

Fundamentals of Stargazing – Month 5 Worksheet

Project #1: (a) Review the HR diagram on page 3 of the “Science” section. Note the position of the following types of stars: main sequence, giants, supergiants, and white dwarfs.

(b) What will be the end state of the massive star Antares in Scorpius? How about the mid-sized star Vega in the constellation Lyra?

Project #2: During the month, as the Moon cycles through its phases, look for the following lunar seas:

- Mare Crisium (best seen during the waxing crescent phase)
- Mare Tranquillitatis (best seen just before first quarter)
- Mare Imbrium (best seen a few days after first quarter)
- Sinus Iridum, the “Bay of Rainbows” (best seen 2-3 days after first quarter)
- The crater Cleomedes, just north of Mare Crisium
- The crater Langrenus near Mare Fecunditatis
- The crater Copernicus, best seen 9-10 days after new Moon, on the south end of Mare Imbrim
- The crater Tycho in the southern lunar highlands, best seen 10 or more days after new Moon

Project #3: Trace the outlines of this month’s constellations and find the main stars:

- Lyra and the bright star Vega
- Ophiuchus and the little asterism Taurus Poniatowski
- The long and striking constellation Scorpius
- Norma, Ara, and Lupus (southern hemisphere only)

Project #4: See as many deep-sky sights on this month’s tour as possible. The easiest (and best known) objects on this month’s tour are:

- The Ring Nebula (M57)
- IC 4665
- M5 (globular cluster in Serpens)
- M6 and M7 (open clusters in Scorpius)
- The False Comet (southern latitudes only)

Also inspect Antares, the brightest star in Scorpius. This is a massive star near the end of its life cycle, and it will become a Type II supernova, then a neutron star or a black hole in the next million years. Look also for the globular clusters M4 and NGC 6144 in the same telescopic field of view as Antares.