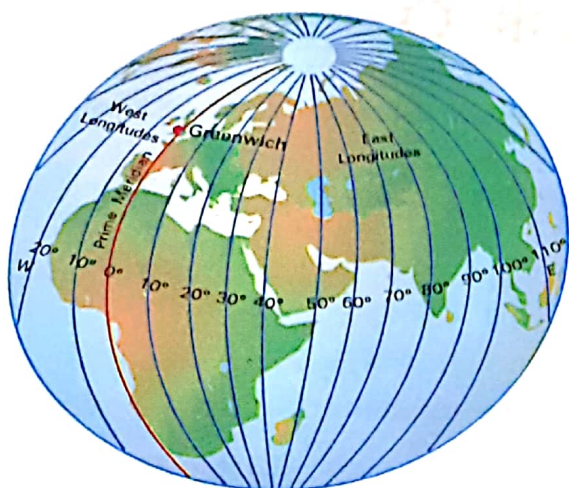
Important Parallels of Latitudes

The semi circles join the North Pole and the South Pole and run from north to south. These lines are called **meridians**. Longitude is the imaginary angular distance on the Earth's surface measured in degrees from a certain meridian.

On the lines of latitude, all the parallels are of equal length. The distance between any two meridians is maximum at the equator and minimum at the poles. The meridians cross the lines of latitude at right angles (90°). A meridian which passes through



Lines of Latitude with Their Numbers



Showing Meridians, Prime Meridian

there are 360 meridians.

Parallels and meridians form a network of lines on a globe. This is called a grid. It helps us to locate places on a globe. To locate a place, we must know the values of its parallel and meridian. The point at which the parallel and the meridian intersect each other will be the location of that place.



AMAZING FACT

- Africa and South America are two continents which cross the equator. Hence, these continents are located in the Northern and Southern Hemispheres.
- The word "meridian" is derived from the Latin word "meridies" which means mid-day.



Glossary

AXIS - An imaginary line passing through two extreme points on a sphere.

POLE - Either of the end points at the top or bottom of the Earth's axis.

GRID - It is a network of parallels on the globe which help us to locate places.

Quick Glance



- ❖ The Earth rotates on its axis it has two end points called poles.
- ❖ Full circles, drawn on the surface of the globe and running from East to West, are called the lines of Latitude or parallels.

- ❖ Equator is the longest line of latitude.
- ❖ The equator divides the Earth into two hemispheres. The portion towards the North Pole is the Northern Hemisphere and the portion towards the South Pole is the Southern Hemisphere.
- ❖ Four important lines of Latitude besides the equator are: Tropic of Cancer, Tropic of Capricorn, Arctic Circle and Antarctic Circle.
- ❖ Latitude is the distance in degrees on the Earth's surface measured from the North and South of the equator.
- ❖ Meridians are the imaginary circular lines that join the North and the South Poles.
- ❖ Longitude is the angular distance on the Earth's surface measured in degrees from a certain meridian.
- ❖ The distance between any two meridians is maximum at the equator and when they meet at the poles it is minimum.
- ❖ A place can be located on the map by knowing its Latitude and Longitude.

Question Bag



A. BRAIN GAME

Guess my name?

1. I am the longest line of latitude.
2. I am a meridian. I pass through greenwich.
3. I form a network of lines on the globe.

B. Multiple Choice Questions:

1. The equator divides the earth into two equal
 (a) hemisphere (b) parallels (c) poles
2. The longest line of latitude is called the
 (a) tropic of cancer (b) tropic of capricorn (c) equator
3. There are _____ meridians
 (a) 90 (b) 180 (c) 360

Fill in the blanks :

1. The North Pole is _____ degree north.
2. A globe rotates on its _____.
3. _____ is the imaginary angular distance on the earth's surface measured in degree from a certain meridian.

4. _____ is the distance in degree on the earth's surface measured from the north and south of the equator.

5. The equator divides the earth into two equal _____.

D. Answer the following questions :

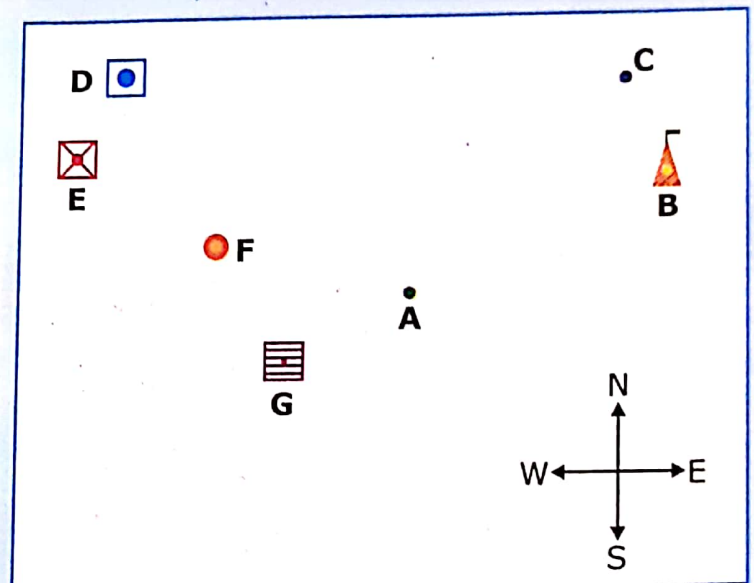
1. What are lines of Latitude?
2. What do we need to know to find the location of a place?
3. Why are the lines of Latitude also called parallels?
4. What is a Longitude?
5. What is Prime Meridian and how is it used?

REALITY CHECK

1. Ask your parents to bring you a small globe from the market. Keep it on your study table. See how it moves on its axis. Try to locate North Pole, South Pole, Equator, Tropic of Cancer, Tropic of Capricorn, Arctic Circle, Antarctic Circle and Prime Meridian.

Unit Links

Look at the figure. Join the points to find the map of the colony where Suresh lives. **A** is Suresh's house. **B** is a temple. **C** is the house of his friend Rita. **D** is their school. **E** is a park. **F** is a music school and **G** is the Market.



Activity

I. Now answer the questions:

1. If the map scale is 2 Cm: 3 Km, what is the distance between both the schools?
2. Whose house is nearer from the school at D?
3. If you stand at A facing towards North, what would be the direction of the park?
4. If Rita comes to the market after visiting the park, how much total distance would she have to cover?