# Our universe

- **Celestial Bodies or heavenly bodies**:- Natural bodies in the sky like the sun, the moon, and the stars and so on are called Celestial Bodies or Heavenly Bodies.
- **Light year** :- Distance travelled by light in one year is called one light year.
- **Stars:**-
    - It is a part of the celestial bodies.
    - It has its own light.
- **Galaxies**:- When a trillions of stars occurs in the groups called galaxies.
    - A galaxy is a group of stars and other celestial bodies bound together by gravitational force.
    - Our sun is the part of Milky way Galaxy.
- **Constellations**:- A group of start that seems to form a pattern is called a constellations.
    - The Great Bear(Ursa Major) is one of the easiest constellations to spot. It is seen between February and May.
    - These are the imaginary. For our convenience we have picked a few stars that resembles a pattern and called them constellation.
- **Solar System**:- The sun and all the bodies moving around together called the solar system.
    - All the members of the solar system revolve around the sun in almost circular paths Or Orbits.
- **Planets**:- Planet as a round body that orbits the sun and which has pulled in all objects near its orbit.
    - There are eight planet in our solar system these are Mercury, Venus, Earth Mars, Jupiter, Saturn, Uranus and Neptune.
    - The four planets Mercury, Venus, Earth and Mars are called terrestrial planet(earth like).
    - Jupiter, Saturn, Uranus and Neptune are mainly made up of gases. They are called gas giants or Jovian(Jupiter like) planets.
- **Mercury**:-
    - The smallest planet of our solar system.
    - It rotates fastest around the sun.
    - Mercury is about 58 times longer than a day on earth.
    - In night when there is non sun the temperature can fail to as low as -180C.
- **Venus**:-
    - It is the brightest and the hottest planet of the solar system.
    - Its mainly carbon dioxide gas.
    - It also trap so much heat hat the average temperature.
    - Venus is about 450C. It takes 234 day to complete one rotation. Making its day the longest in the solar system.
    - Venus has longer day than its year.
    - It is visible in the east before sunrise, it is called morning star. When it is visible in the west in the evening, it is called an evening star.
- **Earth**:-

- It is the only planet on which life is known to exist.
- The liquid found on this planet makes life easier.
- When it near the sun water evaporated and when it farthest to the sun water would have frozen.
- Carbon dioxide is also present the atmosphere plays important role to feed the plant and indirectly to the animal and it also trap heat.

- **Mars**:-
  - Its rust coloured soil of  gives Mars color red.
  - Scientist found water on the surface of mars, so that it is possible to exist some life on mars.
  - Mars looks likes a red sphere. During its two-year orbit.
  - It looks the brightest when the earth is between the sun and mars. During this time, you can see it rise the east as the sun sets in the west.
- **Jupiter:-**
  - It is the largest and the heaviest planet of our solar system.
  - It has also largest number of moons.
  - The winds blowing on it, and on the other gas giants, create light and dark areas giving them a striped look.
  - There is a hung storm which has been raging on Jupiter for more than 300years.
  - In 1979 the Voyager 1 spacecraft discover faint rings around Jupiter, this rings not visible form most powerful earth base microscope.
  - Jupiter s also visible to the naked eye. It looks like a bright spot in the sky.
- **Saturn:-**
  - This planet's prominent rings. These rings are actually particles of dust and ice revolving around Saturn.
- **Uranus and Neptune:-**
  - These two are the third and the fourth largest planets respectively.
  - These are the last two planets to be discovered, because they so far away from us.
- **The moons of planets:-**
  - An object revolving around a celestial body in known as a satellite.
  - All planets except Mercury and Venus have natural satellites or moons, revolving around them.
- **The earth moon:-**
  - The brightest object in the night sky. It shines by reflecting sunlight.
  - There is number of craters on its surface, it is created when huge rocks from space hit the moon.
  - The moon takes 27 days and 8 hours to complete one revolution around the earth.
  - We see different parts of the sunlight the shapes of these part are called the Phases of the moon.
  - When the entire side facing the earth is sunlit, the moon appears as a full disc. We call this the full moon, or Purnima.
  - When the side of the moon facing us gets non sunlight, we don not see the moon. This is called the new moon, or amawashya.

    - The whole cycle to one to the next new moon is 29.5 days, so the new moon and the full moon appear about fifteen days form each other.
- **Dwarf planet:-**
    - A dwarf planet is a small, round body that orbits the sun. At the time of its formation, a dwarf plant could not pull in all other objects near its orbit.
- **Asteroids:-**
    - Millions of small, irregular, rocky bodies revolve around the sun. These are asteroids. And the belt is known as the asteroid belt. Asteroids are also called minor planets.
    - It is found in a belt between the orbits of Mars and Jupiter.
- **Meteoroids:-**
    - Asteroids were not the only pieces of rock left over form the formation of the solar system. Some others, called meteoroids, still orbit the sun.
    - When they come closer to the planet such as the earth, gravitation pulls them in. As they enter the earth's atmosphere, they heat up because of friction with the air, and start burning these burning meteoroids fall towards the ground, we see them as streaks of light.
    - The streak of light caused by a burning meteoroid is called a meteor or a shooting star.
    - Meteoroids that fall on a planet or a moon are called meteorites.
- **Comets:-**
    - A comet is a small body of ice and dust that moves around the sun in an elongated orbit.