

ODM PUBLIC SCHOOL
STUDY NOTES- STD-VI (GEOGRAPHY)
CHAPTER-1. The Earth in the Solar System

This lesson is about the solar system and below are a few things that you will be learning.

- Celestial bodies.
- Earth & other planets like Jupiter, Saturn etc.
- Moon
- Stars
- Sun
- Galaxy
- Meteoroids
- Asteroids
- **Galaxies**
- A galaxy is a huge collection of billions of stars and solar systems that are billions of kilometres away from each other.
- Our solar system is in the Milky Way galaxy; on a clear and starry night, we can see the Milky Way galaxy as a broad, glowing band of soft, whitish light.
- **The Universe**
- The Universe means everything, and it impossible for us to imagine how big it really is.
- There are billions upon billions of galaxies in the Universe, and each galaxy has billions upon billions of stars, planets, moons, and other celestial bodies.
- **Our Place in the Universe**
- The Earth is our home-planet, and it is the solar system.
- Our solar system is in the Milky Way galaxy, and every galaxy has millions and billions of similar solar systems.

Finally, many galaxies together make up the Universe.

Celestial Bodies

- The sky is full of marvellous things for us to look at, such as the Sun, the Moon, stars, planets, comets, meteors, etc. These are together known as celestial bodies.
- The moon changes in shape, from Full Moon, also known as *Poornima*, to New Moon (*Amavasya*), when you can't see it at all.
- Stars, such as the Sun, are very big and very hot, but they look small because they are very far. Sometimes we can't see all the stars, because of the bright lights from the Moon and the Earth.
- Stars usually have planets like the Earth circling them. Stars have their own light, so they shine and twinkle, but planets and moons only reflect the lights of the stars.
- Groups of stars that we see as different patterns are known as constellations; one example is the Small Bear, also known as the Seven Stars or the *Saptarshi* constellation.
- People travelling at sea look at the stars to know their direction. For example, the North Star also known as the Pole Star, always remains in the same position in the sky.
- Moons, also called satellites, are smaller than planets, and circle (revolve around) their planets. The Earth, for example, has one natural satellite called the Moon; many planets have no moons or more than one moon. And then there are also human-made satellites (for mobile and radio telecommunications, for example) that circle the Earth.

The Sun, the eight planets and their moons, and smaller objects such as dwarf planets, comets, and meteoroids together make up our solar system.

The Sun

- The Sun is the hottest and the largest body in our Solar system. It is made of extremely hot gases, but we don't feel its heat too strongly because it is a 150 million kilometres away from us.
- It is the ultimate source of light and energy all across our solar system.
- The Sun is at the centre of the solar system, and it is so big that it pulls everything in the solar system together; all the planets, moons, and everything in the solar system ultimately revolves around (circles) the Sun.

- **The Planets**

- We know of 8 planets in our solar system: Mercury Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. (You can remember their order with the sentence: My Very Educated Mother Just Serves Us Nuts)
- All the planets revolve around the Sun on paths called orbits, and the closer a planet is to the Sun, the smaller its orbit is. So Mercury takes only 88 days to circle around the Sun, but Earth takes 365 days.

- Pluto was earlier considered the ninth planet, but is now considered a dwarf planet because it's not big enough to be called a planet and has uncles around it.

- **The Earth**

- The Earth is the fifth-largest planet in the solar system, and it is the third planet from the Sun.

- The Earth isn't a perfect sphere (ball-like shape), but it is slightly flattened at the top and the bottom (at the north and south poles). This shape is called spheroid.

- Earth is unique, because it is the only planet in our solar system where we believe there is life. This is because the Earth has conditions favourable to life; it has water, moderate (not too hot, not too cold) climates, and air full of gases such as oxygen, nitrogen and carbon dioxide which are needed by plants and animals.

- More than 70% of the Earth is covered in Water. So when we see it from outer space, the Earth appears to be blue and people call it the *Blue Planet*.

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- More than 70% of the Earth is covered in Water. So when we see it from outer space, the Earth appears to be blue and people call it the *Blue Planet*.

- **The Moon**

- The Moon is the Earth's only natural satellite, and it revolves around the Earth once every 27 days or so.

- Although the moon is smaller than the Earth, it is still quite big. But we see it as small because it is about 3,84,400 kilometres away from us.

- The moon has many mountains and valleys, and they cast shadows on the Moon which look like dark spots when seen from the Earth. But it doesn't have free-flowing water or air, so there is no life on the Moon.

- **Asteroids**

- Asteroids are small objects that also circle the Sun.

- They are found between the orbits of Mars and Jupiter, and scientists believe they're pieces of a planet that exploded many years ago.

- **Meteoroids**

- Meteoroids also circle the Sun, but they are much smaller than comets.

- Sometimes they come close to and start falling towards Earth. But they are at such high speeds that when they enter the atmosphere of the Earth, there is friction and they begin to burn; we then see them as a meteor shower, or 'falling stars'.

- Sometimes, a meteor doesn't get burnt up before it reaches the land. Instead, it crashes on Earth and creates a crater (a big hole).