

## NCERT - CLASS 6 GEOGRAPHY - CHAPTER 2: GLOBE: LATITUDES AND LONGITUDES

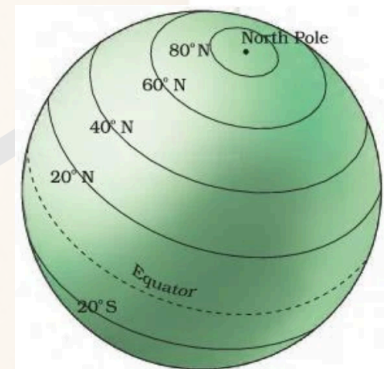
### Globe

- Model of Earth
- The tilted needle is called the axis
- It can be moved from west to east along its axis
- For Earth, it is an imaginary line instead of the needle (axis)
- Two points as poles - North Pole & South Pole
- Equator - Imaginary line dividing the globe into two
- Northern Hemisphere - The northern half of the earth
- Southern Hemisphere - The southern half of the earth



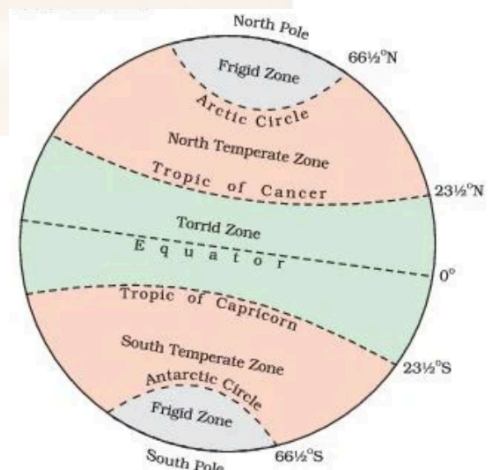
### Parallels of latitude

- Parallel circles from the equator up to the poles
- Measured in degrees
- Equator = Zero degrees
- Distance from the equator to poles = 1/4th circle around the earth →  $1/4 \times 360^\circ = 90^\circ$
- $90^\circ$  N = North Pole and  $90^\circ$  S = South Pole
- Parallels north of equator = North Latitudes
- Parallels south of equator = South Latitudes
- Parallels of  $20^\circ$  latitude → Ex: Chandrapur (Maharashtra)  $20^\circ$ N and Belo Horizonte (Brazil)  $20^\circ$ S
- The size of parallels of latitudes decreases as we move away from the equator



### Important parallels of latitude

- (i) Tropic of Cancer ( $23 \frac{1}{2}^\circ$ N)
- (ii) Tropic of Capricorn ( $23 \frac{1}{2}^\circ$ S)
- (iii) Arctic Circle ( $66 \frac{1}{2}^\circ$ N)
- (iv) Antarctic Circle ( $66 \frac{1}{2}^\circ$ S)



## Heat zones of the Earth

### Torrid Zone

- Mid-day sun shines overhead once a year
- The area between the Tropic of Cancer & Tropic of Capricorn
- Receives maximum heat

### Temperate Zone

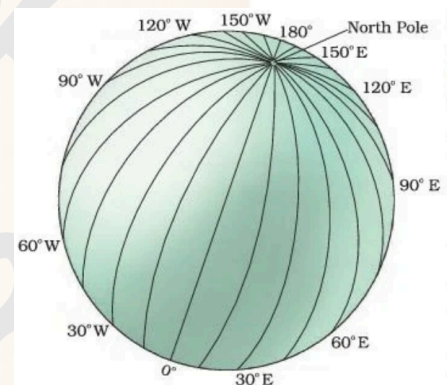
- Mid-day sun never shines overhead
- The areas between the Tropic of Cancer & Arctic Circle and the Tropic of Capricorn & Antarctic Circle
- Have moderate temperatures

### Frigid Zone

- The sun does not rise much above the horizon - its rays always slanting → less heat
- The areas between Arctic Circle & North Pole and Antarctic Circle & South Pole
- Very cold

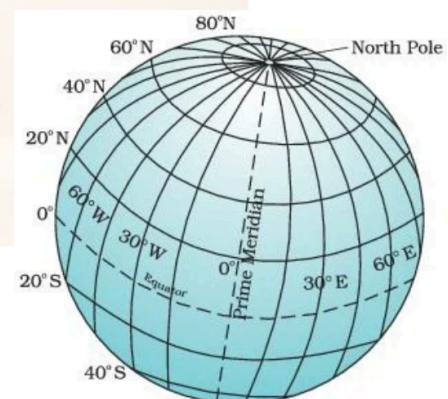
## Longitudes

- Tonga Islands - Pacific Ocean & Mauritius Islands - Indian Ocean → Both at 20°S
- East to West - North poles to South poles reference lines
- Are called Meridians of longitude
- Degrees of longitude is divided into minutes and seconds
- Distance between them decreases towards poles - Zero at poles
- Unlike latitudes, all longitudes are equal



## Prime meridian

- Since it was difficult to number meridians → Meridian through Greenwich, British Royal Observatory was selected by all countries
- Prime Meridian - 0° longitude
- Prime Meridian + 180° Meridian → Divides Earth into halves → Eastern/Western Hemisphere
- 180°E = 180°W = same line



## Locating

Dhubri - Assam - 26°N latitude 90°E longitude

## Longitude and time

- Measuring time → by the movement of the earth, moon, planets
- Sun → best timekeeper → Shadow cast by the sun → gives local time → Shortest at noon and Longest at sunrise/sunset
- As Earth rotates from west to east → East of Greenwich will be ahead of time and West of Greenwich will be behind time

*Rate of difference:*

Earth rotates  $360^\circ = 24$  hours →  $360^\circ/24$  hours =  $15^\circ/\text{hour}$  →  $60 \text{ min}/15^\circ = 4 \text{ min}/1^\circ$

*12 noon at Greenwich:*

1)  $30^\circ$  East of Greenwich - South Africa

$30^\circ \times 4 \text{ mins} = 120 \text{ mins} = 2 \text{ hours ahead} = 2 \text{ P.M.}$

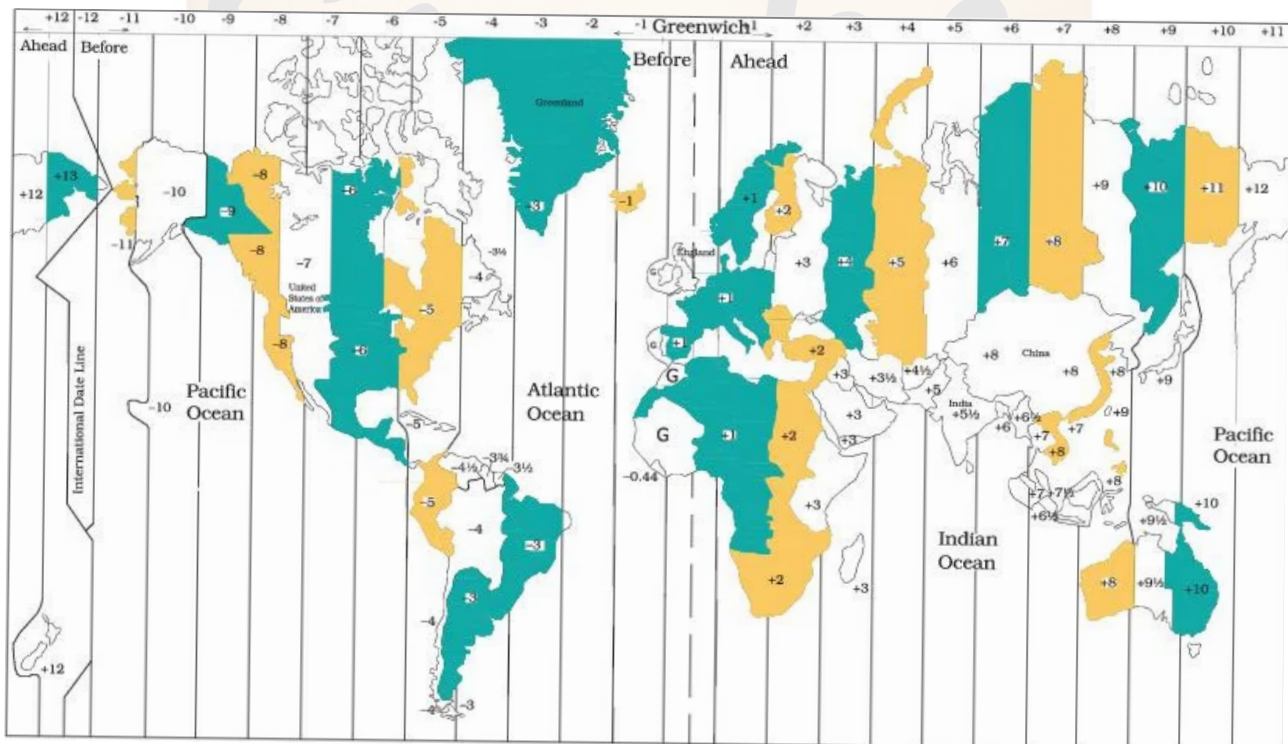
2)  $45^\circ$  West of Greenwich - Greenland

$45^\circ \times 4 \text{ mins} = 180 \text{ mins} = 3 \text{ hours behind} = 9 \text{ A.M.}$

3)  $180^\circ$  - Fiji Islands

$180^\circ \times 4 \text{ mins} = 720 \text{ mins} = 12 \text{ hours ahead} = 12 \text{ A.M.}$

- At any place adjust the watch to 12'o clock → when the Sun is at its highest in the sky → Mid-day in local time
- All places in a longitude have the same local time



### Standard time of India

- Difference of time → from Dwarka (Gujarat) to Dibrugarh (Assam) → 1 hour 45 minutes
- Standard Meridian =  $82\frac{1}{2}$  E ( $82^{\circ}30'$  E) → Indian Standard Time
- India-Greenwich difference = 5 hours 30 min ahead of GMT
- 7:30 P.M. in New Delhi = 2:00 P.M. noon in London
- Russia has 11 Standard times
- Earth is divided into 24 time zones (one hour each) → Each zone covers  $15^{\circ}$  Longitude

