

SS1 Geography

Week 5: Longitude (Detailed Lesson Note)

Lesson Objectives

By the end of this lesson, students should be able to:

- Define longitude and explain how it is measured.
 - Understand the significance of the Prime Meridian.
 - Describe the concept of time zones and their relationship to longitude.
 - Explain the International Date Line and its function.
 - Use grid references involving longitude to locate places on a map.
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1. Definition of Longitude

- Longitude is the angular distance of a place **east or west** of the Prime Meridian.
 - It is measured in degrees ($^{\circ}$), ranging from 0° at the Prime Meridian to 180° east or west.
 - Lines of longitude, known as **meridians**, run from the North Pole to the South Pole.
 - Unlike latitude lines, longitude lines converge at the poles.
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2. The Prime Meridian

- The Prime Meridian is the **0° longitude** line that passes through Greenwich, London.
 - It divides the Earth into the Eastern and Western Hemispheres.
 - It serves as the starting point for measuring longitude and calculating time zones.
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3. Time Zones

- The Earth is divided into **24 time zones**, each covering 15° of longitude ($360^{\circ} \div 24 \text{ hours} = 15^{\circ} \text{ per hour}$).
- Each time zone corresponds to one hour difference in time.

- Moving 15° east means adding one hour, while moving 15° west means subtracting one hour.
 - This system helps standardize time for communication, travel, and business worldwide.
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4. International Date Line (IDL)

- The International Date Line is an imaginary line approximately along the 180° longitude.
 - It marks where the date changes by one day when crossed.
 - Crossing the IDL from east to west, you add one day; from west to east, you subtract one day.
 - The line zigzags to avoid splitting countries and islands into different days.
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5. Grid References

- Grid references combine latitude (horizontal) and longitude (vertical) to pinpoint exact locations on maps.
 - For example, the coordinate 6°N latitude and 3°E longitude locates Lagos, Nigeria.
 - Using these references helps in navigation, mapping, and locating places on the Earth's surface.
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Summary Table

Term	Description
Longitude	Angular distance east or west of Prime Meridian
Prime Meridian	0° longitude line passing through Greenwich
Time Zones	24 zones, each covering 15° longitude
International Date Line	180° longitude line where date changes
Grid References	Coordinates using latitude and longitude