retrograde

Backward and westerly motion of objects in the sky

ellipse

Shape, slightly oval that our planets take around sky

Epicycle

Series of small loops used to explain retrograde motion in geocentric model

Gravity

The force that attracts a body toward the center of the earth, or toward any other physical body having mass

Orbit

Path one object take when revolving around another

Heliocentric

Sun centered universe

Geocentric

Earth centered universe

Aphelion

A planet’s furthest orbital point to the sun

Perihelion

A planet’s closest orbital point to the sun

Eccentric

Of center- orbit not centered around the focus

Azimuth

Horizontal plane that we measure an object’s coordinates -N,E,S,W

Zenith

Point Directly overhead

Ecliptic

Zone in which planets and other solar system objects tend to travel across night sky

Sideral

Basing time off a fixed point outside our orbit, versus the sun

Celestial Sphere

An imaginary, infinite sphere with earth at its center on which the stars, planets, and other heavenly bodies appear to be located.

Circumpolar

Star located around earth’s poles which never dips below the horizon.

Nadir

the point on the celestial sphere directly below an observer.

Clinometer

an instrument used for measuring the angle or elevation of slopes.

Eclipse

an obscuring of the light from one celestial body by the passage of another between it and the observer or between it and its source of illumination.

Kepler’s 1st Law

planets move in an elliptical orbit, with the Sun being one focus of the ellipse.

Kepler’s 2nd Law

describes the speed of a planet traveling in an elliptical orbit around the sun. It states that a line between the sun and the planet sweeps equal areas in equal times.

Kepler’s 3rd Law

It means that if you know the period of a planet's orbit (P = how long it takes the planet to go around the Sun), then you can determine that planet's distance from the Sun (a = the semimajor axis of the planet's orbit).

Parallax

the effect whereby the position or direction of an object appears to differ when viewed from different positions