

**Charlie Elliott Chapter Astronomy  
Summer under the Stars  
Data and Targets for July 18, 2015**

**Solar System Objects**

**Sun**            Sunset at 8:45 PM; Astronomical Twilight at 10:26 PM

**Moon**           7.5% illumination; Moonset at 10:22 PM at AZ 280

**Saturn**        (In Libra) Transits at 9:35 PM

**Double Stars**

Four in the Herdsman (Bootes) ...

Izar (Epsilon Bootis)  
Asellus Secundus (Iota Bootis)  
Asellus Tertius (Kappa 1 and 2 Bootis)  
Alkalurops (Mu 1 and 2 Bootis)

... Three in the Scorpion (Scorpius) ...

Antares (Alpha Scorpii)  
Graffias (Beta Scorpii)  
Jabbah (Nu Scorpii)

... and Two in the Lyre (Lyra)

Epsilon Lyrae (the "Double Double")  
Beta Lyrae (Sheliak)

**Messier Objects**

**Galaxies with great names:**

M 51 (the Whirlpool), M 64 (the Black Eye), M 63 (the Sunflower), M 102 (the Spindle)

**Globular Clusters in "S" constellations:**

M 4 (in Scorpius), M 28 (in Sagittarius), M 5 (in Serpens), M 71 (in Sagitta)

**Nebulae "on the sevens":**

M 27 (the Dumbbell, in Vulpecula), M 57 (the Ring, in Lyra), M 97 (the Owl, in Ursa Major)