What is it?

Deneb, also known as Alpha Cygni is a first-magnitude blue supergiant star(brightest star) in the constellation of Cygnus.It is the brightest star in Cygnus and the 19th brightest star in the night sky, with an average apparent magnitude of +1.25. The distance of Deneb has been measured using a number of different methods which produced different values. Hipparcos satellite measurements of Deneb's parallax in the early 1990s yielded a value of 1.01 ± 0.57 milliarcseconds, which was consistent with the distance of about 2,615 light-years or 802 parsecs.

Image taken from https://apod.nasa.gov/

Unique characteristics:

Image taken from Stellarum

More characteristics:

- Deneb will be the North Pole star (the nearest visible star to the north celestial pole) around the year 9800 AD. It will only come within 7° from the pole and it will not mark true north as accurately as Polaris does.
- Deneb is the only star in Cygnus included on the list of the 58 navigational stars. The stars selected for use in celestial navigation are some of the brightest and most recognizable stars in the sky. Vega and Altair, the other two stars of the Summer Triangle, are also members of this special group.
- It's about 196,000 times more luminous than our sun. Besides, it contains about 20 solar masses and has a diameter about 203 times that of the sun.
- Deneb spent much of its early life as an O-type main-sequence star of about 23 $M_{\odot}$, but it has now exhausted the hydrogen in its core and expan become a supergiant.

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By clicking on "Beginner's guide", the user can get basic details about the major stars of the constellation, for example their uniqueness in brightness, magnitude, chemical/physical properties and so on.

What are the constituents of this beautiful star?

Spectral Type:
Deneb is a blue-white supergiant star with a spectral class of A2Ia. It is the 19th brightest star in the sky shining at +1.25 magnitude.

Luminosity :
Deneb's absolute magnitude is estimated as −8.4, placing it among the visually brightest stars known, with an estimated luminosity of nearly 200,000 L⊙. This is towards the upper end of values published over the past few decades. By the distance from Hipparcos parallax, Deneb has a luminosity of 55,000 L⊙.

Mass:
Deneb contains about 20 solar masses, and in many cases, its distance is uncertain to be determined with total accuracy. Deneb has a diameter about 203 times that of the sun. And that

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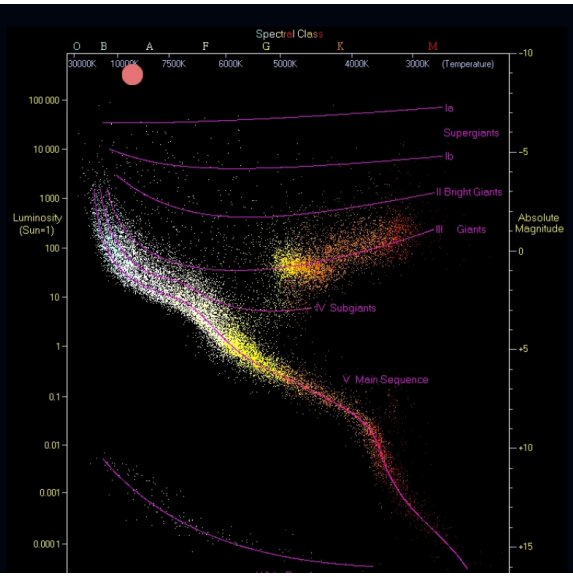

Deneb in H-R diagram and defining its magnitude:

The figure beside is showing position of Deneb in the H-R diagram.

Deneb apparent magnitude is 1.25, which is mainly the measure of the star's brightness as seen from Earth.

Using the 1997 parallax value, Deneb' absolute magnitude is -8.73. Using the 2007 parallax value, Deneb' absolute magnitude is -6.93. Absolute Magnitude is the star's apparent magnitude from 10 parsecs or 32.6 light years.Deneb is visible from Earth without needing binoculars or a telescope and it is due to its smaller value of magnitude(m brightness.)

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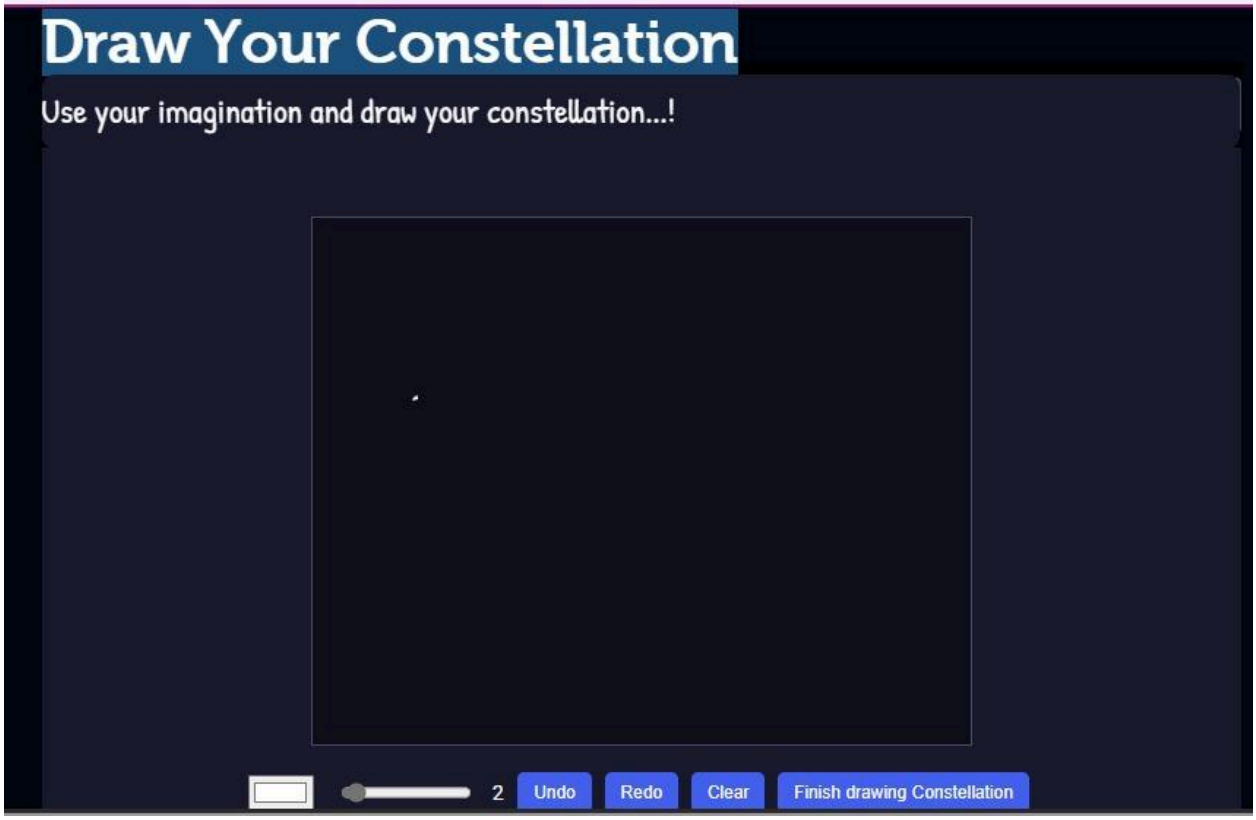
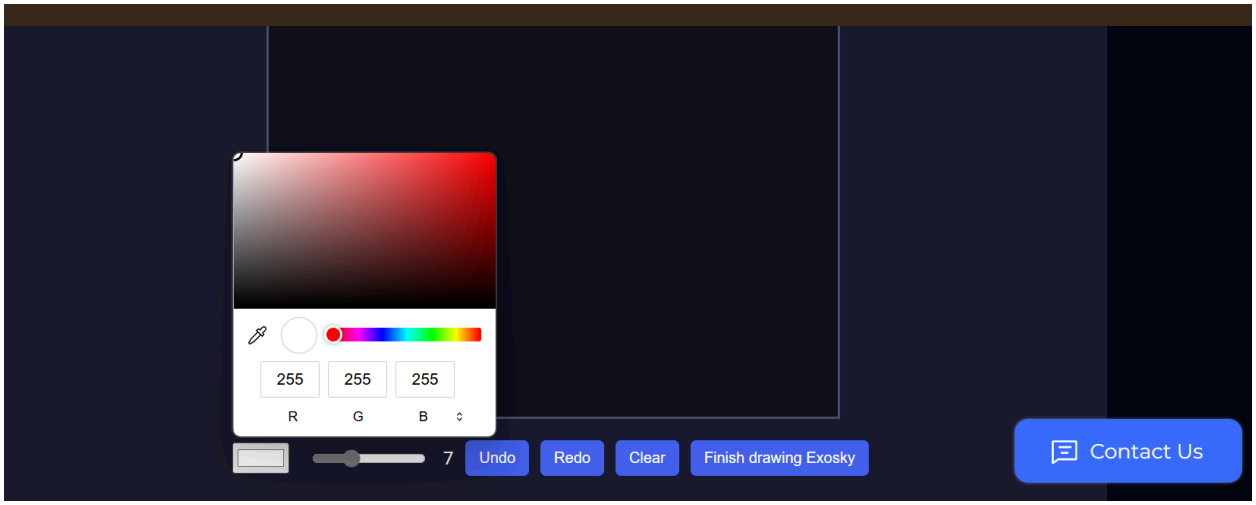
Similarly, the user can get to know about specific measurements and alignments as well as characteristics in different grids,charts and diagrams when he/she choose to take an advanced learner's guide about the particular star of the constellation.





Either clicking on “Draw Constellations” from menu of top-right corner of the homepage or “Dream with Constellation” button from the homepage,the user can draw and create their own constellations and also “exosky”(sky from any celestial body outside of solar system). After that, they can name constellations and additionally give characteristics to their very personalized universe.

They can get to know about different exoplanets discovered by NASA. We have used different data of NASA, particularly NASA Exoplanet Catalog and NASA Exoplanet Archive for displaying informations and image for all-in-all easy visualization and comprehension over the exoplanets.