Chapter 2 Globe: Latitudes and Longitudes

- Globe
 - A globe is a model of earth consisting of a needle fixed in tilted manner, indicating the earth's axis.
 - The axis of the earth is an imaginary line that passes from the North Pole to the South Pole. The earth rotates from east to west on its axis.
 - An equator is an imaginary circular line that divides the earth into two equal parts known as Northern Hemisphere and Southern Hemisphere.
 - Points of reference like latitudes and longitudes help in locating the places on the Earth.
- Latitudes
 - Latitudes are imaginary parallel circular lines running from parallel from equator to either of the poles.
 - The equator is the 0° latitude. Other latitudes are referred to as north or south of the equator.
 - Latitudes are equidistant and get smaller as they move away from the equator.
 - 90° N latitude marks the North Pole and 90° S latitude marks the South Pole.
 - The four important parallels of latitudes are
 - > Tropic of Cancer (231/2°N) in the Northern Hemisphere.
 - > Tropic of Capricorn (231/2°S) in the Southern Hemisphere.
 - > Arctic Circle (661/2°N) in the Northern Hemisphere.
 - > Antarctic Circle (66 1/2°S) in the Southern Hemisphere.



Important Latitudes

Heat Zones of the Earth

Heat zones are identified with the help of latitudes on the basis of sunrays falling on the earth.

• Torrid Zone

The area between Tropic of Cancer and Tropic of Capricorn receives maximum heat and is called Torrid Zone. The mid-day sun is overhead on all latitudes of this region at least once a year.

• Temperate Zones

The two temperate zones lie between the Tropic of Cancer and Arctic Circle and between Tropic of Capricorn and Antarctic Circle.

- The mid-day sun is never directly overhead on the latitudes of this region.
- The angle of sun rays decreases towards the poles. Therefore, these zones have moderate temperature.
- Frigid Zones

The two frigid zones lie between the Arctic Circle to North Pole and from Antarctic Circle to South Pole.

Sunrays are slanting on these latitudes and they have very cold temperatures.



Heat Zones

- Longitudes
 - The imaginary lines running from North Pole to South Pole are called longitudes.
 - Longitudes are of same length and the distance between each longitude decreases from equator to poles.

- The longitude which passes through Greenwich is measured as 0° and is known as the Prime Meridian. Other longitudes are marked to its east and west.
- 180° longitude with the Prime Meridian divides the earth into two equal hemispheres called the Eastern Hemisphere and the Western Hemisphere.
- Longitude and Time
 - As the earth rotates from west to east, all places east of the Prime Meridian are ahead of the time at the Prime Meridian and all places west of the Prime Meridian are behind the time at the Prime Meridian.
 - The earth rotates 360 degree in 24 hours. Therefore, 15 degree equals to 1 hour and 1 degree equals to 4 minutes.
 - Standard time of a place is fixed according to the longitude which passes through it.
 - In India the longitude at 821/2°E is considered to be the standard meridian. The time at this longitude is the standard time of the whole country which is known as Indian Standard Time (IST).