



STATEWIDE STAR PARTY

OBJECTIVE

Observe colorful double stars

SUGGESTED AGE RANGE

Ages 3 and up (parents should look through the telescope *before* helping their young child do it)

ACTIVITY DURATION

5-15 minutes, depending on discussion and length of line at the telescope

MATERIALS

- Telescope
- Star map or other resources to identify colorful double stars (see sample finder charts on next page)
- Star stickers of different colors – use a standard set with blue/green/red/gold/silver.

CREDITS

We are grateful to Statewide Star Party host Tom English for designing this activity.



The Statewide Star Party is made possible by the generous grant support of the North Carolina Space Grant.

TAKE HOME A DOUBLE STAR

Activity Instructions

<http://www.ncsciencefestival.org/starparty/>

BACKGROUND



Bright and colorful double stars are easy targets for a simple interactive exercise during your observing session. Double stars with good color contrast allow you to discuss temperatures of stars, and give the viewers an opportunity to share their own impressions of the view.

Most stars appear generally white, but a closer look reveals pale shades of color caused by temperature differences of the stars themselves. Hotter stars give off more of their energy in shorter wavelengths (ultraviolet, violet, blue), and thus appear somewhat bluish. Cool stars radiate more of their energy in longer wavelengths (infrared, red, orange), and thus have shades of yellow-orange.

Seeing two subtly shaded stars next to each other enhances the color contrast. Different people perceive and name colors differently, so a particular double seen by a handful of observers could yield several different descriptions of the colors of the pair.

An astronomer with a telescope at your Star Party event can refer to the charts on the next page to find these potential targets for early evening in April in North Carolina:

STAR	COMMON COLOR DESCRIPTION
Cor Caroli (α CVn)	White and blue
Iota Cancri	Yellow and blue, though there are many variations among observers
145 Canis Majoris (h3945)	Vivid yellow and blue
Algieba (γ Leo)	Both yellowish, most people see different shades. Very close.

PROCEDURE

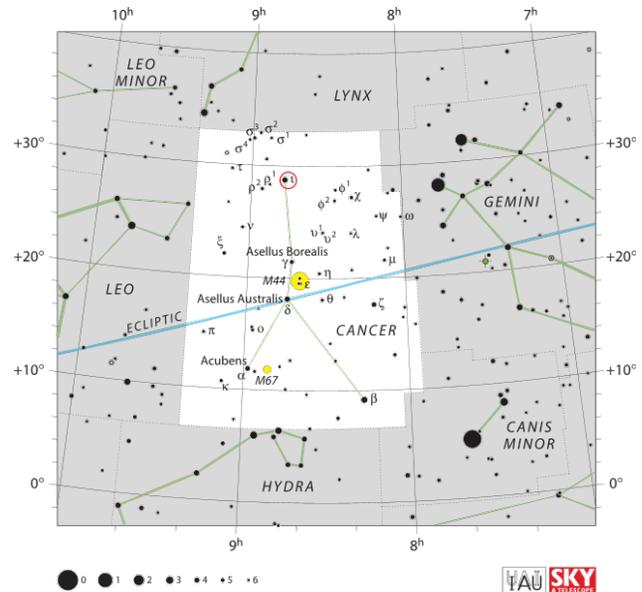
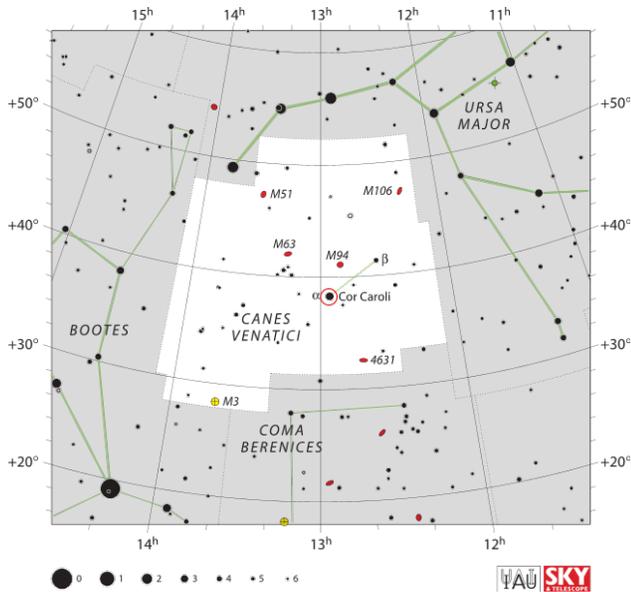
When you show off a colorful double at your observing session, ask each observer to describe the colors they see. But don't give the answer away! Suggestion for the interaction:

“Do you see two stars? What color is the brighter one? What color is the other one?”

Give each person a pair of stickers indicating the colors they name – put the stars on the back of the person's hand (or let them do it themselves, if they are more comfortable that way).

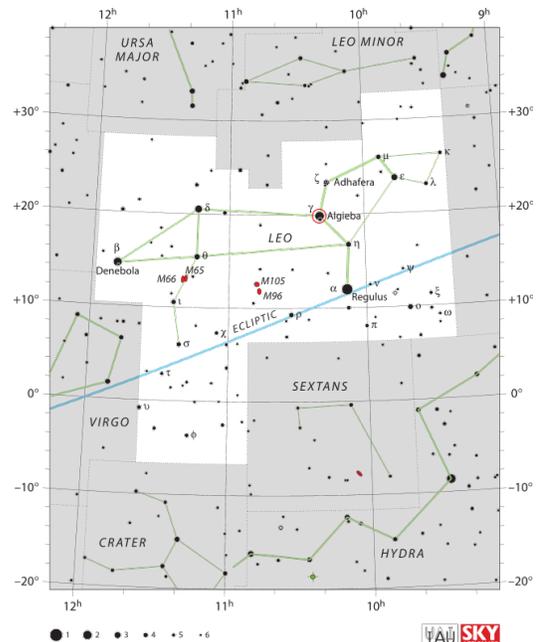
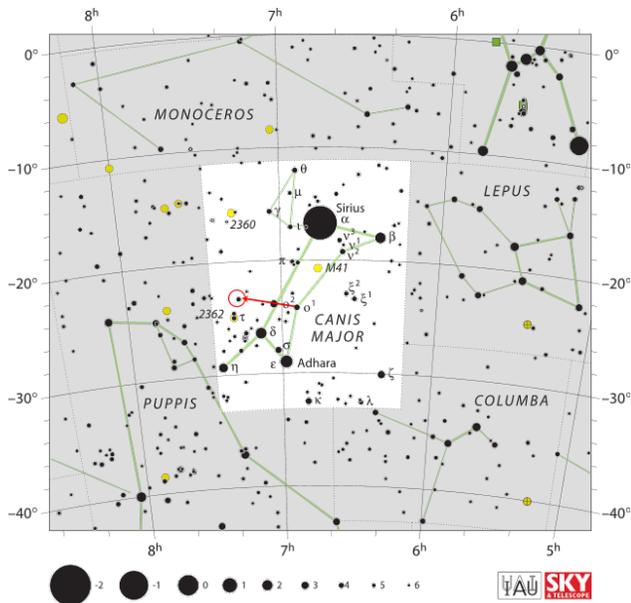
Everyone can go home with their own personal vision of the double star!

Finder Charts for Prominent Double Stars for April Evening Skies in North Carolina



Cor Caroli is the brightest star located under the curve of the handle of the Big Dipper.

Iota Cnc is about 15 degrees E of Castor and Pollux, and about 9 degrees N of the Beehive Cluster.



145 CMa can be found by extending a line from $\alpha 1$ CMa through $\alpha 2$ CMa and extending 3 degrees.

Algieba is the second brightest star in the backwards question mark asterism that marks the lion's mane. It is about 8 degrees NNE of Regulus.