STD - VI

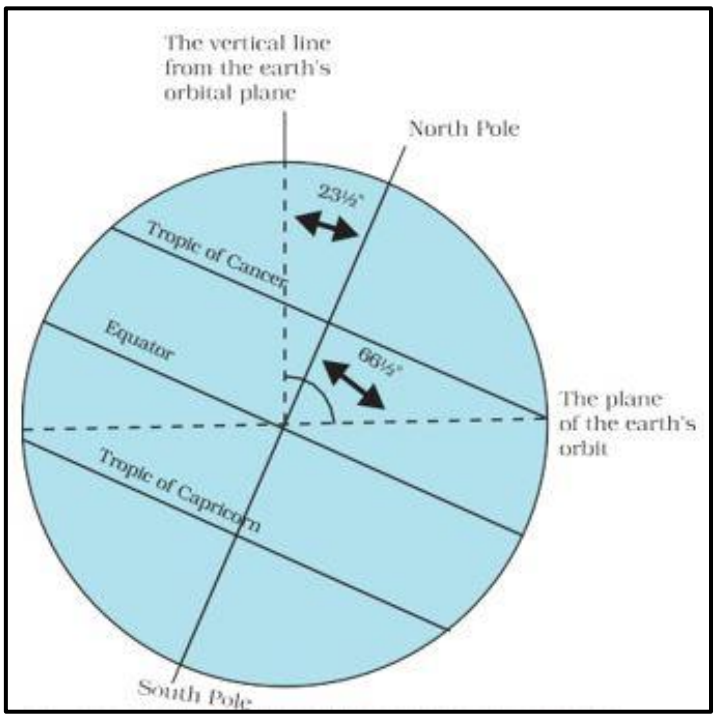
SOCIAL STUDIES

LESSON- 4 (GEOG. MOTIONS OF THE EARTH)

Answer These Questions:-

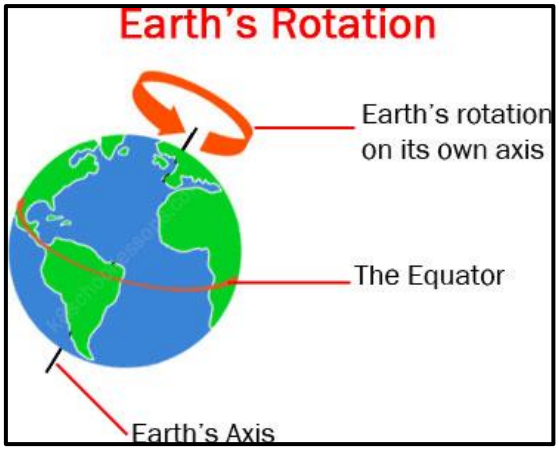
Q1. What do we call the imaginary plane on which the earth's orbit lies?

Ans. The imaginary plane on which the earth's orbit lies is called its orbital plane.



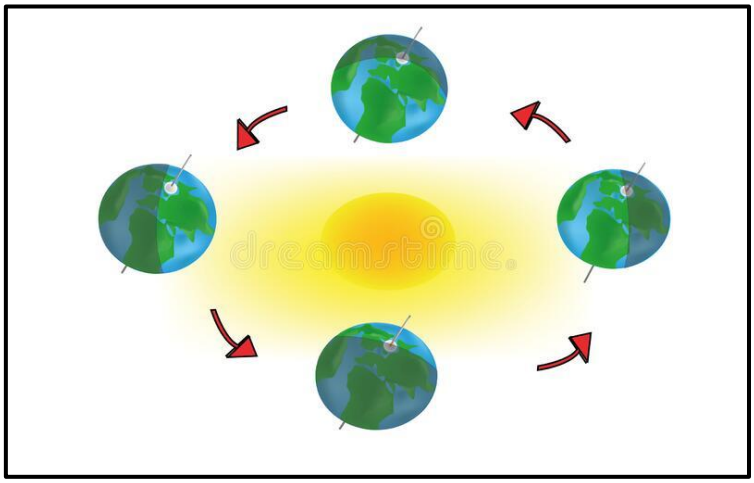
Q2. How long does the earth take to complete one rotation?

Ans The earth takes twenty four hours to complete one rotation.



Q3. How long does the earth take to complete one revolution?

Ans. The earth takes 365 days and 6 hours to complete one revolution.



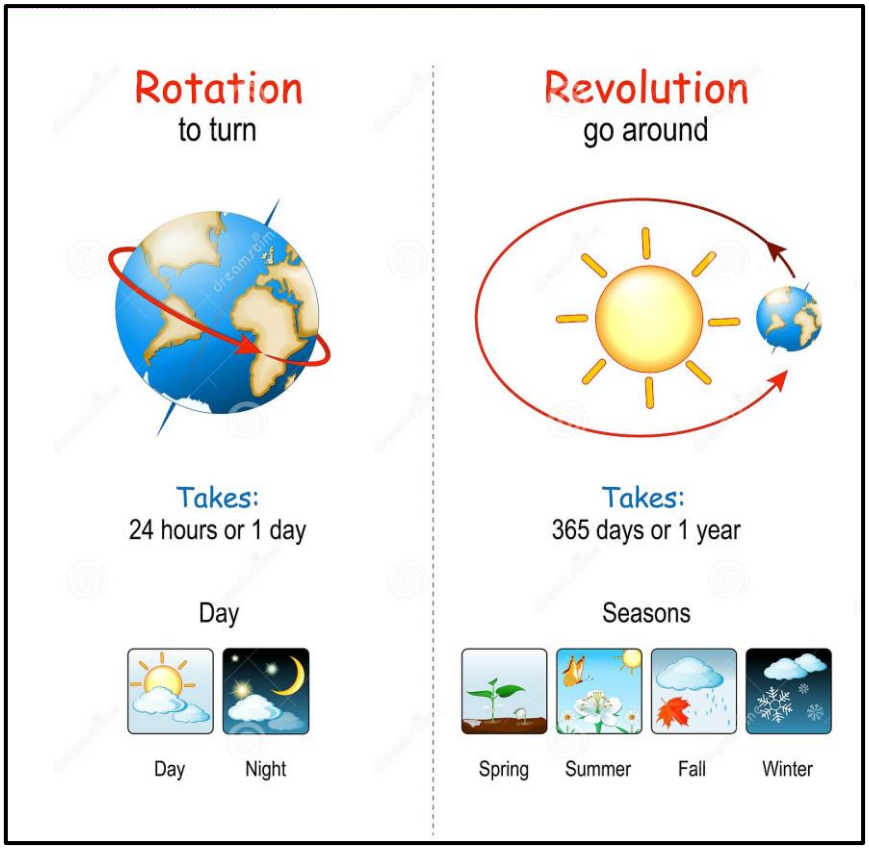
Q4. How many days does a leap year have?

Ans. A leap year has 366 days.

Q5. Define rotation and revolution movement of the earth.

Ans. **Rotation**- The movement of the earth on its tilted axis, from west to east is known as rotation. The earth takes 24 hours or one day to complete one rotation.

Revolution- The movement of the earth around the sun in a fixed path or orbit is known as revolution of the earth. The earth takes 365 days and 6 hours to complete one revolution.



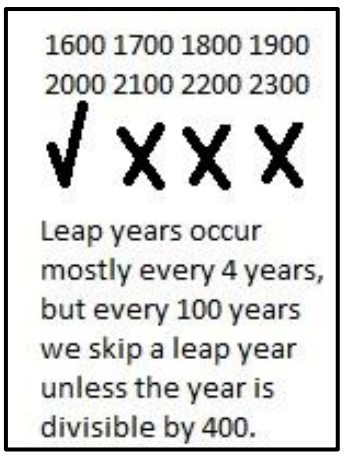
Q6. What is a leap year? How does leap year occur?

Ans. The year which has 366 days instead of 365 is called a leap year.

The earth takes 365 days and 6 hours to complete one revolution around the sun. These six hours add up every year for four years to make one day (6*4=24 hours)

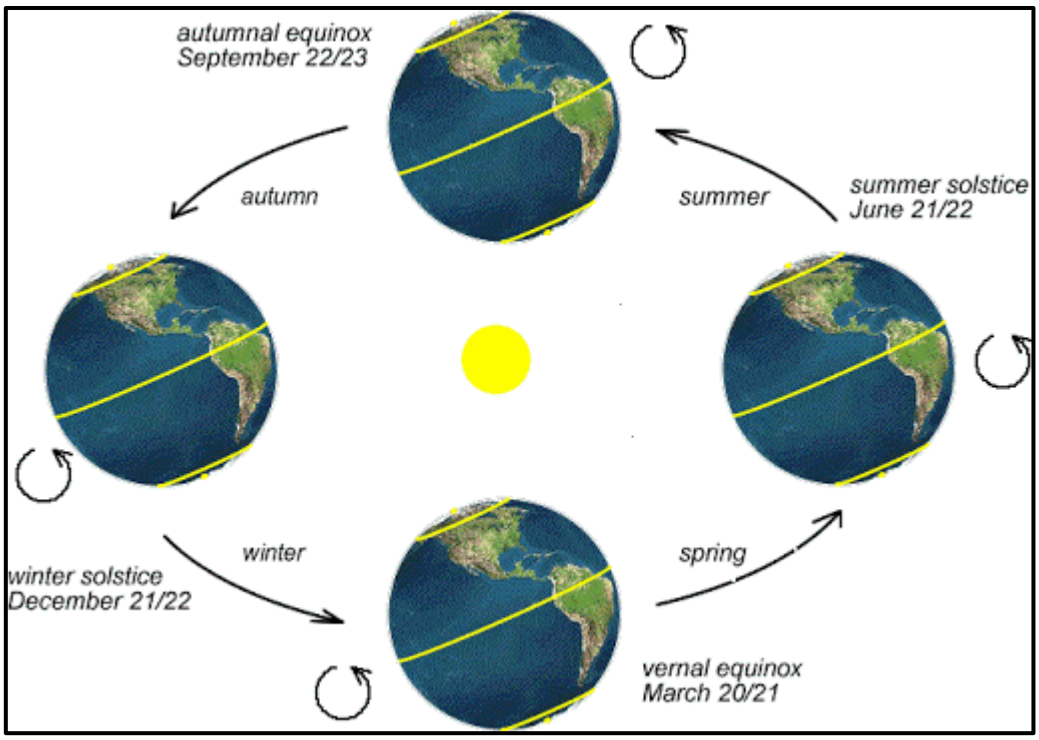
This surplus day is added to the month of February which has 29 days instead of 28 days.

Such a year with 366 days is called a leap year. 2020 is a leap year.



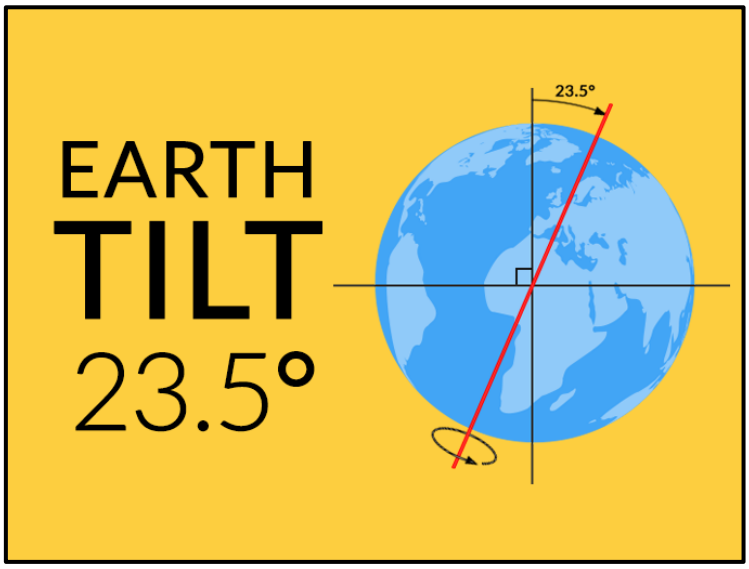
Q7. Why do seasons change?

Ans. Seasons change due to the change in the position of the earth around the sun. This is because of revolution of the earth on its tilted axis.



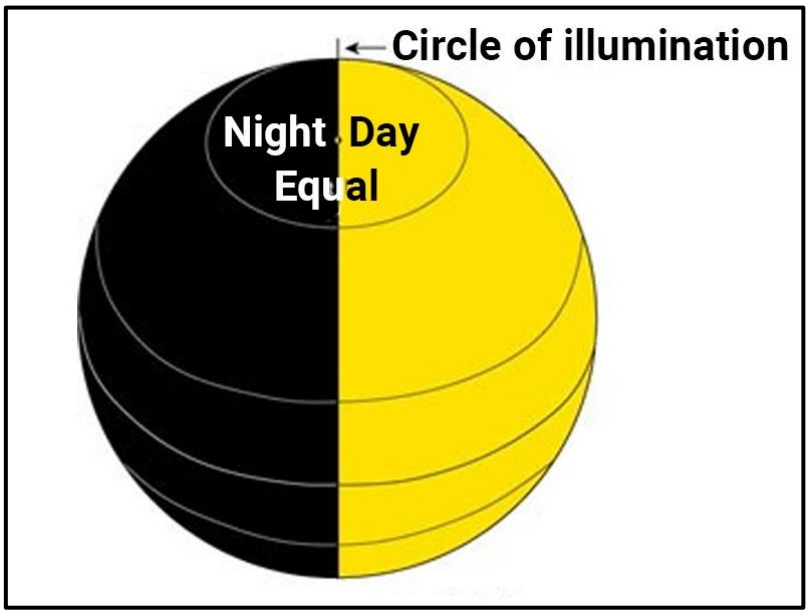
Q8. What is the angle of inclination of the earth's axis with its orbital plane?

Ans. The angle of inclination of the earth's axis with its orbital plane is 23.5°.



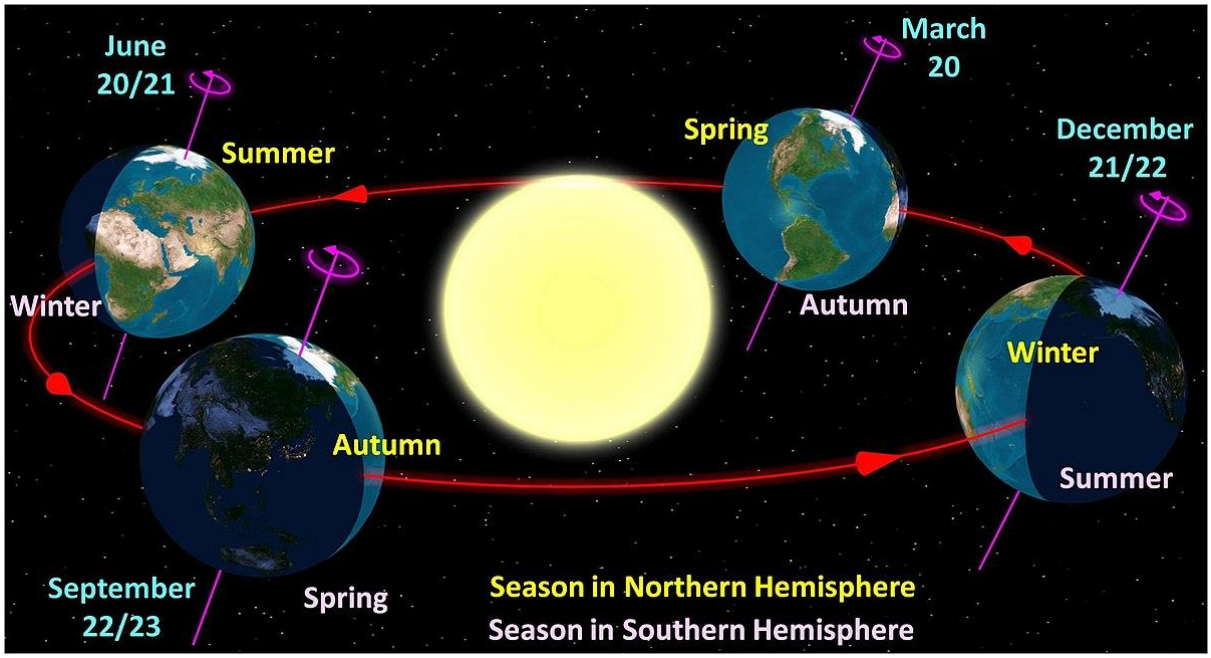
Q9. Define circle of illumination.

Ans. The circle that divides the day from night on the globe is known as the circle of illumination.



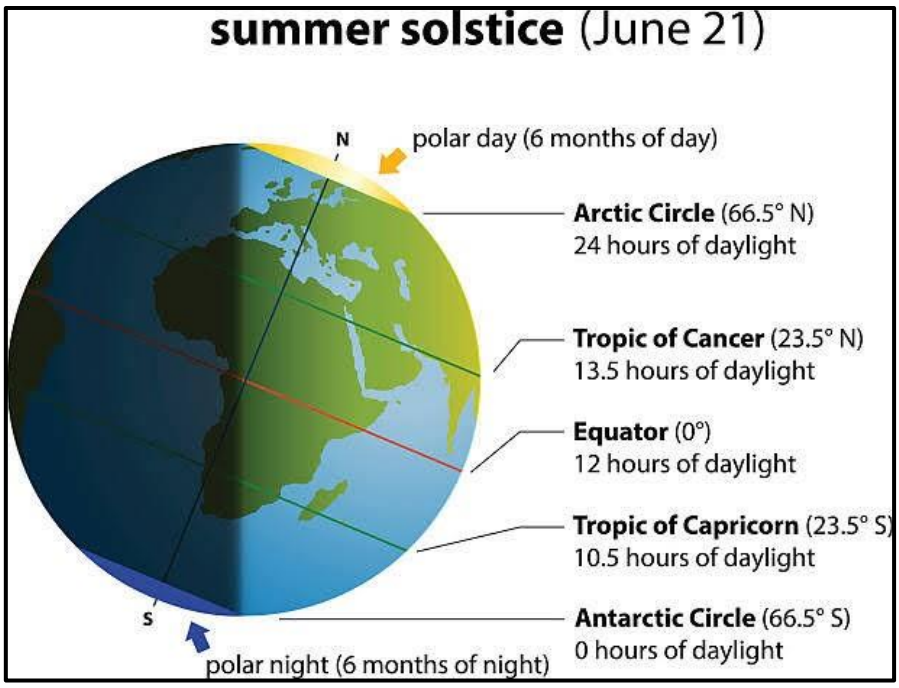
Q10. Why do the poles experience about six months day and six months night?

Ans. The Earth revolves around the sun on its tilted axis. So, one pole is tilted towards the sun and has six months of day while the other is tilted away from the sun and has night.



Q11. When do the longer day and the shortest night occur in the northern hemisphere?

Ans. We have the longest day and the shortest night on 21st June in the Northern hemisphere. This is summer solstice.



Q12. In which season Australian people celebrate Christmas?

Ans. Australian people celebrate Christmas (25th December) in summer.

Q13. What is an equinox?

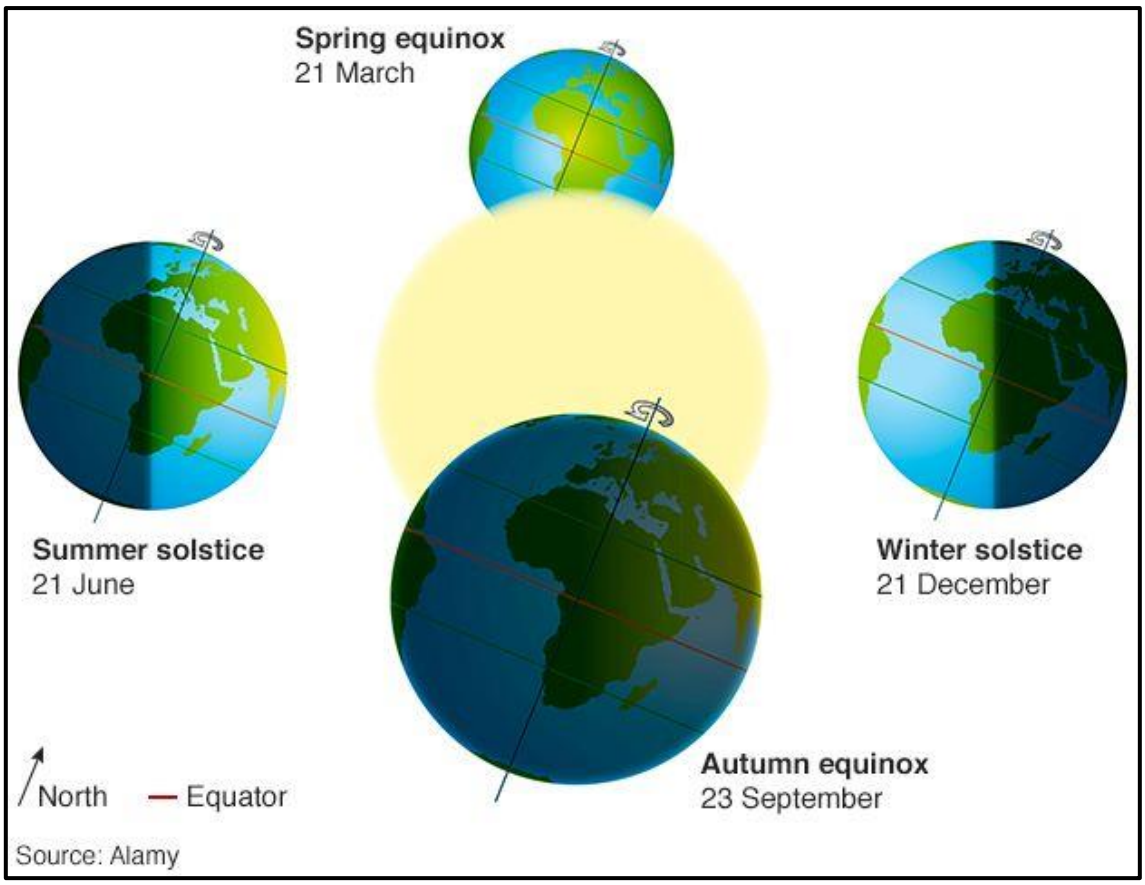
Ans. On 21st March and September 23rd, direct rays of the sun fall on the equator. The entire

earth experiences equal days and equal nights. This phenomenon is called an equinox.

We have two equinoxes:

* Spring equinox 21st March.

* Autumn equinox 23rd September.



Q14. Differentiate between summer solstice and winter solstice.

Ans. **Summer solstice:**

*In the Northern hemisphere the longest day and the shortest night occur on 21st June.

*At this time in the Southern hemisphere the shortest day and the longest night occurs. This position of the earth is called summer solstice.

Winter solstice:

*In the northern hemisphere, the shortest day and the longest night occur on 22nd December.

*At this time in the Southern Hemisphere this is the longest day and the shortest night.

*This position of the earth is known as winter solstice.

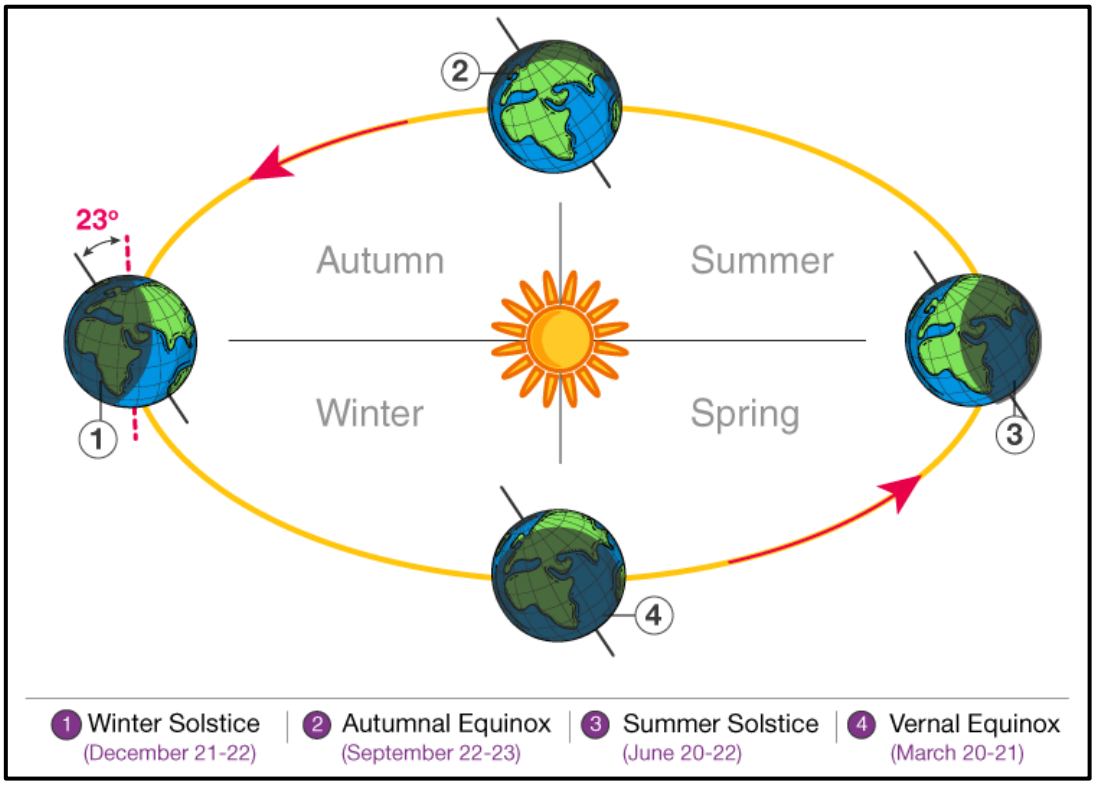
Q15. Why does the Southern Hemisphere experience winter and summer solstice in different times than that of the Northern hemisphere?

Ans. *As the axis of the Earth is tilted, so when the Northern hemisphere is tilted towards the sun, it has summer solstice.

*At this moment the Southern hemisphere is tilted away from the sun and has Winter solstice.

*So, when Northern hemisphere is tilted away from the sun, the Southern hemisphere is tilted towards it.

*So, the Northern hemisphere will have winter solstice and Southern hemisphere will have summer solstice.



Q16. What would happen if the earth did not rotate?

Ans. *If the earth would not rotate, the position of the earth facing the sun would always experience day, thus bringing continuous warmth to the region.

*The other half would remain in darkness and be freezing cold all the time.

*Life would not have been possible in such extreme conditions.

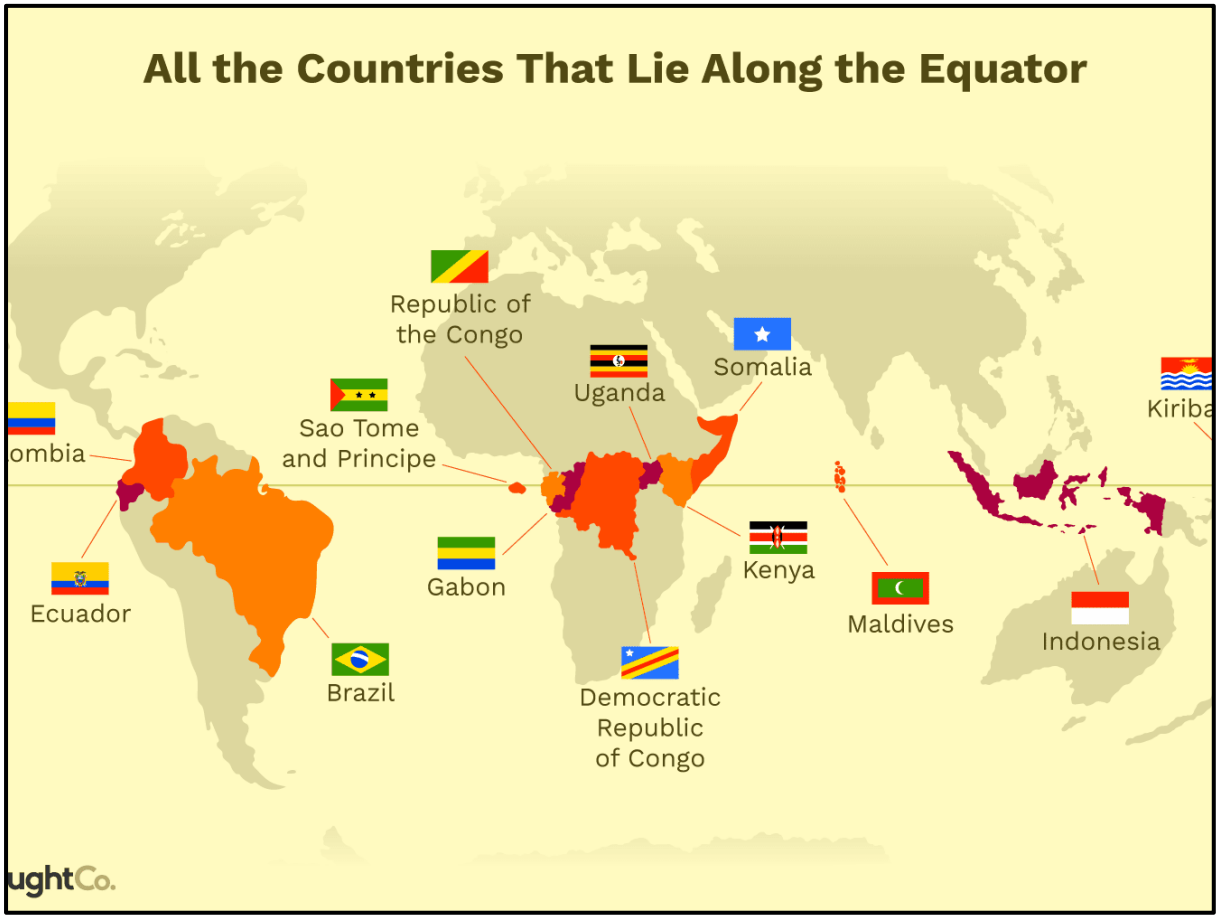
Q17. Name four countries which have equal days and nights.

Ans •Indonesia,

• Singapore,

• Columbia and

• Ecuador have equal days and nights because these countries are located on the equator.



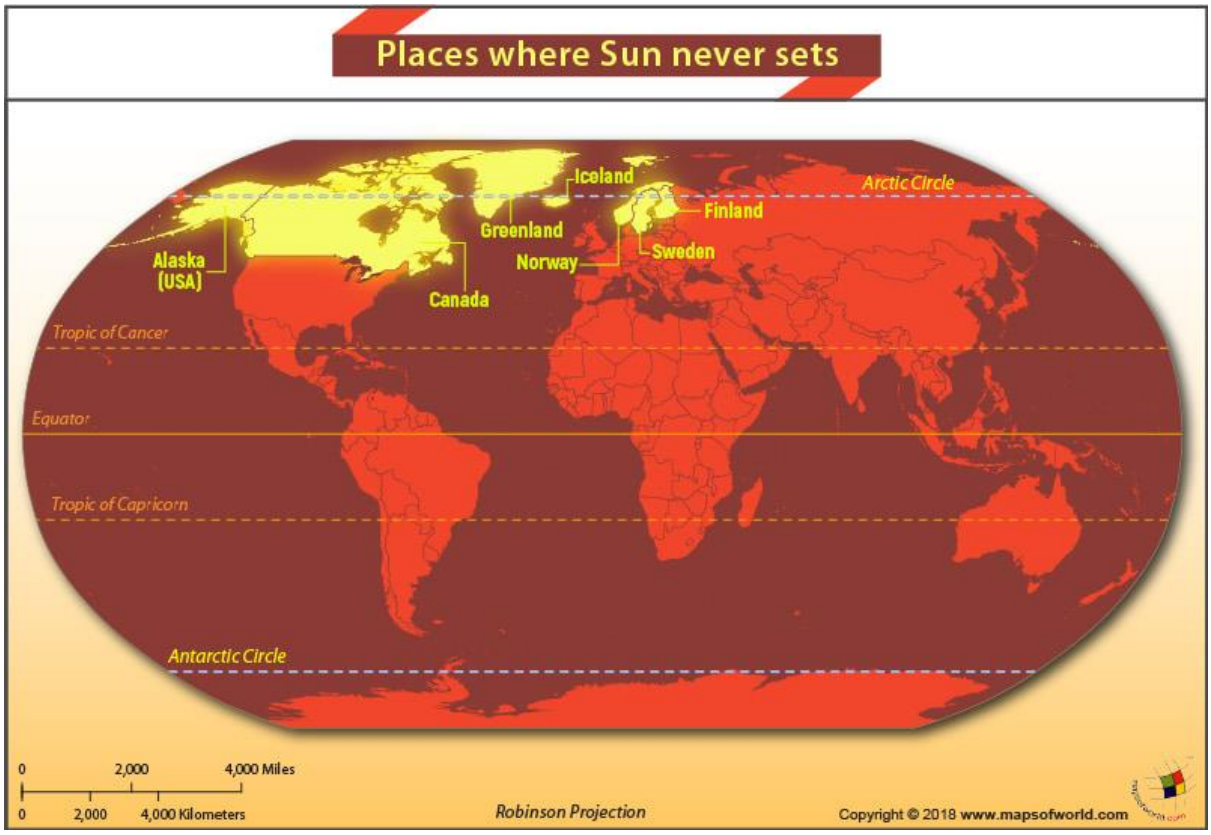
Q18. Why is Norway called the land of the midnight sun?

Ans. * The earth is rotating on a tilted axis and also revolving around the sun.

* So, during the summer months the north pole is angled towards the sun.

*That's why for several weeks the sun never sets above the Arctic circle and hence Norway, which is located close to the Arctic circle has sunlight till midnight.

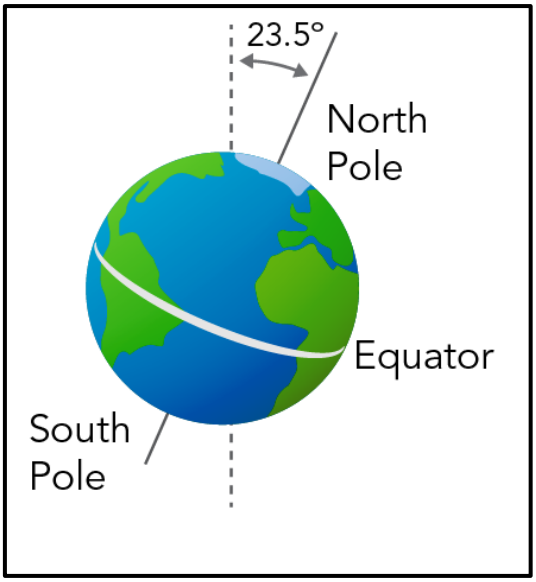
*Hence Norway is called the Land of the midnight sun.



Q19. Define the axis of the Earth.

Ans. *The axis of the Earth is the imaginary line joining the North pole to the South pole through the centre of the Earth.

*It is inclined at an angle of 23.50 and the Earth rotates on it.



Q20.Where on Earth are the seasonal changes felt the least?

Ans. The area where the seasonal changes are felt the least is the Equator because here, we get vertical rays of the sun all the year round.

Q21. Differentiate between rotation and revolution.

Ans * Rotation of the Earth is its spinning on its tilted axis from west to east while revolution is the movement of the Earth in a fixed orbit around the sun.

* Rotation causes days and nights while revolution causes seasons.

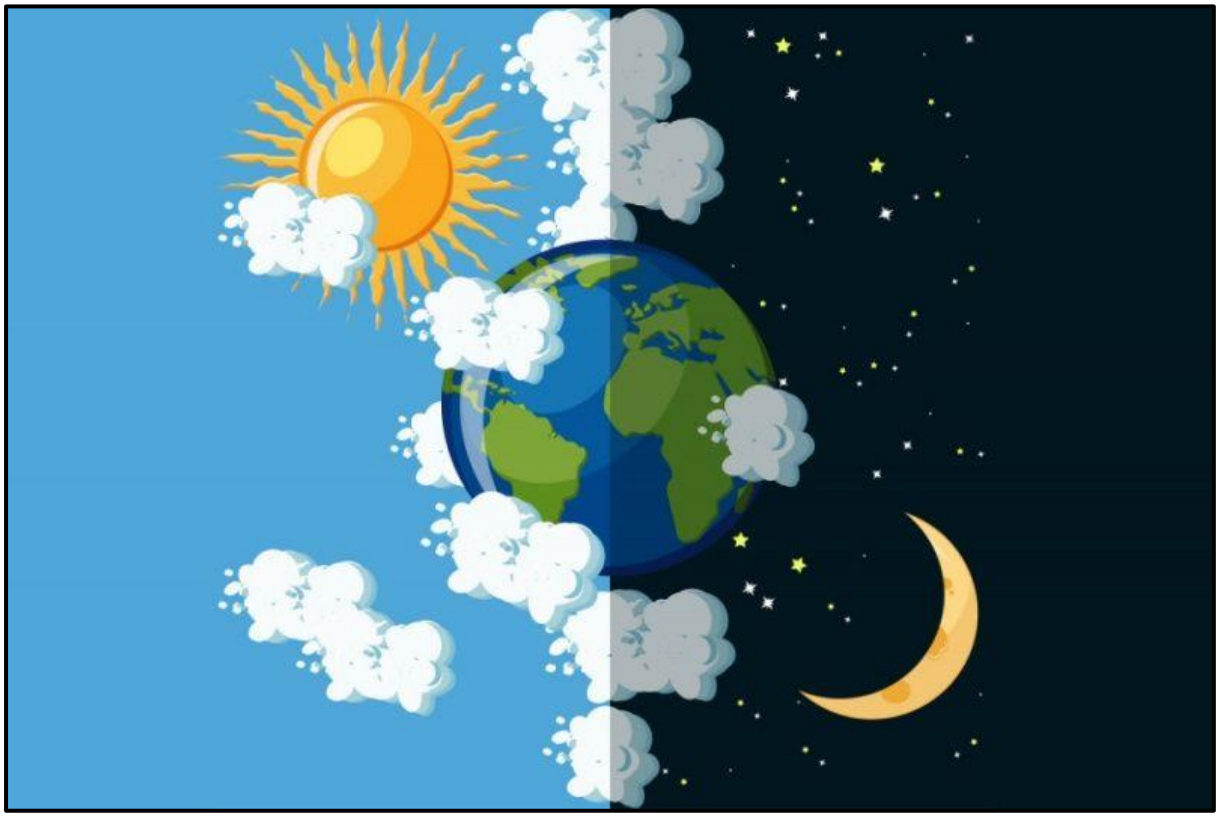
* The Earth takes 24 hours for completing one rotation but it takes 365 1/4 days to complete one revolution.

Q22 .How are days and nights caused?

Ans. *Days and nights are caused by the rotation of the Earth on its inclined axis.

* As the Earth moves from west to east, the half that faces the sun has day, while the half that is away has night.

* As the Earth keeps rotating, the half that had day gradually moves away from the sun into darkness and has night while the half that had night now faces the sun and has day.



Q23.Why do vertical rays of the sun carry more heat than the slanting rays?

Ans. The slanting rays of the sun move through a longer distance and hence lose more heat while vertical rays travel straight and thus lose less heat.

EARTH'S **ROTATION**