INTERSTELLAR TRAVEL

- New Horizons spacecraft travels at 36,373 miles per. It launched from Earth 2006 and reached Pluto in nine years.
- If New Horizons were aimed toward the closest star to our Sun, Proxima Centauri, it would take 78,000 years to get there.

EVERYTHING IS MOVING

- The Earth travels 1,000 mph on its axis toward the east.
- The Earth travels 67,000 mph in its orbit around the Sun.
- Our Sun travels 515,000 mph in its orbit around the Milky Way.
- The Milky Way travels at 1.3 million miles per hour in the direction of the star Vega.
- Light travels 6 trillion miles in a year.

ASTRONOMICAL TIME

- It takes the Sun 250 million years to orbit the Milky Way Galaxy. This is a Galactic Year.
- The Milky Way will merge with its closest galactic neighbor, the Andromeda Galaxy, in 4 billion years.

NEUROSURGICAL SOCIETY OF AMERICA

presents a Star Party

hosted by

MAUI STARGAZING

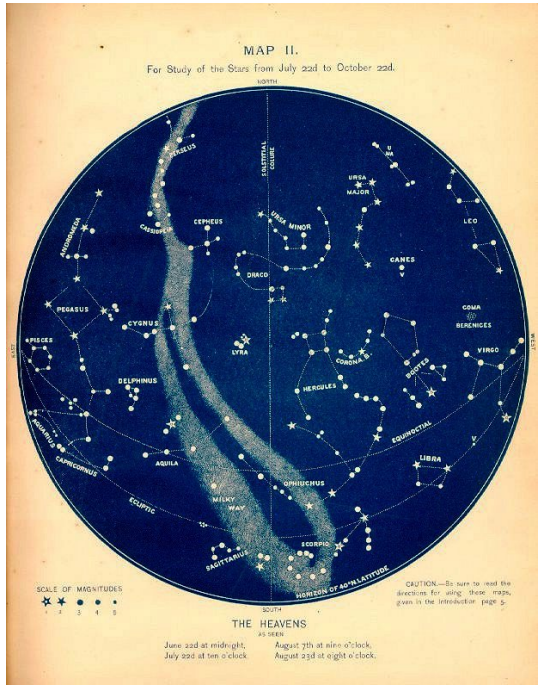
7:30 to 9:30 p.m., Sun., June 12, 2022

Four Seasons Resort

Wailea, Maui, Hawaii

Summer Constellations

Aquila (Eagle)
Bootes (Herd and Herdsman)
Capricornus (Sea Goat)
Cepheus (King of Ethiopia)
Coma Berenices (Hair of Berenices)
Corona Australis (Southern Crown)
Corona Borealis (Northern Crown)
Cygnus (Swan)
Draco (Dragon)
Hercules (Hero)
Libra (Scales)
Ophiuchus (Serpent Bearer)
Pegasus (Flying Horse)
Pisces (Fish)
Sagittarius (Archer)
Scorpius (Scorpion)
Serpens (Serpent)
Ursa Minor (Little Bear)
Ursa Major (Big Bear)
Virgo (Maiden)

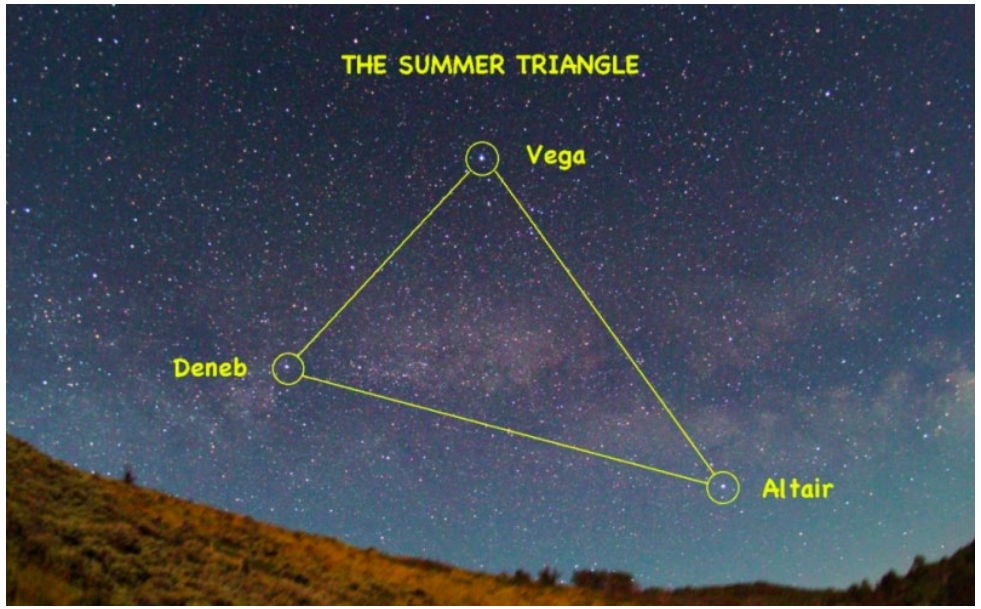


Ptolemy Cluster in Scorpius

FIRST MAGNITUDE STARS

First magnitude stars are the 20 brightest stars visible in the night sky from Planet Earth.

Summer's brightest stars include
Alnair (Gnus)
Altair (Aquila)
Deneb (Cygnus)
Fomalhaut (Pisces Austrini)
Vega (Lyra)



NEBULAE

A **nebula** is a giant cloud of dust and gas in space thrown out by the explosion of a dying star, called a supernova. As the cloud begins to collapse and condense, it heats up, ultimately creating new stars which illuminate the remnant cloud of gas.

Lagoon Nebula below is a bright nebula located in the constellation Scorpius. It is a collapsing cloud of gas that is a remnant of a star explosion called a super nova. As the cloud compresses, it heats up and forms new stars.

PLANETARY NEBULAE

A planetary nebula is a type of emission nebula consisting of an expanding, glowing shell of ionized gas ejected from red giant stars late in their lives. Since our Sun is a smaller star, it will not explode in a super nova, but instead will create a Planetary Nebula some 4 billon years from now! Planetary nebulae are not related to planets or exoplanets.

Planetary Nebula is the fate of our Sun

STAR CLUSTERS - TWO TYPES

GLOBULAR STAR CLUSTERS

Globular clusters are spherical collections of stars that orbit a galactic core as a satellite of a parent galaxy. Globular clusters are very tightly bound by gravity, which gives them their spherical shapes and relatively high stellar densities toward their centers.

Hercules Cluster

Messier 13 (M13), sometimes called the Great Globular Cluster in Hercules, is a globular cluster of about 300,000 stars in the constellation Hercules.

OPEN STAR CLUSTERS

Open clusters are groups of up to a few thousand stars that were formed from the same giant molecular cloud and have roughly the same age. They are the youngest stars.

Beehive Cluster in Cancer

Ptolemy Cluster in Scorpius