

What effects are produced due to Rotation and Revolution of Earth? Explain briefly.  
(CSS 2025)

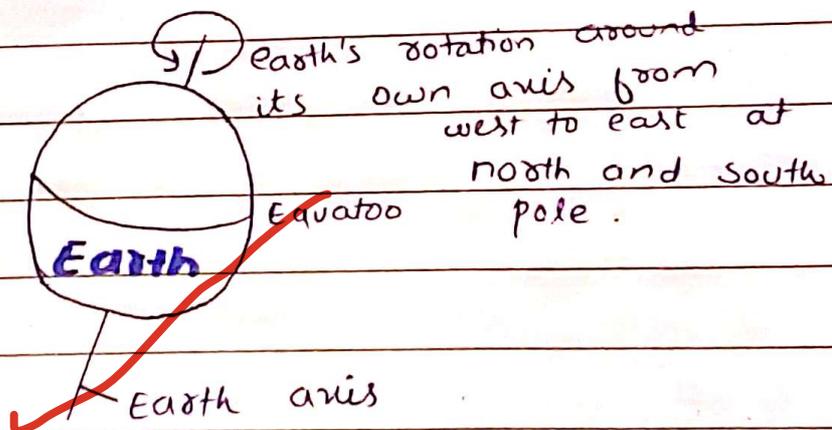
## Rotation of Earth

The spinning of earth around its own axis from west to east is called rotation of earth.

→ Earth completes its one rotation in

**23 hours, 56m, 4sec  $\approx$  24 hours**

→ Earth rotates around an imaginary line called the axis.



## Effects due to Rotation:

### 1. Day and Night

Rotation causes occurrence of day and night.

When the earth side facing Sun it experiences day, while opposite side experiences night.

## 2. Difference in Local times

Rotation is basis of time zones.

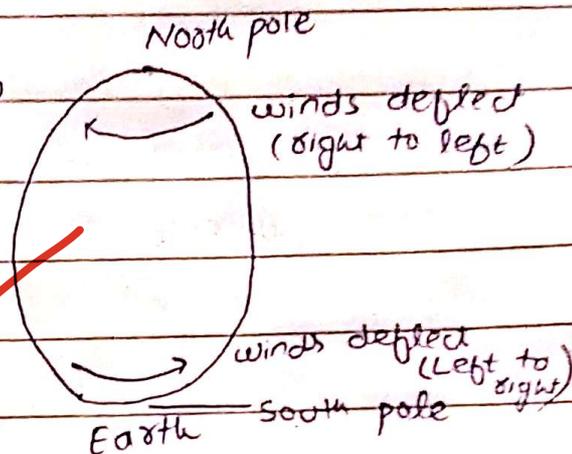
Every  $15^\circ$  of longitude creates 1 hour time difference.

→ This help regulate standard time globally.

## 3. Coriolis effect

→ Rotation causes deflection of winds and ocean currents.

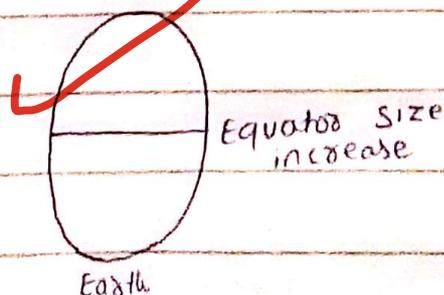
In Northern Hemisphere, winds deflect to right.



In Southern Hemisphere → winds deflect to left  
→ Strong influences on weather system and cyclones.

## 4. Bulge on Equator

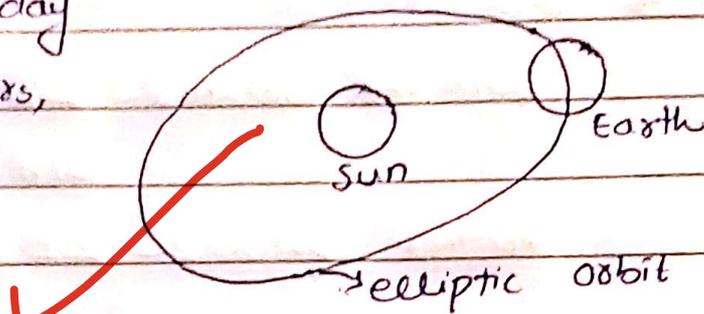
Continuous rotation causes the Earth to bulge at equator and flatten at the poles, making it an oblate spheroid



# Revolution of Earth

The revolution of Earth is the movement of Earth around Sun along a fixed path called elliptic orbit.

→ One complete revolution takes 365 days 5h <sup>48m</sup> ~~48s~~. The extra 6 hours is adjusted by adding one day after every 4 years, called Leap year.



→ Earths revolve around sun from West to East

## Effects of Revolution of Earth:

### 1. Change of Seasons

Revolution of earth causes seasons.

Different part of earth receive varying amounts of sunlight throughout the year.

### 2. Formation of Year

Revolution form basis of Calender year - 365 days.

1 year = 365 days

### 3. Variation in Length of Day and Night

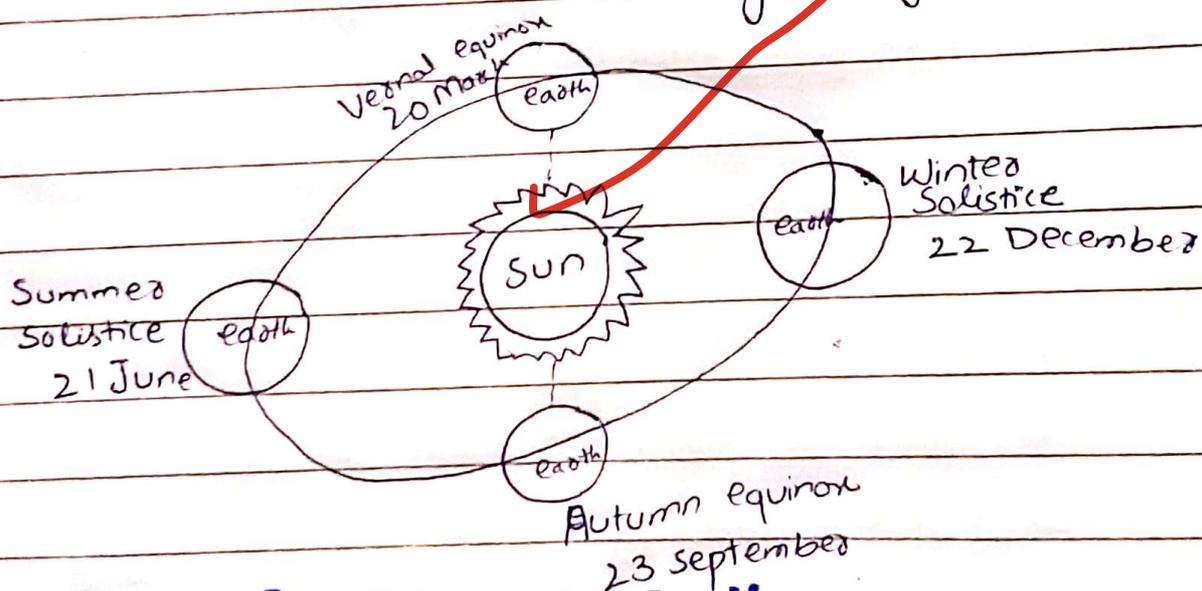
→ Days and nights are unequal during most of the year.

→ Equinox - When day and night are equal.

#### → Solstices

Summer Solstice - 21 June Longest day and shortest night

Winter Solstice - 22 Dec Shortest day and Longest night



#### ∴ Revolution of Earth

### 4. Heat Zones of Earth

Revolution helps create torrid, temperate and frigid zones due to changes in solar angle.

