
Exercises

Question 1:

Answer the following questions briefly.

- (a) What is the angle of inclination of the earth's axis with its orbital plane?
- (b) Define rotation and revolution.
- (c) What is a leap year?
- (d) Differentiate between the Summer and Winter Solstice.
- (e) What is an equinox?
- (f) Why does the Southern Hemisphere experience winter and Summer Solstice in different times than that of the Northern Hemisphere?
- (g) Why do the poles experience about six months day and six months night?

Solution 1:

(a) The angle of inclination of the earth's axis with its orbital plane is 66° .

(b) *Rotation:* The movement of the earth on its axis is known as Rotation.

Revolution: The movement of the earth around the sun in a fixed path or orbit is called Revolution.

(c) The year having 366 days is called a leap year.

(d) *Summer Solstice:* The position of the earth on 21st June when there is summer in Northern hemisphere regions and reverse conditions i.e. winter in Southern hemisphere. This position of the earth is called the Summer Solstice.

Winter Solstice: The position of the earth on 22nd December when there is summer in Southern hemisphere regions and reverse conditions i.e. winter season in Northern hemisphere. This position of the earth is called the Summer Solstice.

(e) When the whole earth experience equal days and nights, it is called equinox. There are two such days i.e. 21st March and 23rd September.

(f) The Earth is spherical in shape and is keeps on revolving and it is divided into two hemispheres. When Southern hemisphere gets in front of the sun, the portion facing the sun experiences summer while the other half away from the sun experiences winter and vice versa. (g) The poles experience 6 months of days and 6 months of nights due to the tilt of the earth on its own axis. Because of this tilt each pole is tilted towards and away from the sun for about 6 months each. When the North Pole is tilted towards the sun, it experiences continuous day light for six months.

Question 2:

Tick the correct answer.

(a) The movement of the earth around the sun is known as

(i) Rotation (ii) Revolution (iii) Inclination

(b) Direct rays of the sun fall on the equator on

(i) 21 March (ii) 21 June (iii) 22 December

(c) Christmas is celebrated in summer in

(i) Japan (ii) India (iii) Australia

(d) Cycle of the seasons is caused due to

(i) Rotation (ii) Revolution (iii) Gravitation

Solution 2:

(a) (ii) Revolution

(b) (i) 21 March

(c) (iii) Australia

(d) (ii) Revolution

Question 3:

Fill in the blanks.

(a) A leap year has _____ number of days.

(b) The daily motion of the earth is _____.

(c) The earth travels around the sun in _____ orbit.

(d) The sun's rays fall vertically on the Tropic of _____ on 21 st June.

(e) Days are shorter during _____ season.

Solution 3:

(a) A leap year has **366** number of days.

(b) The daily motion of the earth is **rotation**.

(c) The earth travels around the sun in **elliptical** orbit.

(d) The sun's rays fall vertically on the Tropic of **Cancer** on 21st June.

(e) Days are shorter during **winter** season.