BEST Learning Centre
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NATURE OF UNIVERSE

GENERAL SCIENCE

NATURE OF UNIVERSE

Introduction

- Based on their observation, they thought that Earth is the centre of all the objects in the space.
- This was known as the geocentric model, held by **Greek astronomer Ptolemy (2nd Century), Indian astronomer Aryabhatta (5th Century)** and many astronomers around the world.

Galaxies

- According to astronomers galaxies were formed shortly after the Big Bang that happened 10 billion to 13.7 billion years ago.

Stars

- **Stars are the fundamental building blocks of galaxies**.

The Solar System

- The Sun and celestial bodies which revolve around it form the solar system.
- It consists of large number of bodies such as planets, comets, asteroids and meteors.

The Sun

- The Sun is sometimes referred to by its Latin name Sol or by its Greek name Helios.
- The ancient Greeks grouped the Sun together with the other celestial bodies which moved across the sky, calling them all planets.

Mercury

- **Mercury is a rocky planet nearest to the Sun.**

Venus

- Venus is a **special planet** from the Sun, almost the **same size as the Earth**.

The Earth

- The Earth where we live is the only planet in the solar system which supports life.
- Due to its right distance from the Sun it has the right temperature, the presence of water and suitable atmosphere and a blanket of ozone.

Mars

- The **first planet outside the orbit of the Earth is Mars.**

Jupiter

- **Jupiter is called as Giant planet.**

Saturn

- Known for its bright **shiny rings**, Saturn appears yellowish in colour.

Uranus

- Uranus is a **cold gas** giant and it is the **seventh planet** from the Sun in the solar system.

Neptune

- It appears as **Greenish star**.

Time period of a Satellite

- Time taken by the satellite to complete one revolution round the Earth is called time period.
  - Time period, T = $\frac{Distance\ covered}{arbital\ velocity}$
  - T = $\frac{2\pi r}{v}$

Kepler's Laws

- First Law – The Law of Ellipses
- Second Law – The Law of Equal Areas
- Third Law – The Law of Harmonies