

THE EARTH



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SHAPE & SIZE OF EARTH

- The Earth is an oblate spheroid, bulges at the equator and is flattened at the poles. For such shape, Earth is called as **geoid**.
- Equatorial Circumference is larger than polar circumference.
- Land is more concentrated in Northern hemisphere and water is more concentrated in Southern hemisphere.
- Earth has greatest density in our solar system approximately 5.52 gm/cm^3 .

MOTIONS OF THE EARTH

ROTATION

- Motion of earth along its axis. Earth rotates from **west to east** i.e. anticlockwise.
- It causes day and night. Speed of rotation decreases from equator to poles.
- Earth completes its rotation in every 24 hours.
- Rotation of earth causes **coriolis force**.

REVOLUTION :-

- Motion of Earth on its elliptical orbit around the sun.
- One complete revolution is called 1 year.
- It is responsible for changes of seasons on earth.

Perihelion :- Position at which Earth is closest to the Sun.(3rd January)

Apehelion :-farthest position of the earth from the sun.(4th July).

LATITUDES :-

- It is the angular distance of a point on the earth surface major in degree from centre of earth.
- The lines of latitude drawn parallel to equator in the circle so these are called parallels. ($1^{\circ} = 111 \text{ Km}$)
- Total number of latitudes are 181. Some important latitudes :-

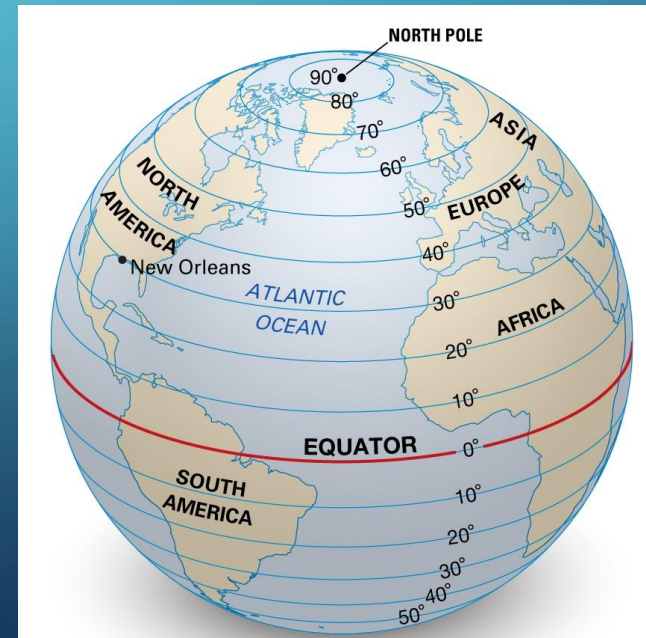
The equator (0°) **Longest**

The tropic of Cancer ($23\frac{1}{2}^{\circ} \text{ N}$).

The tropic of Capricorn ($23\frac{1}{2}^{\circ} \text{ S}$).

Arctic circle ($66\frac{1}{2}^{\circ} \text{ N}$).

Atlantic circle ($66\frac{1}{2}^{\circ} \text{ S}$).

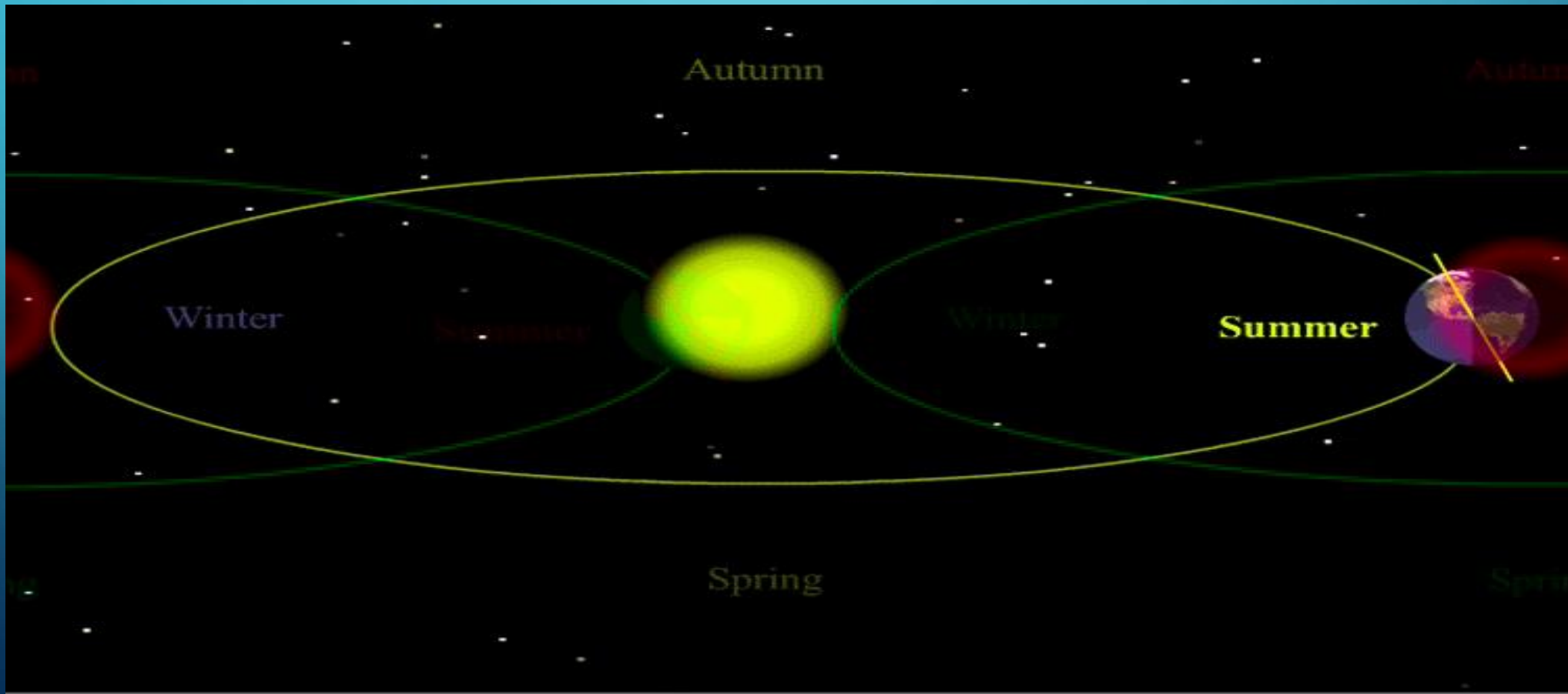


INCLINATION

- The Earth's axis is tilted 23.5 degrees from the plane of its orbit. It cause:-.

(i). Variation in day & night.

(ii). Seasonal variation



POSITIONS THAT BRINGS DIFFERENT SEASONS ON THE EARTH

- **Spring Equinox** (about March 21st).

Day = Night. { NH – Day duration ↑, SH – Day duration ↓ }.

- **Autumn Equinox** (about September 23rd).

Day = Night. {SH – Day duration ↑, NH – Day duration ↓ }

- **Summer Solstice** (21st June)

Overhead sun on the tropic of Cancer.

NH – Longest day.

SH – Shortest day.

- **Winter Solstice** (22nd December)

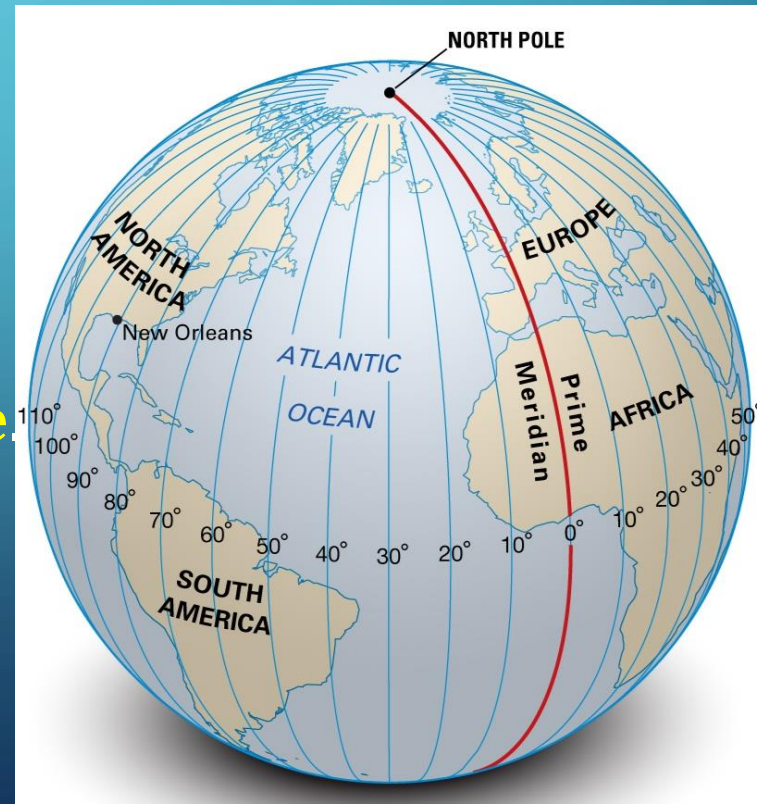
Overhead sun on the tropic of Capricorn.

NH – Shortest Day

SH – Longest day.

LONGITUDES

- It is an angular distance & imaginary line drawn from one pole to another. These lines are called meridians.
- **0° meridian** or prime meridian passes through **Greenwich** near London.
- There are **360 longitude**. 179 eastern & 179 Western longitude.
- 0° divided earth in two hemisphere.
Eastern and western hemisphere.
- 180°E & 180°W is the same line.
It is also known as **International Date line**.
- Lines are not parallel.



INTERNATIONAL DATE LINE

- 180° longitude known as international date line.
- Established – 1884
- Imp. Place passes :-

Kiribati

Bering strait.

Pacific Ocean.

