

North Ex Public School
(Session 2020-2021)
Subject- Geography,
Class VI, Chapters 2,
Globe Latitude and longitude
WORKSHEET NO. 5

Before attempting this worksheet kindly go through the following link which will help you in attempting this worksheet

NOTE: if students are not having printer facility at home , they can copy the worksheet in a separate notebook and can write answers in that copy.

LINK : <https://youtu.be/wj6AXHz3Bdg>

Topic:- Globe Latitude and longitude

Geography Ch. 2. Class - VI

GLOBES: LATITUDES AND LONGITUDES.

↓
Spherical representation of the Earth.

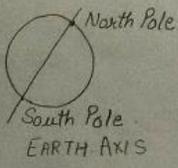
↓
Latin word "GLOBUS" means round mass or sphere.

↓
Like Earth, Globe rotate on its axis.

↓
The axis of the Earth is tilted at an angle of $23\frac{1}{2}$ degree.

↓
It is an imaginary line of the Earth (it may be real in a globe).

↓
At the end of axis are the poles.



North Pole
South Pole
EARTH AXIS

LATITUDES

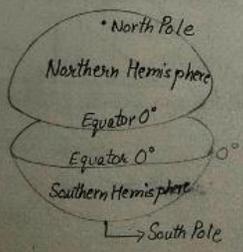
↓
The distance, measured in degrees, N & S. of the Equator.

↓
Lines of latitude circle the globe in an east-west direction parallel to the equator. Horizontal lines.

↓
Keep decreasing in size towards the pole.

↓
Distance between two consecutive latitudes is about 111 kilometer.

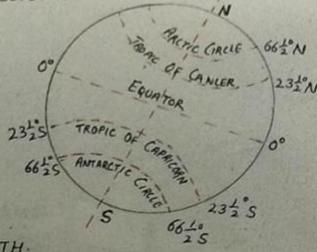
↓
Draw at an interval of 1° . North Pole is 90° north & South Pole is 90° South. A total of 181 lines of latitude (including the equator) are drawn on the globe (earth).



North Pole
Northern Hemisphere
Equator 0°
Equator 0°
Southern Hemisphere
South Pole

IMPORTANT LINES OF LATITUDE.

- ★ Tropic of Cancer ($23\frac{1}{2}^\circ$ N) :- Northernmost limit of the overhead Sun. lies in the Northern Hemisphere.
- ★ Tropic of Capricorn ($23\frac{1}{2}^\circ$ S) - Southernmost limit of the overhead Sun. lies in the Southern Hemisphere.
- ★ Arctic Circle ($66\frac{1}{2}^\circ$ N) - N most point Sun appears above the level of the horizon on the winter solstice.
- ★ Antarctic Circle ($66\frac{1}{2}^\circ$ S) - S most point Sun appears above the level of the horizon at the winter solstice.

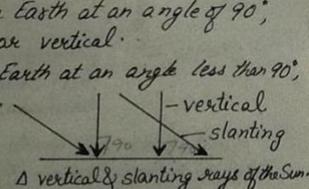


Arctic Circle $66\frac{1}{2}^\circ$ N
Tropic of Cancer $23\frac{1}{2}^\circ$ N
Equator 0°
Tropic of Capricorn $23\frac{1}{2}^\circ$ S
Antarctic Circle $66\frac{1}{2}^\circ$ S

CLIMATIC ZONES OF THE EARTH.

When the sunrays fall on the Earth at an angle of 90° , the rays are said to be direct or vertical.

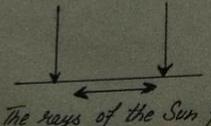
When the sun rays fall on the Earth at an angle less than 90° , the rays are said to be slanting.



vertical
slanting
A vertical & slanting rays of the Sun.

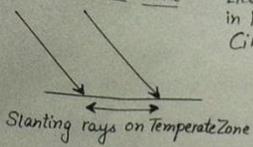
The Earth is divided into three Climatic Zones

1. **Torrid Zone** :- Region between Tropic of Cancer & Tropic of Capricorn. Receives direct rays of the Sun.

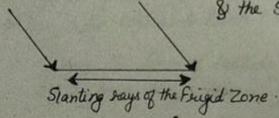


The rays of the Sun fall directly on the Torrid Zone.

2. TEMPERATE ZONE :- Lies between Tropic of Cancer & the Arctic Circle in NH & the Tropic of Capricorn & the Antarctic Circle in SH.



3. FRIGID ZONE :- Lies between Arctic Circle & the North Pole in the NH & in the SH, b/w the Antarctic Circle & the South Pole.



LONGITUDES

Imaginary lines that join the poles in N-S direction.

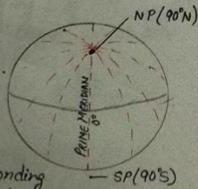
Also, called Meridian; divides Earth into the E & Western Hemisphere.

Prime Meridian is the line of longitude, corresponding to 0° & passing through Greenwich, England, from which all the other lines of longitude is calculated.

As longitudes join the poles, they are always the same length, but are farthest apart at the equator & closest together at poles.

There are 360 lines of longitude; 180 each in the E & W of the globe.

Help us in determining the time.

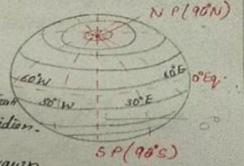


LOCATING PLACES.

STEP 1 The line of latitude is always read first.

STEP 2 The line of longitude is read after it.

Longitude of New Delhi $78^\circ E$
Latitude $30^\circ N$.

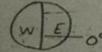


* Lines of lat. help us to locate places on N, S or Equator.

* Longitudes help us to locate E or W of the Prime Meridian.

When the lines of latitude & longitude are drawn on a map they form a "GRID".

CALCULATION OF TIME Prime Meridian as a reference. Earth rotates from W to E. So, places lying E of PM i.e. 0° Meridian will be ahead of Greenwich Time & those which are West of it, will be behind.



LOCAL TIME

Places located on different meridians have diff. local time.

In 1 hour, the Earth rotates $360/24 = 15^\circ$ longitudes.

If the Earth takes 60 min to rotate 15° , for 1° the Earth takes $60 \text{ min} / 15 = 4 \text{ min}$.

Hence, a diff. of 1° longitude, creates a time difference of 4 minutes.

\therefore 12 noon at Greenwich, the time at $15^\circ E$.

$15 \times 4 = 60 \text{ min}$ or 1 hr.

So the time at $15^\circ E$ will be 1 pm.

STANDARD TIME :- India has about 30 local time

create confusion

to avoid this central meridian

is taken as standard meridian for whole country $82^\circ 30' E$, which passes through Mirzapur in Uttar Pradesh.

INTERNATIONAL DATE LINE (IDL)

It is 180° meridian. The day & date change on this line. not a straight line; it is curved at several points to avoid confusion of days & dates in the same territory. The date towards the E of IDL in the EH is one day earlier. As one crosses the IDL towards the west the time zone changes & a day is added.



Questions

- 1) Which line on the globe divides it into Northern and Southern Hemispheres?
- 2) Which line on the globe divides it into Eastern and Western Hemispheres?
- 3) Which lines on a globe are parallel to each other?
- 4) Which lines on a globe join at North and South Poles?
- 5) Which Line on a globe is known for the change of day and date?
- 6) Which two points do you call the North and South Poles?
- 7) Give reason :-Torrid Zone is the hottest zone on the Earth.
- 8) Give at least three main characteristics of the lines of latitude.
- 9) Give at least three main characteristics of the lines of longitude.
- 10) Between which two lines on a globe does the Torrid Zone lie?
- 11) Name the reference line on a globe that form a Grid and there number.
- 12) How much time sun rays took to cross 1'longitude .
- 13) What is the standard meridian of Indian.
- 14) Mark the important lines of latitude both in Northern and Southern Hemisphere.
- 15) Why do we use standard time in India ?

Answers

- 1) Equator
- 2) Prime meridian
- 3) Latitude
- 4) Longitude
- 5) International date line 180°E. W.
- 6) 90°N and 90°S
- 7) Region lies between Tropic of cancer and Tropic of Capricorn.
Receive direct rays of the sun. As the sun rays fall at the angle of 90°, the rays are said to be direct or vertical.
- 8)
 - a) All lines of latitude are parallel to each other.
 - b) Latitude are drawn at interval of 1°.
 - c) The distance between two consecutive latitudes is about 111kilometers.
- 9)
 - a) Lines of longitude are the vertical lines that join the North and South poles.
 - b) Lines of longitude are also called meridians.
 - c) The lines of longitude help us in determining the time.
- 10) The torrid zone lies between the Tropic of Cancer and Tropic of Capricorn.
- 11) Latitude 181 in no. Longitude 360 in no.
- 12) 4minutes.
- 13) 82°30'E
- 14) Refer the notes.
- 15) To avoid confusion, the local time of a central meridian is taken as the standard time for the whole country.