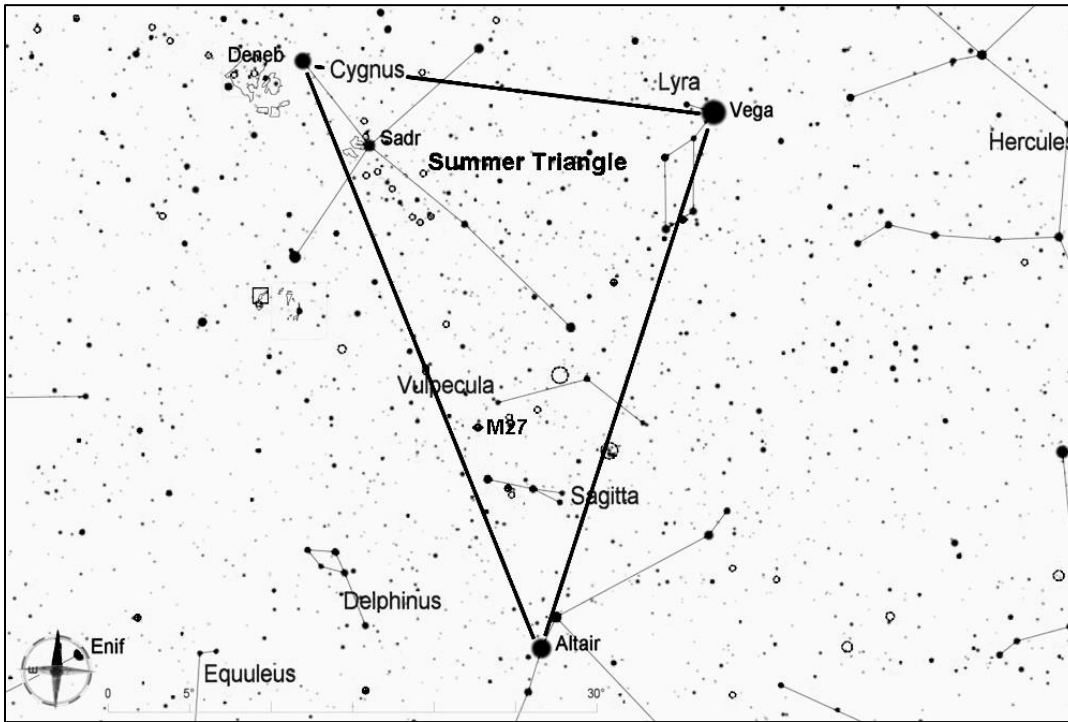


## IC 5146 (Caldwell 19), Cocoon Nebula in Cygnus

The Cocoon Nebula is a star-forming region that includes a mixture of emission and reflection nebulae. The nebula is illuminated mainly by a 10th magnitude star in its center. The nebula is about magnitude 7.2 and about 12 arcminutes across, and it is not hard to spot in a telescope with a wide-field eyepiece. It is about 4000 light years away.



Start by finding the Summer Triangle, which consists of the three of the brightest stars in the sky--Vega, Deneb, and Altair. The Summer Triangle is high overhead throughout the summer, and it sinks lower in the west as fall progresses.

For this star hop, start from Deneb, the first-magnitude star that forms the tail of Cygnus, the swan (or if you visualize the brightest stars of Cygnus as a cross shape, Deneb is at the top of the cross).

From Deneb, look about 5 degrees to the northeast for a pair of dim stars (about magnitude 4-5) that are circled in the chart below. Continue in roughly the same direction for another 5 degrees and you will reach M39, a bright open cluster that should be easily visible in binoculars or a finderscope. From M39, continue another 4 degrees to the east-southeast and you will be in the vicinity of IC 5146. Use a low-power eyepiece and look for a large circular patch of light.

