Satellite

When an object moves around an object which is larger than it, the former object is called satellite. Satellite is any object into an orbit.

Satellites can be natural or artificial

Natural satellite: this is a satellite which is found in nature and is made by nature itself. Like earth revolve around sun, so earth is known to be a natural satellite. Moon is natural satellite of earth because it revolve earth. Phobos and diemos are satellite of Mars. There are no natural satellites for planet Venus and mercury. Maximum number of natural satellites are found at the planet Jupiter i.e. 63 satellites. After Jupiter, 2nd planet to have maximum no of satellites is Saturn i.e. 60 satellites. Uranus has 27 natural satellites, 13 satellites are present in Neptune and 3 satellites in Pluto.

Artificial satellite/ manmade satellite: artificial satellites are the machines made by man in order to orbit the earth or other bodies in space. These machines are launched into the space and then they start orbit. Some satellites are made in order to take pictures of planets, other objects and sun which help scientists to explore and learn about earth and other planet surfaces.

How it works:

Satellite take circulate or elliptical path to orbit a body. To know how satellite works, one should first know about gravity. Gravity is a force introduced by Newton. This is a force of attraction between two bodies one among which has more mass than other. If this force was not there, satellite will never get a curved path. First satellite is sent in the space in a straight path, then center of planet exerts gravity on it which provide curved or circular path to the satellite. This

made satellite move in an orbit around the particular body/planet. Speed of the satellite doesn't remain uniform throughout the orbit but changes constantly. Satellite moves fast when it's closest to the planet. There comes a point at which the speed of satellite is maximum called perigee. It slows as it moves farther to the planet. The point when its speed is minimum is called apogee. Satellite come in various shapes and roles, such as;

1. **Weather satellites**: These satellites generally contain cameras that can take photo of earth's weather, either from not fixed polar orbits or from fixed geostationary positions. These satellites help meteorologists to predict the weather or to see the activities at that moment. The geostationary operational environmental satellite (GOES) is a good example.

2. **Communication satellites**: these satellites contain hundreds and thousands of transponders which is a radio that receives a wave of conversation at one frequency and then amplifies the same and send/retransmit it back on earth on another frequency. These satellites allow data and telephone conversations to be relayed through the satellite. Communication satellites are usually present in the geosynchronous orbit. Typical communication satellites include intelsat and telsar.

3. **Broadcast satellites**: these satellites are similar as communication satellites. These broadcast television signals from one part/point to another part/point.

4. **Scientific satellites**: these satellites are able to perform all sorts of scientific missions. They can evaluate and look everything from sunspot to gamma rays. The best example is Hubble Space Telescope (HST).

5. **Navigation satellites**: These satellites help planes and ships to navigate. The most famous are GPS NAVSRAR,IRNSS satellites.

6. **Rescue satellites**: these satellites respond to the distress signals.

7. **Earth observation satellites**: these satellites check the whole planet for changes in everything from temperature, forestation to ice-sheet coverage. The best example is Landsat series.

7. **Military satellites**: there is very less information out about these kind of satellites most of the information remains secret. Their applications may include relaying nuclear monitoring, encrypted communication, early warnings of missile launch, eavesdropping on terrestrial radio links, observing enemy movements, radar imaging and photography(for this purpose , these satellites has large telescopes especially that take pictures of militarily interested areas).