Globe : Latitudes and Longitudes (Easy Notes for class 6th)

Description

Introduction:

Our ‘blue planet’ Earth is so beautiful and full of mysteries. Do you know what mystery we will be solving today? It’s about the imaginary lines that aren’t visible in reality but are very important for making our Earth function properly. These lines help keep all living beings alive and allow us to enjoy our planet. So, we will take the help of a globe for practical knowledge of how the lines actually work.

Do you remember the shape of our Earth?

Absolutely, it is Geoid (a ball with irregular shape).

To study our huge planet, Earth, we use different tools. For example, maps and globes (miniature versions of Earth) help us know the locations of different places and the directions to various destinations. They show us where we are right now and how far it is to reach our dream destinations (like some people who wish to go and enjoy in Hawaii).

Globe :-

Our Earth is not static; it is always moving! That’s why we experience day and night, as well as different seasons. Want to learn how Earth moves? Get ready, because we’re going to explore all corners of our planet!

To do this, we’ll use a globe as our model of Earth and understand how it moves.

What is a Globe?

- A globe is a small, round model of the Earth.
- It shows us where countries, oceans, and places are located.
- It helps us see the Earth as a whole and understand how different places are connected.

What is Axis?

- The axis is an imaginary line that goes through the Earth from the North Pole to the South Pole.
- It helps the Earth spin around and is why we have day and night.

Define Equator

- The equator is an imaginary line that divides the Earth into two equal halves, the Northern Hemisphere and the Southern Hemisphere.
- It is the widest part of the Earth and runs around the middle of the planet.
- The equator represents the zero degree latitude.

Do you know, there are two types of imaginary lines.

1. *Latitudinal Lines*
2. *Longitudinal Lines*

Latitude:

- Latitude is a flat, imaginary line that runs horizontally around the Earth, parallel to the equator.
- It helps in determining the **duration of day and night**.
    - Regions near the poles experience longer days or nights depending on the time of year.
    - Whereas, Equator experiences equal duration of day and night (i.e. 12 hrs.)

What are Parallels of Latitude?

- All parallel circles from the equator up to the poles are called parallels of latitudes *(source NCERT)*
    - All parallels north of equator are called *'north latitudes'.* ('N' is the symbol for north latitudes)
    - Similarly, all parallels south of equator are called *'south latitudes'.* ('S' is the symbol for south latitudes)
    - The length of all Latitudes is different.
- **Note:** As one moves from equator to the north or south pole, the size of latitudes decrease.

Important Parallels of Latitudes:-

1. **Equator:-** It is a *zero degree* mid latitude.
2. **Tropic of Cancer:-** It is a *23 and half degree* latitude on the *north side* of Equator.

3. **Tropic of Capricorn:-** It is a *23 and half degree* latitude on the *south side* of Equator.
4. **Arctic Circle:-** It is *60 degree north* of the Equator.
5. **Antarctic Circle:-** It is *60 degree south* of the Equator.

Heat Zones of the Earth:-

1. **Torrid Zone:-** The area which gets the most heat is called Torrid Zone.
    - The mid-day sun shines directly overhead at least once a year between the Tropic of Cancer and the Tropic of Capricorn.
2. **Temperate Zones**: Found between the tropics and the polar circles (North and South). These areas get moderate sunlight and have mild temperatures.
3. **Frigid Zones**: Located near the poles, beyond the Arctic and Antarctic Circles. These zones receive the least sunlight and are the coldest areas on Earth.

Longitude:

- Longitude is an imaginary line that runs vertically from the North Pole to the South Pole.
- All the longitudinal lines are called **maridians**.
- All meridians (longitude lines) are of **equal length**.
- It helps to measure distances east or west of the Prime Meridian.
- Also, It helps measure **time** because Earth's rotation divides it into time zones.

What are degrees of Longitude?

These are imaginary lines that run from the North Pole to the South Pole. They help us measure how far east or west a place is from the Prime Meridian (0° longitude).

- **Prime Meridian**: The 0° longitude line runs through Greenwich, UK, and divides the Earth into Eastern and Western Hemispheres.
- Each degree of longitude can be divided into minutes and seconds for more precise locations.
- There are 360° of longitude, with 180° to the east and 180° to the west of the Prime Meridian.

Longitude and Time:

Longitude and Time are linked because the Earth is always spinning! This spinning is what creates day and night.

- The Earth turns 360° in one day, which means it moves 15° every hour.
- As Earth rotates from west to east, places east of Greenwich are ahead of time, and places west are behind.
    - For every 15° east, the time is 1 hour ahead. For every 15° west, the time is 1 hour behind.
- *For example:-* If it's noon in London (Prime Meridian), then if you travel 15° east, it will be 1 p.m. there, and if you travel 15° west, it will be 11 a.m.

Why Do We Have Standard Time?

1. **Local Time Differences**: Different places have different local times based on their location.
2. **Easy Scheduling**: Having a standard time helps in planning events, like trains and flights.
3. **Central Reference**: All the countries together chose a specific meridian (line of longitude) for everyone to follow.
4. **Global Coordination**: It helps countries coordinate activities, like business and travel.
5. **Multiple Standard Times**: Large countries may have more than one standard time due to their size.

Note: *Indian Standard Time (IST)* is based on the meridian at **82° 30? E** (near the town of **Mirzapur** in Uttar Pradesh, India).

Latitudinal and longitudinal lines create a grid system that helps us locate places with exact coordinates, aids in navigation, indicates climate zones, establishes time zones, and serves as a reference for studying geographical regions. This system is essential for understanding our world.

Category

1. Class 6th

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