



1

Our Earth and The Solar System

Focus On

- ◆ Universe
- ◆ Solar System
- ◆ Earth and Its Shape



HERE WE GO.....

Observe the night sky. What do you see in the darkness? Talk to your elders about stars and discuss the same in the class.



Sky at Night

The Universe

You have studied about our home planet earth, its neighbour moon, the sun and other planets. You also know about 'space' that surrounds our earth. All these things such as the earth, the sun, the moon, space, all the stars and everything you know together make up **universe**. It has lots of pieces of rocks, dust, and many other things about which you will read later.

Fact Byte

It is believed that an explosion took place billions of years ago, and universe came in existence as a result. This explosion is known as **Big Bang**.



Our universe is so big that one can't even imagine its size. All the things you see in the sky such as the sun, the moon, all the planets; chunks of rocks and many other things are called **celestial** or **heavenly bodies**.

The sun is also a very big star. Several such stars, gases and heavenly bodies together form a **galaxy**. There are several galaxies in our universe. The galaxy in which our earth and the sun is located is known as **Milky Way**. A galaxy is so big that it contains billions of stars.



The Milky Way

The Solar System

The word 'Solar' means 'everything that belongs to sun'. The solar system means the family of the sun. The sun is a big ball of very hot gases. It is the main source of energy for the whole solar system. Life on earth depends on the energy of sun. The sun is the centre of the solar system. Eight **planets** revolves around the sun. Our earth is also a planet.



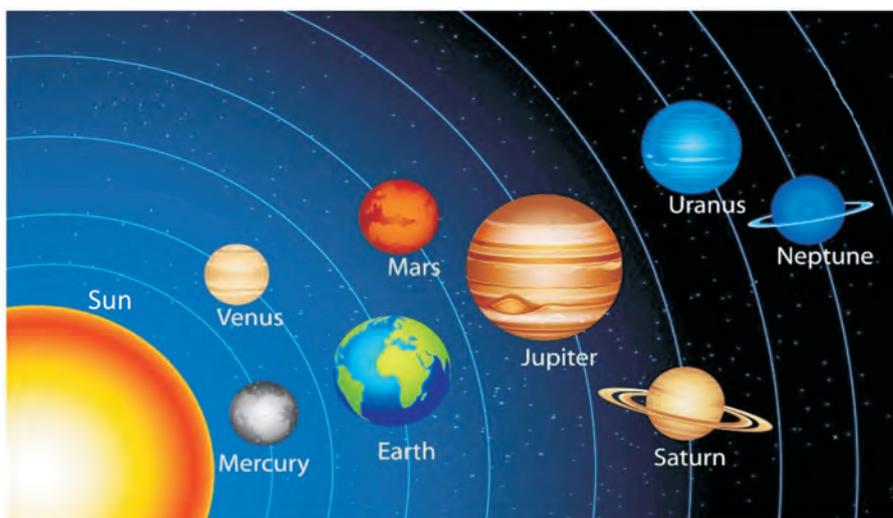
LET'S DO



Pluto has been classified as a dwarf planet. Collect some facts about it from the internet.

Planets

The meaning of the word 'planet' is 'wanderer'. Eight planets revolve around the sun at a definite distance, in a fixed path. The planets are **Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune**. The fixed path in which planets move is called the **orbit**. All the planets complete their circular journey around the sun in different durations of time.



The Solar System

Our Earth completes one round in 365 days and 6 hours. We call this period a **year**.

Planets get their light and energy from the sun.

Our Planet Earth

Third planet from the Sun is our Earth. It is the only known planet where life exists. It has favourable conditions for human life.



Nearly three-fourths of our Earth's surface is covered with water and rest is land. There is a blanket of air around the surface of the earth, it is called atmosphere.

Our earth is also called 'Blue Planet' because it looks blue from outer space due to the presence of water. Our earth has three important things that are necessary for life. These things are land, air and water.



The Earth

Shape of the Earth

People, thousands of years ago, believed that the Earth is flat in shape, They were afraid that if they would go too far, they would slip down the edge of the Earth.

A Portuguese sailor named Ferdinand Magellan proved that the Earth is actually round. He began his journey from Spain. He kept on sailing for three years. Then his ship reached the same place from where he started his journey.

In recent time, it has been proved through photographs of the Earth, taken from space.

The Earth is not a complete sphere, but it is slightly flattened at the top and bottom, just like an orange.

Sometimes, it seems that the Earth and the sky is meeting at a point. This point is called **horizon**.

We cannot see the land beyond horizon because the Earth is spherical in shape.



FOLLOW IT



Make efforts to keep the earth clean and green.

Fact Byte

Neil Armstrong was the first man to put his feet on moon.

Rakesh Sharma was the first Indian to travel in space.

The Moon

We can see the Moon at night in the sky. It revolves around the Earth, so it is called Earth's **satellite**.

It is a ball-like heavenly body that is made of rock and dust. It seems to be of the same size as the Sun.

But actually, it is much smaller than the Sun. It seems large because it is quite close to the Earth.

All the planets in the solar system have one or more than one moon, which move around them.

Fact Byte

Mars has two tiny natural satellites *Phobos* and *Deimos*.





Flash On

- ◆ All the things *i.e.* the sun, the moon and all other heavenly bodies including our earth form the universe.
- ◆ Our Solar System lies in the Milky Way galaxy.
- ◆ There are eight planets in our Solar System.
- ◆ All planets have their satellites.



Stir Up Your Mind

A. Tick (✓) the correct answer :

1. All the things seen in the sky are called :
 (a) heavenly bodies (b) celestial bodies (c) Both of these
2. The number of planets in the solar system is :
 (a) seven (b) eight (c) nine
3. It is the only planet known to have life.
 (a) Venus (b) Jupiter (c) Earth
4. The Earth is shaped like a/an :
 (a) orange (b) mango (c) apple
5. It is a natural satellite.
 (a) The sun (b) The moon (c) The star

B. Fill in the blanks by using words from the given box :

orange, Deimos, heavenly, Earth, Phobos, eight

1. The Sun, the moon and the planets are called _____ bodies.
2. There are _____ planets in our Solar System.
3. Only the planet _____ supports life.
4. The shape of the earth is like a/an _____.
5. _____ and _____ are the two tiny satellites of Mars.

C. Write 'T' for True and 'F' for False :

1. Three-fourths of the Earth is covered with water.
2. Our Earth is the fourth planet in our Solar System.
3. The Sun is a big star.
4. The moon is the satellite of the Sun.
5. The word 'planet' means 'wanderers'.



D. Match the following :

Column A

1. Orbit
2. Milky Way
3. Atmosphere
4. Blue planet
5. Three things needed for life

Column B

- (a) blanket of air around the Earth
- (b) air, water and land
- (c) The Earth
- (d) galaxy
- (e) fixed path of a planet.

E. Answer the following questions in detail :

1. What is special about the Earth?
2. What is universe?
3. What is a natural satellite?

F. Answer the following questions in short :

1. Write the structure of the Solar System.
2. What is the name of our galaxy?
3. What are planets?
4. What is 'horizon'?
5. How many stars are there in our Solar System?



Practice Time

□ QUIZ

- A.**
1. Who was the very first man to travel to space?
 2. Which planet is called the Red Planet?
 3. Which planet is nearest to the sun?
 4. Which planet is seen just before sunrise and after the sunset?
 5. Who was the first Indian origin woman to travel to space?

B. Describe the journey of Ferdinand Magellan.

□ DO IT

- A. Pluto was demoted from the planet club. Try to find out what is its recent situation.**
- B. Make a model of the Solar System with thermocol.**

□ HOTSPOT

- A. Are there some possibilities for human to live on the moon?**
- B. Which planet takes least time to orbit the sun?**

