

Chapter 9

The Earth in Space

The Earth in Space

- Celestial Sphere
- Celestial Object
- Terrestrial
- Constellations
- Polaris(North Star)
- Geocentric Theory
- Heliocentric Theory
- Rotation
- Revolution
- Orbit
- Foucault Pendulum
- Apparent Motion
- Apparent Solar Day
- Seasons
- Latitude & Angle of Sun
- Direct Rays of Sun

The Earth in Space

- **June 21:** Know that direct rays (90 degrees) strike the Tropic of Cancer. 24hrs daylight at North Pole
- **September 21:** Know that direct rays (90 degrees) strike the Equator. 12hrs daylight & 12 hrs night
- **December 21:** Know that direct rays (90 degrees) strike the Tropic of Cancer 24hrs daylight at South Pole
- **March 21:** Know that direct rays (90 degrees) strike the Equator. 12hrs daylight & 12 hrs night
- **Note: There is always 12 hrs of daylight/12 hrs night at the Equator every day of the year.**

Apparent Path of the Sun In New York State

- On June 21, the Sun rises North of due East and sets North of due West
- On September 21 and March 21 (Equinoxes) the Sun rises on due East and sets on due West
- On December 21, the Sun rises South of due East and sets South of Due West

Apparent Path of the Stars

- The Stars appear to rotate similar to the apparent path of the sun at 15 degrees per hour
- Planets deviate from a smooth arc across the night time sky, and make a loop pattern which is called retrograde motion. The Greek word for wanderer is “Planet” thus the name stuck for astronomers.