

The Stars, The Sun And The Planets

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UNIT-IV : OUR UNIVERSE

These are so many stars, planets and satellites in the Universe. Our Sun has its own planets of which our Earth is one. Moon is the satellite of Earth. Besides Sun there are so many stars in our Universe.

THE STARS

There are billions of stars in the sky.



Colours of Stars

Due to the intense light of the Sun, stars are not visible in the day-time. Stars are different in shape, size and colour. They differ in hotness. The hottest stars look bluish white. Less hot stars are white. Still less hot stars are yellow. The least hot stars are red.

Constellations of Stars

The groups of stars are known as **constellations**. These **constellations** look like familiar objects such as tools, animals, etc. **Big Dipper** looks like a dipper. It is in the northern sky. In it four stars make up the bowl, while the remaining three stars make up the handle. Big Dipper is a part of a still bigger constellation named **Big Bear**.



Constellations do not remain in the same position. They seem to move across the sky from east to west. The stars of a constellation move together. They do not move individually. So, their form always remains the same.

THE SUN

The Sun is one of the countless stars. The difference between the Sun and other stars is that the Sun is relatively very close to us. It is nearly 150 million kilometres from the Earth. As compared to the distance of other stars this vast distance is nothing.



The Sun

As the Sun is closest to the Earth, its heat and light reach us. The heat and light of other stars does not reach us. We get only a little light from them.

Test your Self

1. What is colour of hottest star ?

2. What is constellations ?

3. What is the distance between the Sun and the Earth ?

THE PLANETS

Planets are the heavenly bodies that flow steadily. They do not twinkle like other stars. The word 'planet' means wanderer. Planets move through the space. Our Earth is also a planet.

Do You Know ?

The hottest place on the Earth is Azizia in Libya and the coldest is Vostok in Antarctica.

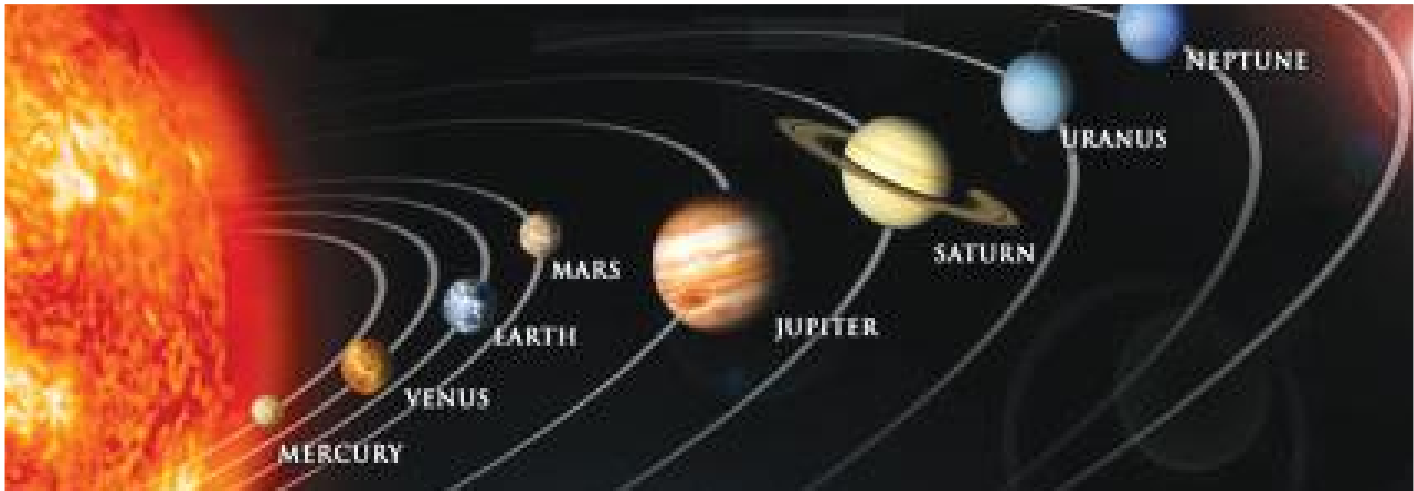
Differences in Stars and Planets

1. Like stars, planets do not give light and heat. Planets are seen by the light of the Sun that falls on them.
2. More readily than stars, planets seem to move across the night sky.
3. Unlike stars, the planets seem moving around the Sun. No star moves around another star.
4. Like stars, the planets do not seem to twinkle.

THE SOLAR SYSTEM

The Solar system is the system involving Sun and its eight planets. All planets move around the Sun in the same direction. In order of their distance from the Sun, the eight

planets are : Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune. From these, the last two planets are so far away from the Earth that we cannot see them with naked eyes. The other planets can be seen from the Earth with our eyes.



Mercury is the nearest to the Sun. Neptune is farthest to the Sun. When a planet goes around the Sun, it is said to have completed one **revolution**. **Orbit** is the path in which a planet moves around the Sun. Each planet's orbit is different from that of others. The speed at which each planet travels around the Sun is also different. Thus, the planets pass each other in space. They do not travel together.

A telescope can help us to see the details of these planets.

Copernicus maintained that the Earth goes round the Sun. The Sun does not go round the Earth. **Galileo Galilei** (1564-1642) agreed with Copernicus. He built an improved telescope to discover four moons of Jupiter.

Comparative Size of Planets

Different planets have different sizes. Mercury is the smallest. Jupiter is the largest. It is 1000 times larger than the Earth. It has 16 satellites. Venus is the brightest planet. The Sun is a big ball of fire. Comparatively to the planets of Solar system, it is very big.

Test your Self

1. Define solar system.

2. Name all the planets in order.

3. Which is the brightest planet?

Orbits of Planets

Each planet moves around the Sun in its orbit. The orbits are not circles. Planets never change their orbits. Each planet follows its own path. Therefore, planets cannot collide.

Know the Keywords :

Stars	: They are huge balls of burning gases. All stars give out heat and light.
Planets	: They are the eight heavenly bodies that wander in space around the Sun.
Constellation	: A group of stars that form a shape in the sky.
Solar System	: The family of the Sun with its eight planets alongwith their moons, revolving around the Sun.

Point to Remember

- A star is a huge ball of gases giving off its own heat and light.
- A planet is a heavenly body that moves around the Sun.
- There are eight planets including the Earth, that orbit around the Sun.
- Moon is the natural satellite of the Earth.

EXERCISE TIME

A. Multiple choice questions (MCQs).

Tick (✓) the correct option :

1. Spinning around an axis is called :

- a. Revolution b. Rotation c. Constellation

2. A group of stars is called :

- a. Solar system b. Solar tellation c. Constellation

3. _____ is also known as morning star.

- a. Jupiter b. Venus c. Sun

4. The Solar system has :

- a. Nine planets b. Eight planets c. Seven planets

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

1. The sun is the nearest star to the Earth.
2. Mercury is the smallest planet.
3. Planets revolve around the Earth.
4. Jupiter is the largest planet.

C. Fill in the blanks :

1. Moon is the _____ satellite of the Earth.
2. There are _____ satellites of the Jupiter.
3. _____ is a hot planet.
4. A stars is huge ball of _____.

D. Answer the following questions :

1. How many planets are there in the Solar system?
2. Does each planet have a separate orbit?
3. Which planet is closest to the Sun?
4. Why is Mercury a very hot planet?
5. Which is the coldest planet?



Creative Work

- Sit in an open sky. Locate the five planets which can be seen through naked eyes.
- Name the planets in Hindi.

