Our Neighborhood in the Milky Way

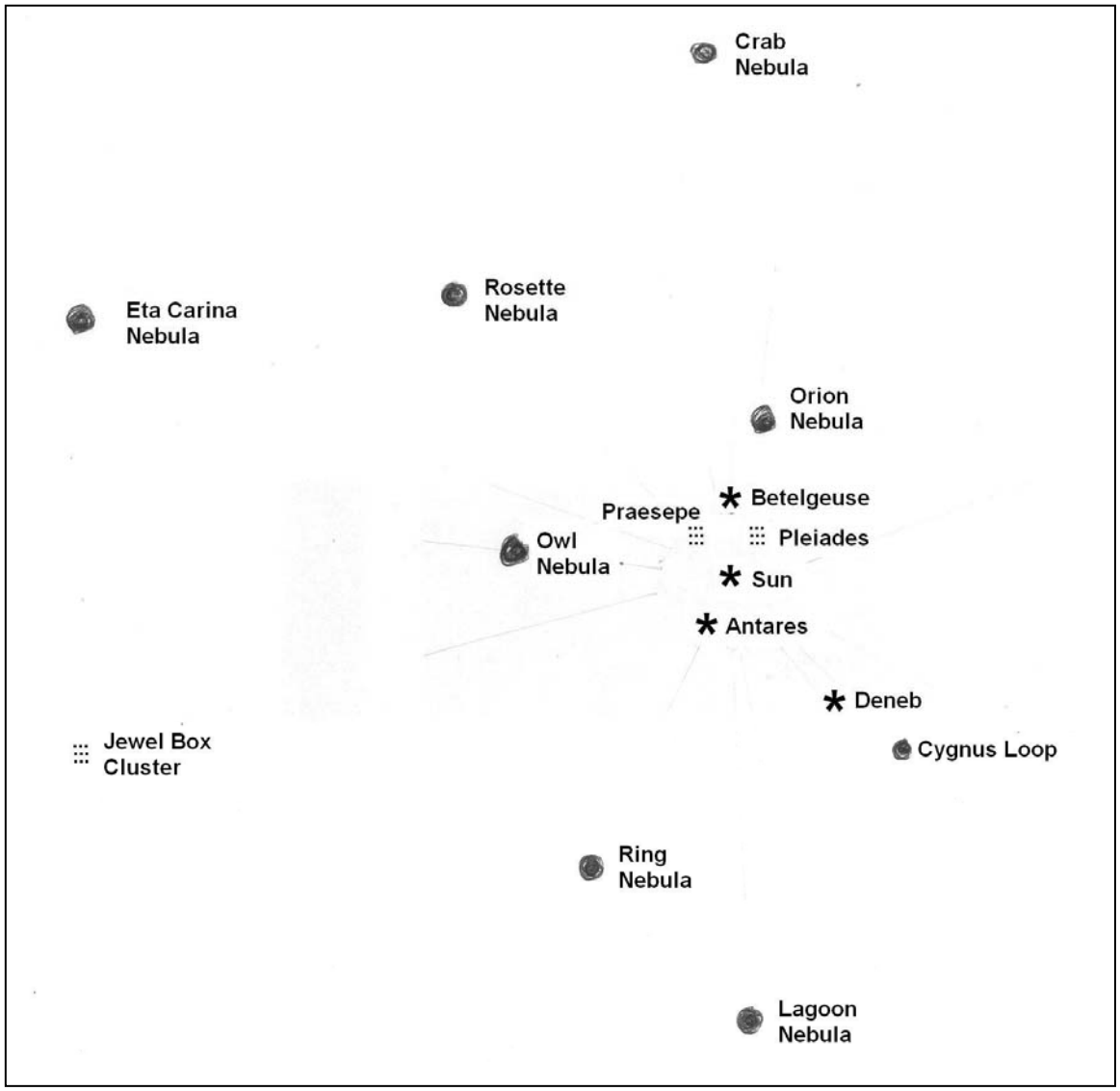
The Milky Way galaxy is a flat disk about 100,000 light years in diameter and 1000 light years thick. All of the bright stars, clusters and nebula we see are actually very close-by. Let's have a look at a few of these familiar landmarks!

The table below gives the distances and angles to a few familiar nebulae and star clusters within 7,000 light years of the Sun. Plot them on a paper with a scale of 1 centimeter = 500 light years, and with the Sun at the origin.

Object	Type	Distance		Angle
Pleiades	star cluster	410	ly	60
Orion Nebula	nebula	1500		80
Betelgeuse	star	650		90
Deneb	star	1600		310
Antares	star	420		245
Cygnus Loop	supernova remnant	2000		315
Ring Nebula	nebula	2300		280
Owl Nebula	nebula	1900		170
Crab Nebula	supernova remnant	6300		80
Praesepe	star cluster	520		130
Rosette Nebula	nebula	3,600		100
Eta Carina	nebula	7,000		160
Lagoon Nebula	nebula	4,000		270
Jewel Box	star cluster	6,500		190

Problem 1 - If you only wanted to visit the three bright stars, how many light years would you have to travel for a round-trip tour?

Problem 2 - If you only wanted to visit all of the nebulas how long would your round-trip journey be?



Problem 1 - Sun - Betelgeuse - Deneb - Antares - sun would measure 10 centimeters, and from the scale of 1 cm=500 ly, it would be a **5,000 light year journey.**

Problem 2 - One possibility would be Sun - Cygnus Loop - Lagoon Nebula - Ring Nebula - Owl Nebula - Eta Carina Nebula - Rosette Nebula - Crab Nebula - Orion Nebula - Sun. This would be a journey of 45 centimeters or 45 x 500 = **22,500 light years.**