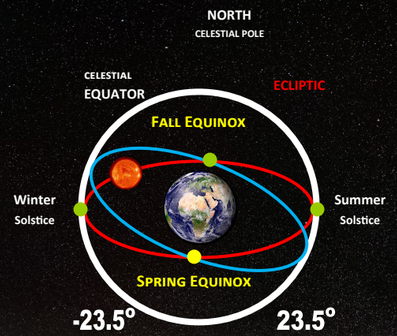
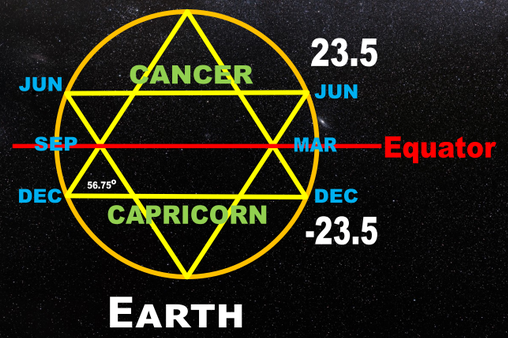
ANCIENT ASTRONOMY 9

The purpose of this illustration is to consider the basics of what are the Saros Cycles. The word Saros is an ancient Babylonian astronomical term that NASA still uses to this day in calculating the frequencies of solar and lunar eclipses and movements. The illustration will present a geocentric depiction with the Earth at the center and the Moon revolving around its sphere and the Sun to the edge. The lines will have the Ecliptic Plane intersect the Equatorial Line. The 3rd line will represent the Moon's orbit around the Earth. The Earth will have its denoted North and South Poles with the Axis marked at the 23.5 degree limits. The Moon's orbit around the Earth is about 5 degrees off the Ecliptic Line. The intersecting Node of the Moon's opposite points would converge at the center where all 3 lines interest.

THE BASIC FEATURES OF THE SAROS CYCLES

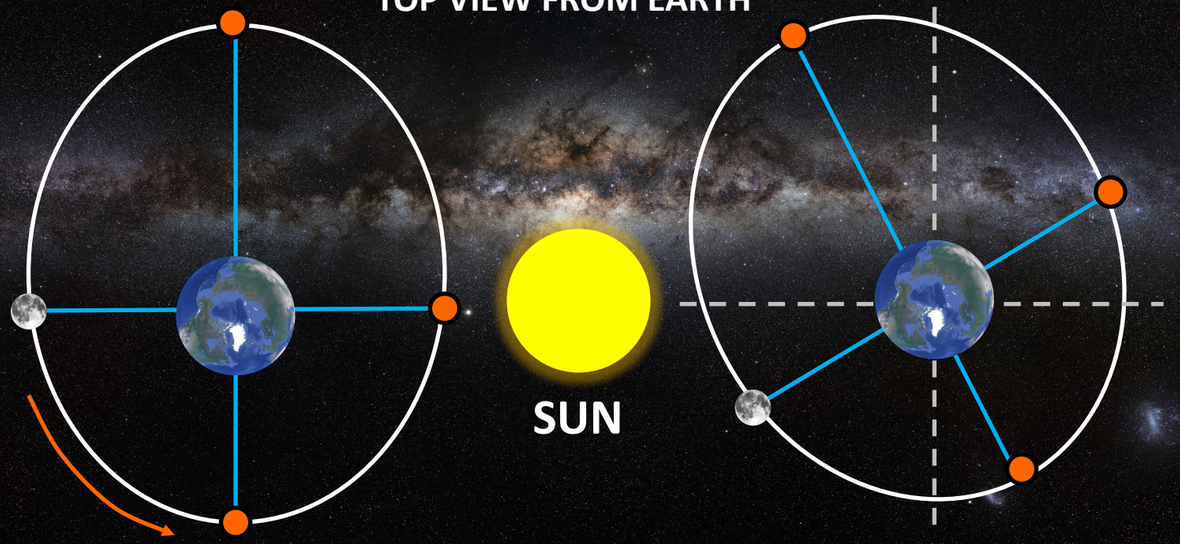
From a top view of the geocentric depiction of the Earth, the Moon's orbit around the Earth has some unique attributes. The orbit of the Moon going around the Earth is not a perfect circle, but elliptical in nature. What is very interesting about the elliptical orbit of the Moon is that as it revolves around the Earth and crosses the 2 Nodes, the Moor orbit itself is rotating, counter-clockwise. Thus, such a dual rotation also causes the 2 Nodes to spin as well.



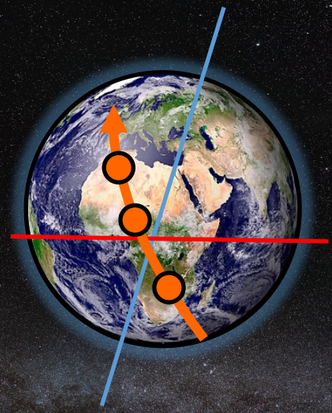


18.2 YEAR LUNAR PATH

TOP VIEW FROM EARTH



The total time that it actually takes for the Lunar Path Orbit to complete 1 revolution is 18.2 years. Assuming a top view with the Sun to the right of the diagram, when the Moon reaches the Ecliptic intersectional Node, or when the Moon is directly in-between the Spherical Earth and the Sun, this is where the solar eclipses occur. Conversely, when the Moon is in the opposite Node intersection on the Ecliptic and the spherical Earth is in-between the Sun and the Moon, this is where the lunar eclipses occur, etc.



SAROS CYCLE
~ 13,000 YEARS
70 ECLIPSES AVERAGE (182 YEARS)
40 CYCLES AT A TIME

ECLIPTIC LINE

NODES

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Main Sources
SchoolDadWinchester - YouTube Channel
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