

TMSP OBSERVER'S CHALLENGE 2011

By Kreig McBride and Tom Masterson

All observations must be made at TMSP and 25 out of 30 objects must be viewed to earn a unique TMSP Observer's Award lapel pin. You must create a record of your observations which include date, time, instruments used and a brief description and/or sketch of the object.

Your records will be returned to you.

ID Number	V Magnitude	Size or Separation	Object Type	Constellation	RA	Dec	Description
1 Sol	-28m	½ degree	Star	Cancer	08h 39'	+27d 07'	The Sun! View 2 days noting changes. H-alpha, white light or projection is OK
2 North Galactic Pole	N/A	N/A	Astronomical Reference point	Coma Berenices	12h 51'	+27d 07'	Catch this one before it sets. Next to the double star 31 Comae Berenices
3 U Cygni	5.9 – 12.1m	N/A	Carbon Star	Cygnus	19.6h	+47d 54'	Omicron-2 a wide 4.9m, 9m double lies close by as does 6" diameter, 12.6m Planetary nebula NGC6884
4 M22	5.1m	7.8'	Globular Cluster	Sagittarius	18h 36.4'	-23d 54'	Rich, large and bright
5 NGC 6629	11.3m	15"	Planetary Nebula	Sagittarius	18h 25.7'	-23d 12'	Stellar at low powers. Central Star is 12.8m
6 Barnard 86	N/A	5'	Dark Nebula	Sagittarius	18h 03'	-27d 53'	"Ink Spot" Imbedded in spectacular star field
7 NGC 6589-90	N/A	5' x 3'	Reflection Nebula	Sagittarius	18h 16.9"	-19d 47'	Faint 1' glow surrounding 9.5m star w/a faint companion 25" to its SW
8 ETA Sagittarii	A 3.2m, B 3.6m, C 10m, D13m	AB pair 3.6"	Quadruple Star	Sagittarius	18h 17.6'	-36d 46'	Reddish/Orange primary, B white, C is 10m companion 93" distant at PA303d and D is 13m star 33" away at PA 276d
9 NGC 185	9.2m	14.5' x 12.5'	Dwarf Galaxy	Cassiopeia	00h 39'	+84d 20'	One of M31's other companion galaxies
10 M31	N/A	190' x 60'	Spiral Galaxy "Feature"	Andromeda	00h 44.3'	+41d 16'	2 Dark lanes NW of the galaxy's core – how far along the arms can you follow them?
11 NGC 206	6.4m (?)	4.2'	M31 Star Cloud	Andromeda	00h 40'	+40d 44'	Brightest Star Cloud in M31's spiral arms
12 M31-G076	14.3m	3.6"	M31 Globular	Andromeda	00h 58.8'	+40d 35'	Globular in M31, Shows as a "Star" in a miniature "Cassiopeia" asterism across from NGC 206 Star cloud. Slightly non-stellar at high power in larger scopes
13 M31-G001, Mayall II	13.8m	8"	M31 Globular	Andromeda	00h 32'	+39d 34'	Most luminous globular cluster in the local group with twice the mass as Omega Centauri. Brightest of M31's Globulars
14 Barnard 104	N/A	16' x 1'	Dark Nebula	Scutum	18h 47.3'	-04d 32'	Hook shaped dark area at edge of Scutum Star cloud 20' N of Beta Scuti
15 T Lyrae	7.8-9.6m	N/A	Carbon Star	Lyra	18h 32.3'	+37d 00'	Deep red Carbon Star, blood red at minimum and very red at maximum

ID Number	V Magnitude	Size or Separation	Object Type	Constellation	RA	Dec	Description
16 IC 4593	10.7m, CS 11.3m	10"	Planetary Nebula	Hercules	16h 12.2'	+12d 04'	9' north of a 8.5m 7" double star. To the east of the nebula is a chain of stars
17 NGC 6217	11.2m	3.3'	Galaxy	Ursa Minor	16h 32.6	+78d 12'	Near bowl of Little Dipper
18 Struve 2717	7.2m, 9.7m, 9.7m	1.8", 43"	Triple Star	Cygnus	20h 38'	+60d 45'	Makes an equilateral triangle with NGC 6946 and NGC 6939 Can you see all three objects in the same field?
19 M27	7.3m Central star 13.8m	348"	Planetary Nebula	Vulpecula	19h 59.6'	+22d 43'	A different look at an old favorite. How many foreground stars can you count across the nebula's face including the central star?
20 NGC 6940	6.2m	31'	Open Cluster	Vulpecula	20h 34.6'	+28d 18'	Rich open cluster containing about 75 stars brighter than 12 th magnitude
21 NGC 5908 NGC 5905	11.8m, 11.7m	2.7' x 1.2' 4.3' x 3.3'	Galaxy pair	Draco	15h 16.7'	+55d 25'	A pair of galaxies 13' apart
22 NGC 6760	9.1m	<6.6'	Globular Cluster	Aquila	119h 11.2'	+01d 02'	Faint round unresolved glow. A few stars are resolved in larger scopes
23 NGC 6804	12m	31" x 66"	Planetary Nebula	Aquila	19h 31.6'	+09d 13'	Faint large diffuse disk elongated NE/SW Several faint stars lie close by
24 NGC 6790	10.5m	7"	Planetary Nebula	Aquila	19h 23.2'	+01d 31'	Another Tiny, almost stellar planetary. Use 200x or more, or blink with a nebula filter
25 M5	5.7m	17.4'	Globular Cluster	Serpens Caput	15h 18.6'	+02d 05'	Large and bright nearly as impressive as M13. Look for double star 5 Serpentis 22' N-NW, 5.1m, 10.1m, 11" separation
26 Neptune	5.8m	2.3"	Planet	Aquarius	22h 10.3'	-11d 52'	Neptune completes it's first orbit since it was discovered in 1846, and lies in the starfield where it was first seen.
27 Delta Aquarids			Meteor shower	Aquarius			The radiant rises late but can you trace any meteor trails back to this area? Expect 15-20 meteors per hour
28 The "Teapot"				Sagittarius			Trace the colors of the 8 stars
29 Asterism Terebellum	4.7m, 4.5m, 4.9m, 4.5m			Sagittarius			A cross composed of: Omega, 59 Sgr, 60 Sgr, and 62 Sgr.
30 Vesta	Aprox 6m		Asteroid	Capicornus	21h 15'	-21d 54'	Observe this asteroid and imagine NASA's Dawn spacecraft is orbiting as you watch!
31 Observer's choice							Do you have your own object that you find interesting?