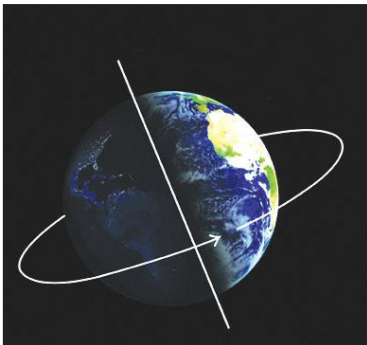




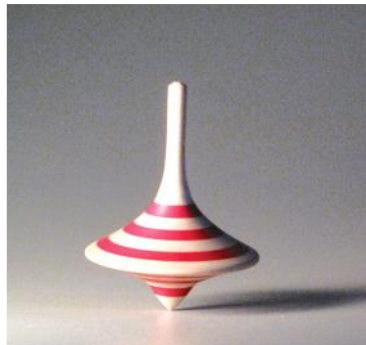
Our Earth is a big solid sphere. It is made of land and water. It has air around it. From the space the land on the Earth looks brown. The water looks blue. The sky looks white.

Do You Know ?

The earth is 4.56 billion years old.



Earth's axis

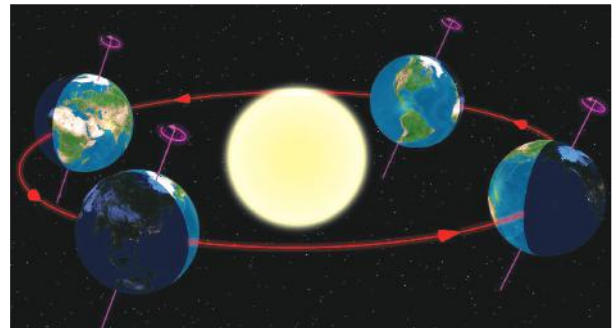


Spinning top

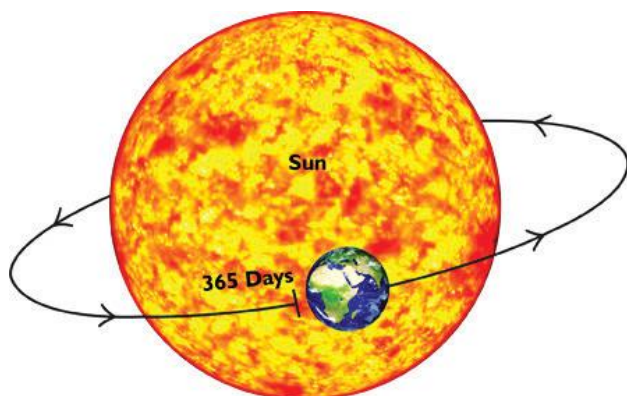
ROTATION OF THE EARTH

The Earth is always spinning like a top. This movement of the Earth on its axis is called **rotation**. Rotation causes day and night.

The Earth rotates from the west to the east. It completes one rotation in 24 hours. Rotation causes Sunrise and Sunset.



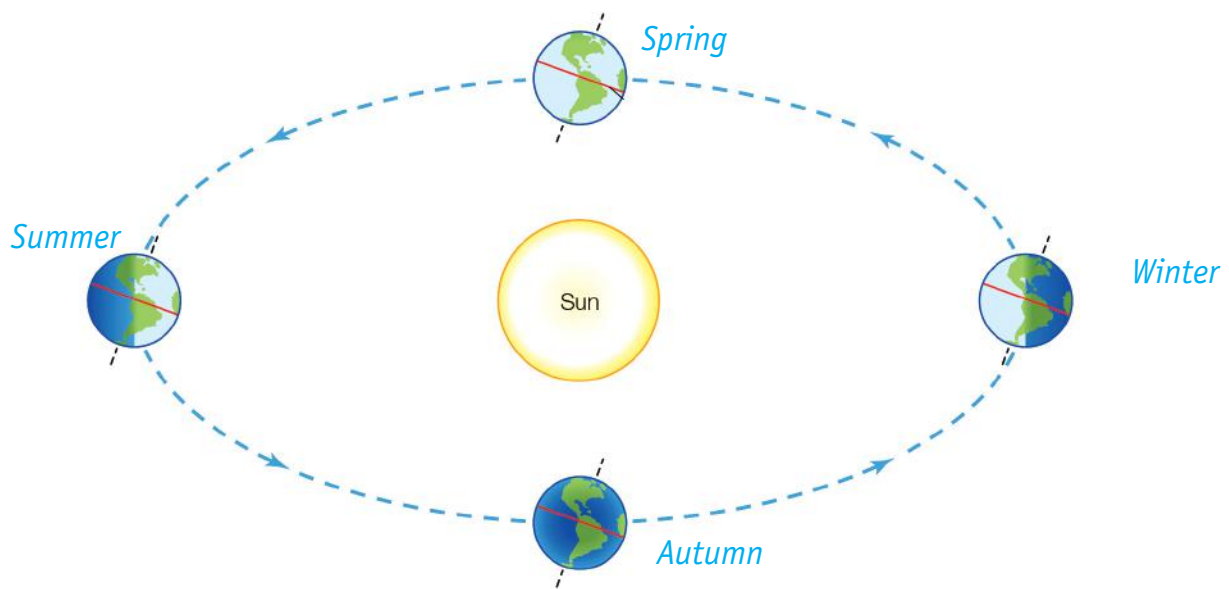
REVOLUTION OF THE EARTH



The path of the Earth going round the Sun is called the Earth's orbit. The movement of the Earth around the Sun is called **revolution**.

One revolution of the Earth takes 365 days on one year for completion.

Revolution of the Earth causes four seasons : Summer, Autumn, Winter and Spring.



THE EARTH IS A PLANET

Planet is a large object that revolves around the Sun. As the Earth revolves around the Sun, it is a planet. Earth is a part of the Solar system. As a planet, the Earth revolves around the Sun in its orbit.

SATELLITE

A satellite is an object in space which travels in an orbit around a planet. The **Moon** is a satellite of the Earth. Natural satellites of the planets are called moons. Jupiter has 16 and Saturn has 21 moons.

MAN-MADE SATELLITES

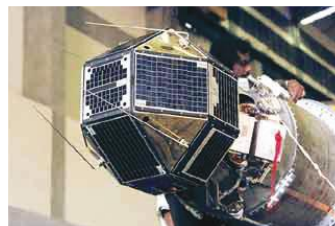
Man-made satellites are **artificial satellites**. The first man-made satellite was called **Sputnik**. It was sent in space by Russia on October 4, 1957. Since then, many countries have sent satellites into space. A weather satellite sends pictures of weather on the



Sputnik-I



Aryabhata



Rohini (1980)



Apple (1981)

Do You Know ?

Atmosphere of the moon during the day rises to 100°C and night drops to $(-)\ 180^{\circ}\text{C}$.

Earth. It helps in exact prediction of weather. A television satellite sends television pictures around the Earth. This makes communication possible on a world scale.

India has sent three satellites into space—Insat-1B, Aryabhata and Rohini. Weather Bulletins in India are based on Insat-1B.

Artificial satellite also helps us in making long distance phone calls. The phone call is made to artificial satellite from where it is sent to the ground station. Ground station sends it to the Micro-wave Tower. It sends it to the Receiving Tower. The Receiving Tower sends it to the telephone exchange from where it is received on phone set.

Test your Self

1. What makes the Earth a special planet?

2. How much time takes to complete one revolution?

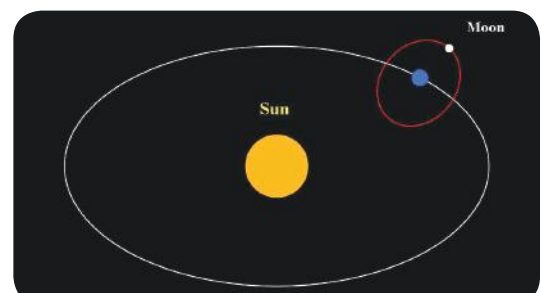
3. What is artificial stellites?

As the Moon revolves around the Earth, it is called a satellite of the Earth. In other words, the natural object which revolves round the Earth is called Earth's Moon. The Moon completes one revolution round the Earth in 27 days and 7 hours.

The Moon is 3,75,000 km away from the Earth. It is round like a ball. Its surface has many **craters**. They must have been formed when rocks from the space fell on the moon. It has no air on it. Formerly, it was believed that moon has no water on it. But in 1997 it was discoverd that there is snow under the outer crust of the Moon. Therefore, today, it is believed that there is water on the Moon. There is no life on the Moon. It is reported that the Moon has many mineral deposits.

ROTATION AND REVOLUTION OF THE MOON

The Moon's diameter is about one-fourth the diameter of the Earth. The Moon rotates and also revolves around the Earth. It rotates at the same speed at which it revolves. It completes a rotation in about 27 days, the time in which it completes a revolution of the Earth.



Thus, we can never see the other side of the Moon. Its same side keeps facing the Earth. The Moon also travels around the Sun. The Sun is always shining on the Moon. The Moon has no light of its own. It shines by the sunlight it sends back.

DIFFERENT PHASES OF THE MOON

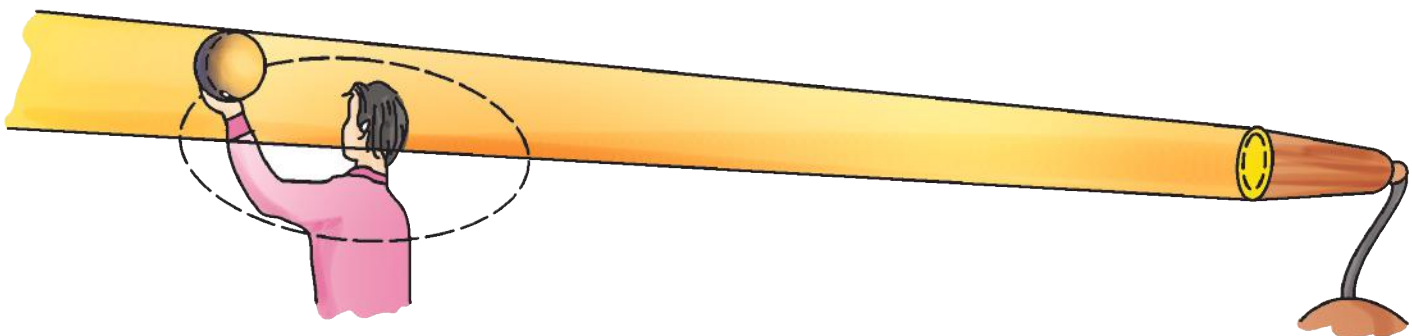
The Moon is constantly changing. On the Earth it appears in many phases. On Amavasya night, the Moon is not visible (**no Moon**). On Purnima, it is **full Moon**. From no Moon to **full Moon**, the appearance of the Moon is constantly changing. These changing appearances of the Moon are called its **phases**. The four main phases of the moon are the **crescent Moon**, the **quarter Moon**, the **gibbous Moon** and the **full Moon**. These phases are seen every month.



Phases of Moon

Activity

Place a flash light at the back of a room. Darken the room. Stand in the centre of the room. Hold a volleyball to represent the Moon. Using the flash light as the Sun throw its light on the ball, move the ball in a circle. You will see that the lighted surface on the ball constantly changes.

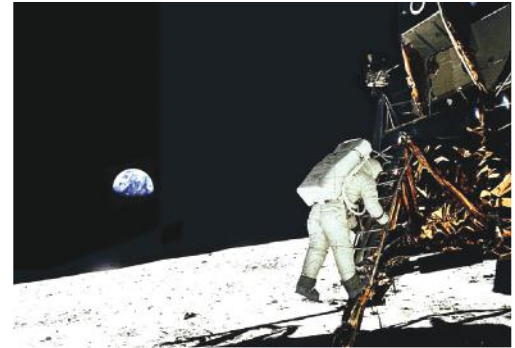


MAN REACHED THE MOON

In July 1969, three Americans—Neil Armstrong, Edwin Aldrin and Michael Collins travelled to the Moon in a spaceship called **Apollo-11**.



A spacecraft **Eagle** was attached to **Apollo- 11**, after four days. On July 20, Neil Armstrong and Edwin Aldrin Landed on the Moon with the help of the Eagle.



The main spaceship Apollo-11 did not land on the Moon. Neil Armstrong was the first man to walk on the Moon. Michael Collins remained in the spaceship and kept flying it close to the Moon, so that they could return to the Earth.

Test your Self

1. Is the Moon changing its phase everyday? If not why do we see different shapes of the Moon?
2. Name the first man to walk on the moon.
3. What is the the diameter of the Moon?



Know the Keywords :

- Revolution : Movement of Earth around the Sun.
Rotation : Spinning of the Earth on its axis.
Hemisphere : One-half of a sphere.
Inclined : Tilted or bent at an angle.
Satellite : An object which revolves around a planet.

Point to Remember

- The movement of the Earth around its axis is called rotation.
- The movement of the Earth around the Sun in an orbit is called revolution.
- In 1957, the first artificial satellite Sputnik was launched by U.S.S.R.

EXERCISE TIME

A. Multiple choice questions (MCQs).

Tick (✓) the correct option :

1. The Earth is a planet because it revolves around the :

a. Moon



b. Sun



c. Star



2. The Moon is a satellite because it revolves around the :

- a. Earth b. Sun c. Moon

3. India's first artificial satellite was :

- a. Aryabhata b. Rohini c. Sputnik

4. The first man to land on the Moon was _____.

- a. Neil Armstrong b. Edwin Aldrin c. Michael Collins

B. Tick (✓) the correct and cross (X) the incorrect ones :

1. The earth movement on its axis causes day and night.
2. The seasons are caused due to rotation of the Earth.
3. Planets revolve around the Earth.
4. The movement of the Earth around its axis is called rotation.

C. Fill in the blanks :

1. _____ was the first man to walk on the Moon.
2. Neil Armstrong and _____ landed on the Moon.
3. _____ remained in Apollo-II near the Moon.
4. On _____ three Americans reached the Moon.
5. Americans used _____ to reach the Moon.

D. Answer the following questions :

1. How many days does the Moon take to revolve around the Earth?
2. How many times will the Moon revolve around the Earth in one year?
3. What is a natural satellite?
4. How are artificial satellites useful to man?
5. Who first reached the Moon?



Creative Work

- Draw a diagram to show the Moon as Earth's Satellite.