



# The Movements of the Earth

## Objectives

In this lesson, you will learn about

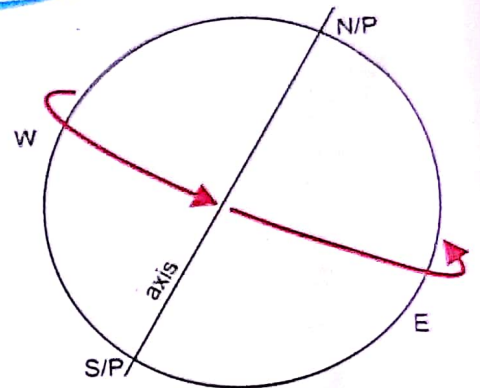
- Rotation
- Revolution
- Movements of the Earth

You have already learnt earlier that the Earth is not stationary but is constantly moving. It moves in two different ways—**rotation** and **revolution**.

## Rotation

If you take a tennis ball and spin it very

fast, you will notice a hazy central line on the ball as it spins. When it stops spinning, you will observe that there is no such line, but only the ball.



The Earth spins on its Axis from west to east

This imaginary line noticeable in all spinning objects, on which they rotate, is called an **axis**. The Earth, too, spins in the same fashion on its axis. So, this spinning of the Earth on its axis, from west to east, is called **rotation**.

It takes **24 hours** to complete one rotation.

However, this axis of the Earth is not vertical but slightly **inclined** or **tilted**. Check this out in the class when your teacher shows you the globe! Not only will you find the Earth slightly tilted but also that it rotates. Only that you have to remember to rotate it from west to east or towards your right.

## Effects of rotation

1. **Day and night:** The most significant effect of the rotation of the Earth is the formation of day and night. As the Earth spins, the portion which **faces the Sun**



## Think Tank!

To get the best results on rotation, try spinning a top!

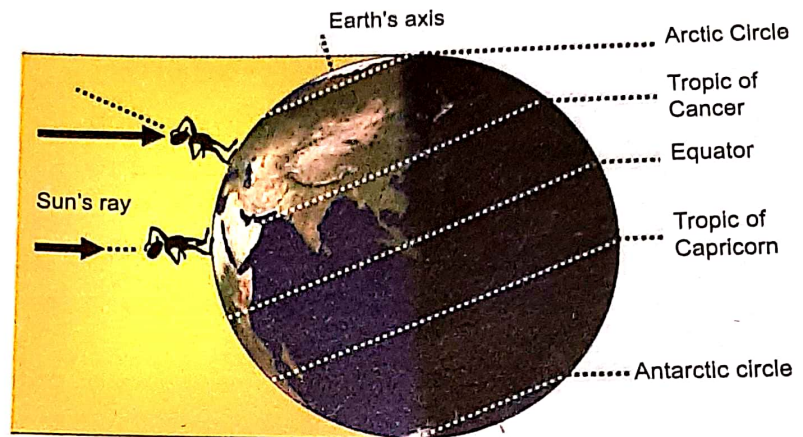


experiences day, while the side **opposite** to this, which is in darkness, has night. All parts of the Earth experience day as well as night during the span of 24 hours, as a continuous process. Thus, the 24 hours of one rotation, form one **'Earth day'**. Can you find out how much time do the

other planets take to rotate once on their axis? As the Earth rotates from west to east, it is the east which experiences daylight first.

2. **Change in the direction of flow of winds and ocean waters.** Rotation of the Earth causes the freely moving bodies on the surface of the Earth, like winds and ocean waters, to change their direction of flow from their original path. You will study more about this in the higher classes.

3. **Tides:** Tides are the daily rise and fall of the ocean waters, alternately. These are also caused due to the rotation of the Earth. However, this takes place together with the help of the gravitational pull of the Moon.



Day and night caused by rotation

**Interesting!**

A small illustration of a globe with a sun rising over it, symbolizing the 'Land of the Rising Sun'.

Did you know that Japan is known as the **Land of the Rising Sun**? You can guess why!



□ Answer the following questions -

- 1) What is meant by the axis of the Earth? What is special about the Earth's axis?
- 2) Explain how days and nights are caused.
- 3) State two other effects of rotation of the Earth, apart from day and night.
- 4) Why the sun rises in the east and sets in the west?

□ Fill in the blanks -

- 1) The 24 hours of one rotation, form one \_\_\_\_\_.
- 2) \_\_\_\_\_ is known as the Land of the Rising Sun.
- 3) \_\_\_\_\_ are the daily rise and fall of the ocean waters.
- 4) Changes in the direction of flow of winds and ocean waters is caused by \_\_\_\_\_.