



Std 5 Science

Ch 2: Motions of the Earth – Q Bank - Answers

Exercises

1. What's the solution?

Amit wants to take his granny to Australia which is in the southern hemisphere. But she cannot bear very cold weather. When should they make this trip?

In the period from 23 September to 22 March, the days are longer than the nights in the southern hemisphere. It gets more heat and it is summer there. So Amit and his granny should make the trip to Australia between 23rd September and 22nd March.

2. Use your brain power!

(a) How many rotations does the earth complete during one revolution around the sun?

The Earth completes $365 \frac{1}{4}$ rotations during one revolution around the sun.

(b) It is sunrise at Itanagar in Arunachal Pradesh. Write the names of the following cities in the order in which the sun will rise there. Mumbai (Maharashtra), Kolkata (West Bengal), Bhopal (Madhya Pradesh), Nagpur (Maharashtra).

Since the Earth rotates from west to east, the eastern parts of India experiences sunrise first and then gradually the western parts of India experiences sunrise. Therefore the order in which the places will have sun rise are:

Itanagar (Arunachal Pradesh)

Kolkata (West Bengal)

Nagpur (Maharashtra)

Bhopal (Madhya Pradesh)

Mumbai (Maharashtra)

3. Fill in the blanks.

(a) The motion of the earth around itself is called rotation.

(b) The motion of the earth around the sun is called revolution.

(c) The rotation of the earth gives rise to day and night.

4. What is meant by each of the following terms ?

(a) **Full moon:** When we see the entire illuminated portion of the moon i.e. the full round part of the moon is called the full moon.

(b) **New moon:** When no part of the moon is visible to us, it is called New moon.

(c) **Lunar month:** The period from one new moon to the next is of 28- 30 days. It is called the lunar month.

(d) **Tithi:** Every day of the lunar month is called a tithi.

5. Answer the following questions.

(a) What is the equator?

If a circle were drawn around the surface of the earth exactly in between the north and south poles, it would divide the earth into two equal parts. This imaginary circle is called the 'equator'.

(b) What are the two parts of the earth made by the equator?

The two equal parts of the earth made by the equator are called the northern hemisphere and the southern hemisphere respectively.

6. Activity Find the names of the various 'tithis' using a calendar which shows them.

The names of the various tithis are:

Pratipad, Dwitiya, Tritiya, Chaturthi, Panchami, Shashti, Saptami, Ashtami, Navami, Dasami, Ekadasi, Dvadasi, Trayodasi, Chaturdashi, Amavasya (new moon), Purnima (full moon)

7. Can you tell?

(1) What is the name given to the changing shapes of the moon that we see?

The changing shapes of the moon are called the phases of the moon.

(2) What are the names of the days on which we see a round moon and on which we see no moon at all?

The day we see the round moon is called full moon day and the day we do not see a moon at all is called a new moon day.

8. Fill in the blanks:

1. The turning of an object around itself is called rotation.
2. The imaginary line around which an object rotates is called its axis of rotation.
3. The imaginary circle at the centre of the Earth is called the equator.
4. The two equal parts the equator makes of the earth are called the northern hemisphere and the southern hemisphere.
5. The period of time that the earth takes to complete one rotation is called a day.
6. A day has two parts, daytime and nighttime.
7. For the purpose of measuring time, we divide the whole day into 24 parts, each of which is called an hour.
8. The period of time the earth takes to complete one revolution around the sun is called one year.
9. There are about 365 days and 6 hours in a year.
10. A leap year and it has 366 days instead of 365 days and February has 29 days instead of 28 days.
11. In the northern hemisphere, between 22 March and 23 September, the days are longer than the nights.
12. In the period from 23 September to 22 March, the days are longer than the nights in the southern hemisphere.
13. In India, summer, rainy and winter seasons are considered to be the main seasons.
14. We also divide the year into six seasons, namely, Vasant, Grishma, Varsha, Sharad, Hemant and Shishir.
15. The cycle of six seasons is called the rituchakra.
16. The moon revolves around the earth and the earth revolves around the sun.
17. The different shapes of the moon that we see are called the phases of the moon.
18. The fortnight from new moon to full moon is called the waxing moon.
19. The fortnight ending on a full moon is that of the waxing moon.
20. The waxing moon is called Shukla Paksha.
21. The fortnight from full moon to new moon is called the waning moon.
22. The fortnight that ends on a new moon is that of the waning moon.
23. The waning moon is called Krishna Paksha.
24. The period from one new moon to the next is called the lunar month.
25. Every day of the lunar month is called a tithi.
26. The rotation of the earth gives rise to day and night.
27. The revolution of the earth and the inclination of its axis give rise to the cycle of seasons.
28. The revolution of the moon around the earth gives rise to the phases of the moon.
29. A lunar month has about 28 to 30 days.
30. The period of the waxing moon and the waning moon together is called the lunar month.

9. Answer the following questions:

1. Explain the terms:

- a) **rotation**: The turning of an object around itself is called rotation.
- b) **axis of rotation**: The imaginary line around which it rotates is called its axis of rotation.
- c) **equator**: The imaginary circle around the centre of the earth is called the equator.
- d) **day**: The period of time that the earth takes to complete one rotation is called a day.

2. What is a leap year?

In the Gregorian calendar, the year is taken to have 365 days. It means that it counts 6 hours less every year. That makes 24 hours or one day in every four years. To make up for this lost one day, the month of February in the Gregorian calendar has an extra day every fourth year. That year is called a leap year and it has 366 instead of 365 days and February has 29 instead of 28 days.

3. What is rituchakra? Name the seasons of the rituchakra.

In India we also divide the year into six seasons, namely, Vasant, Grishma, Varsha, Sharad, Hemant and Shishir. This cycle of six seasons is called the rituchakra.

4. When is it summer in the northern hemisphere?

In the northern hemisphere, between 22 March and 23 September, the days are longer than the nights. Therefore, it is warmer there, that is, it is summer in the northern hemisphere.

5. When is it summer in the southern hemisphere?

In the period from 23 September to 22 March, the days are longer than the nights in the southern hemisphere. It gets more heat and it is summer there.

6. Distinguish between:

a) rotation and revolution of the earth.

Rotation of the earth	Revolution of the earth
1. The movement of the earth around itself is called rotation of the earth.	1. The movement of the earth around the sun is called the revolution of the earth.
2. The rotation of the earth gives rise to day and night.	2. The revolution of the earth and the inclination of its axis give rise to the cycle of seasons.
3. Rotation takes place around the earth's axis.	Revolution takes place around the earth's orbit

b) waxing and waning moon

Waxing moon	Waning moon
1. The fortnight from the new moon to the full moon is called waxing moon	1. The fortnight from full moon to new moon is called waning moon.
2. During the waxing moon the moon appear bigger and bigger.	2. During this period the moon appears smaller and smaller.
3. This is also called the Shukla Paksha.	3. This is also called the Krishna Paksha.