Intermediate List ("L2" on pin – meaning Level 2)

Again this year we have a large number of objects on the list to try. They are intended to be interesting, but for the most part not repeat items in recent prior lists. They do leverage lists from many years ago, with a few exceptions. There is a wide variety of objects to choose from, including double and multiple stars, carbon stars, and a possible nova! There's also a wide assortment of open and globular clusters, nebulae and galaxies. Some are fairly challenging, others somewhat easier to find but hopefully just as interesting and rewarding to see. This year there is also a galaxy cluster, and a cluster of open clusters, with some significantly more challenging add-ons for the interested. (Perhaps a test-run for an observer considering "graduating" to the Advanced List.)

Jnow coordinates have been added this year to support pointing with digital (or analog) setting circles. J2000 coordinates are retained as well which reference recent start charts for more visually-oriented location methods. Also, the list is grouped by object type. Within those, the objects are ordered relative to their estimated difficulty level.

A separate document is provided on the website with finder charts for the comet and three asteroids, to encourage more observers to attempt them. The asteroids need to be observed hours or perhaps a day apart to confirm the observation. 2-3 sketches recommended. Then you can "blink compare" your sketches and see which dot jumps. We'll have a few copies of this on-site as well. Other hints may be added as well. Check in the info tent, we intend to have a few copies of this onsite.

An important note – also shown in the table. The dimmer objects on the list may actually not be quite as dim as the magnitude suggests. Magnitudes estimates vary from source to source, and tool to tool, depending on bandwidths and filters used in calculation. The tool used consistently throughout the OSP lists tends to estimate on the high (dim) side. In some cases, other sources show 1-2 magnitudes brighter (for the really dim stuff). Others agree with it. The message? If you are looking to stretch your equipment and observing skills, don't let a "maybe too dim" number discourage you. It may actually be just in reach – especially with averted vision, shrouding, etc. Give it a try.

Though you are encouraged to try them all, to receive the OSP Intermediate list observer pin you must observe and record at least 16 of the listed objects while you are here at OSP. A short description of each object is required and object sketches are strongly encouraged. Sketch double stars noting West (drift direction) or North. (Recommended for all sketches for verification). Visual observations are encouraged but goto and image enhancers are permitted at OSP for the Intermediate List award. Each objects page number in the popular Sky and Telescope Pocket Sky Atlas (PSA) is listed as well (or where it would be, if not actually included).

When finished, bring your record of observations to the Observing Program table next to the Information Tent to receive your pin. *Please check the information tent for updates on when the Observing Program table will be staffed, and where it is going to be for the next session. Typically it will be manned later in the afternoon.*

Version: 06032026 v1.1

2026 Oregon Star Party Intermediate List

#	Type	Object	Con	Mag	Size/Sep	PSA	RA (J2000)	Dec (J2000)	RA (Jnow)	Dec (Jnow)	Alternate Name and/or Comments
											Since asteroids look like stars, item must be sketched at least twice, at least 3-4 hours (or following night) apart so you can validate against object motion across the
	Solar System - A Selection of Bright Asteroids and a Comet						Star Chart Ref Coordinates		Pointing/Go-To Coordinates		starfield. Comet should also show tail direction.
1	A	Melpomene	Aql	8.44	< 1"	67	18h 57' 03.9"	-10° 06' 20.0"	18h 58' 32.2"	-10° 04' 14.0"	Coordinates for: 7/15/2026 1:00:00 AM
				8.43	< 1"		18h 55' 02.1"	-10° 19' 02.0"	18h 56' 30.6"	-10° 17' 00.0"	Coordinates for: 7/17/2026 1:00:00 AM
				8.43	< 1"		18h 53' 02.5"	-10° 32' 17.0"	18h 54' 31.1"	-10° 30' 20.0"	Coordinates for: 7/19/2026 1:00:00 AM
2	A	Flora	Sgr	8.84	< 1"	67	19h 07' 45.3"	-22° 07' 56.0"	19h 09' 21.4"	-22° 05' 26.0"	Coordinates for: 7/15/2026 1:00:00 AM
				8.84	< 1"		19h 05' 31.7"	-22° 17' 54.0"	19h 07' 07.9"	-22° 15' 29.0"	Coordinates for: 7/17/2026 1:00:00 AM
				8.84	< 1"		19h 03' 19.9"	-22° 27' 43.0"	19h 04' 56.3"	-22° 25' 23.0"	Coordinates for: 7/19/2026 1:00:00 AM
3	A	Juno	Aql	8.77	< 1"	66	20h 19' 00.3"	-04° 04' 49.0"	20h 20' 24.6"	-03° 59' 48.0"	Coordinates for: 7/19/2026 1:00:00 AM
				8.75	< 1"		20h 17' 21.8"	-04° 12' 29.0"	20h 18' 46.1"	-04° 07' 32.0"	Coordinates for: 7/17/2026 1:00:00 AM
				8.84	< 1"		20h 15' 41.1"	-04° 20' 50.0"	20h 17' 05.5"	-04° 15' 56.0"	Coordinates for: 7/19/2026 1:00:00 AM
4	C	Comet 10P/Tempel 2 (2026)	Cap	7.1	-	77	21h 26' 45.6"	-16° 55' 56.0"	21h 28' 14.5"	-16° 49' 00.0"	Coordinates for: 7/15/2026 1:00:00 AM
							21h 29' 45.6"	-17° 43' 58.0"	21h 31' 14.8"	-17° 36' 57.0"	Coordinates for: 7/17/2026 1:00:00 AM
							21h 32' 42.1"	-18° 33' 36.0"	21h 34' 11.6"	-18° 26' 31.0"	Coordinates for: 7/19/2026 1:00:00 AM
	Solar System - Planets and Moons Tracking										
5	P/M	Saturn and Moons	Psc	8.4-11.8	<1"	5	00h 56' 28.2"	03° 22' 14.0"	00h 57' 50.8"	03° 30' 55.0"	Track at least two of the six brightest moons for three nights, identify by name.
6	P/M	Neptune and Triton		7.9, 13.5	2.3, <1"	5	00h 16' 56.5"	00° 19' 44.0"	00h 18' 18.7"	00° 28' 39.0"	See the planet and the moon.
	Carbon Stars (also variable)										
7	CS/VS	VX And	And	7.8	-	3	00h 19' 54.6"	44° 42' 34.0"	00h 21' 19.5"	44° 51' 28.0"	Deep red.
8	CS/VS	WZ Cassiopiae/HIP99	Cas	9.4	-	1	00h 01' 16.6"	60° 21' 19.0"	00h 02' 38.4"	60° 30' 15.0"	Red star; nearby bluish star creates the "Stop Light" asterism.
	Diffuse Nebula										
9	DiN	NGC6960	Cyg	5	1.2°	62	20h 45' 42.0"	30° 43' 00.0"	20h 46' 48.0"	30° 48' 49.0"	Western Veil - "Witches' Broom". Fairly brignt star near center.
	Dark Nebula										
10	DN	Bernard's E B142 & B143	Aql	-	25'?	64	19h 41' 06.0"	11° 00' 04.0"	19h 42' 21.8"	11° 03' 47.0"	Coord for B143 (C shape)' two dark nebulae make an "E".
	Double/Multiple Stars										Need to sketch with drift direction (so angle can be estimated), colors, and relative brightness (same, brighter, dimmer - mag not required)
11	DS	Eta Cas, 24 Cas, HIP3821	Cas	3.4, 7.3	13.7" *	3	00h 49' 05.1"	57° 48' 59.0"	00h 50' 38.7"	57° 57' 44.0"	Significant magnitude difference.
12	DS	Sigma Cas, 8 Cas, HIP118243	Cas	4.87	3.1"	3	23h 59' 00.5"	55° 45' 17.0"	00h 00' 21.9"	55° 54' 13.0"	Tight split.
	Potential Nova										
13	N	T CrB	CrB	10.0/2	-	55	15h 59' 30.1"	25° 55' 12.0"	16h 00' 37.4"	25° 50' 38.0"	"Blaze Star". If it blows it is expected to be as bright as Polaris. It's already two years past the original estimates for this event.
	Globular Clusters - first three are type comparisons across the full range										
14	GC	M75	Sgr	9.39	6.8'	66	20h 06' 04.6"	-21° 55' 16.0"	20h 07' 39.1"	-21° 50' 41.0"	class I globular cluster classification example (dense)
15	GC	NGC6522	Sgr	9.48	9.4'	67	18h 03' 34.0"	-30° 02' 02.0"	18h 05' 16.8"	-30° 01' 59.0"	class VI globular cluster classification example
16	GC	NGC5466	Boo	9.71	9'	44	14h 05' 24.2"	28° 32' 03.0"	14h 06' 39.5"	28° 24' 23.0"	class XII globular cluster classification example (sparse)
17	GC	Palomar 11	Aql	11.07	10'	66	19h 45' 14.4"	-08° 00' 25.0"	19h 46' 41.0"	-07° 56' 34.0"	One of the brighter objects on the Palomar globulars list. Estimate of class?
	Galaxies & Galaxy Groups		Note: Some sources show magnitudes up to one magnitude or so brighter - there can be variations between catalog sources due to filters used.								
			So, don't let seemingly "too dim" magnitudes discourage you from trying if you want a challenge - may not be quite as dim as the magnitude suggests.								
18	GX	NGC6946	Cyg	9.75	11'	61	20h 34' 52.6"	60° 09' 13.0"	20h 35' 25.6"	60° 14' 42.0"	Fireworks Galaxy. **Earn a second object if you locate locate at least one H2 region.**
19	GX	NGC4490	CVn	9.76	6.7'	43	12h 30' 36.3"	41° 38' 38.0"	12h 31' 54.6"	41° 29' 46.0"	Cocoon galaxy, with visible satellite.
20	GX	NGC7331	Peg	10.28	11'	72	22h 37' 03.3"	34° 24' 55.0"	22h 38' 16.5"	34° 33' 14.0"	Nice Spiral. "Deer Lick Galaxy". Galaxy said to be similar to Milky Way. Nearby smaller galaxies (4 NGCs) a challenge - how many can you detect?
21	GX	NGC7217	Peg	11.03	4.5'	73	22h 07' 52.4"	31° 21' 32.0"	22h 09' 04.0"	31° 29' 22.0"	Ringed spiral. Larger instrument may be required to see ring.
22	GXG	NGC4088 paired with	UMa	11.26	7'	32	12h 05' 33.9"	50° 32' 18.0"	12h 06' 55.5"	50° 23' 23.0"	Profound Spiral with sufficient aperture.
		NGC4085	UMa	12.29	2.2'	32	12h 05' 22.7"	50° 21' 11.0"	12h 06' 44.3"	50° 12' 15.0"	This one optional to get this object but give it a try
23	GX	NGC6217	UMi	11.88	2.2'	41	16h 32' 39.2"	78° 11' 53.0"	16h 31' 24.2"	78° 08' 25.0"	Nice profoundly barred spiral.
24	GX	NGC6907	Cap	11.91	3.3'	66	20h 25' 06.6"	-24° 48' 33.0"	20h 26' 42.1"	-24° 43' 21.0"	Nice barred spiral with prominent spiral arms.
25	GX	NGC4157	Uma	12.09	6.2'	32	12h 11' 04.3"	50° 29' 06.0"	12h 12' 24.8"	50° 20' 10.0"	Edge-On
26	GXG	NGC5982 paired with	Dra	11.97	3.1'	51	15h 37' 53.4"	59° 23' 32.0"	15h 38' 27.0"	59° 18' 14.0"	Draco Triplet "Plus" - **Need to see the three galaxies of the trio for this object**. Eliptical, center of triplet.
		NGC5985 and		11.95	4.0'	51	15h 39' 37.1"	59° 19' 55.0"	15h 40' 10.5"	59° 14' 41.0"	Spiral
		NGC5981 and		13.89	2.7'	51	15h 37' 53.4"	59° 23' 32.0"	15h 38' 27.0"	59° 18' 14.0"	Edge-On Spiral
		NGC5976 (even dimmer add-on)		15.8	1'	51	15h 36' 48.0"	59° 23' 52.0"	15h 37' 21.7"	59° 18' 32.0"	Lenticular - Super Challenge add-on, (dimmer and 1/3 the size of others, on same side of 5982 as 5981), similar spacing Not required to complete this item, but give it a try if you have a medium or large instrument. **Earn a second object count if you see all four.**
	Open Clusters										
27	OC	NGC6910	Cyg	8.13	10'	62	20h 23' 12.0"	40° 46' 00.0"	20h 24' 08.9"	40° 51' 07.0"	Wide star brightness range. 2-4 stars stand out across cluster face.
28	OC	NGC6834	Cyg	8.46	5'	62	19h 52' 12.0"	29° 24' 00.0"	19h 53' 16.2"	29° 28' 06.0"	Line of 4 brighter stars across center of cluster.
29	OC	NGC1245	Per	9.16	32'	2	03h 14' 42.0"	47° 14' 00.0"	03h 16' 32.9"	47° 19' 57.0"	Cluster within a triangle of somewhat brighter stars.
30	OC	NGC7790 paired with	Cas	9.18	5'	1	23h 58' 24.0"	61° 12' 00.0"	23h 59' 44.9"	61° 20' 55.0"	A cluster of clusters, - four open clusters in a wide field view. **Need to see at least the first two to get this item.**
		NGC 7788 and		9.4	4'	1	23h 56' 38.0"	61° 24' 00.0"	23h 57' 58.4"	61° 32' 55.0"	**If you see all four, you earn a second object count.**
		Fr1 and		9.74	4'	1	23h 57' 24.0"	61° 38' 00.0"	23h 58' 44.6"	61° 46' 55.0"	optional for this group item
		Be58		10.39	11'	1	00h 00' 12.0"	60° 58' 00.0"	00h 01' 33.4"	61° 06' 55.0"	optional for this group item
31	OC	NGC7086	Cyg	9.25	12'	62	21h 30' 27.0"	51° 36' 00.0"	21h 31' 21.3"	51° 43' 01.0"	Look for starless area near edge of cluster.
32	OC	NGC7128	Cyg	10.54	4'	62	21h 43' 57.0"	53° 42' 00.0"	21h 44' 51.4"	53° 49' 20.0"	Several reddish stars in the field.
	Planetary Nebulae										
33	PN	IC4593	Her	10.8	13"	55	16h 11' 44.2"	12° 04' 34.0"	16h 12' 59.6"	12° 00' 25.0"	"White Eyed Pea" nebula.
34	PN	IC3568	Cam	10.6	18"	31	12h 33' 02.4"	82° 33' 50.0"	12h 33' 49.3"	82° 24' 59.0"	"Lemon Slice" nebula. Said to be northernmost PN.
35	PN	NGC40	Cep	10.6	38"	1	00h 13' 02.7"	72° 31' 19.0"	00h 14' 30.1"	72° 40' 14.0"	"Bow Tie" nebula

Award Requirement:

See and sketch at lesast 16 of the 35 objects or object groups as described above. Includes background stars/objects or detailed description as appropriate so your observations can be validated.

Include equipment used, date, time, sketch orientation (N or W).

Data Sources:
Coordindates generated for 7/17/2026 1:00:00 AM
Locations J2000.0 Jnow + mag & size/separation (except as noted)
using Starry Night Pro Plus Ver. 8.1.0.2050 leEW
Additional source where not availble from SN8:
Sky Safari Pro Ver. 8.0.2.0 (Android)
Indicated by * between J2000 and Jnow coordinates
or * in Mag or Size/Sep columns if used as source for that data

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Object Types Key:			
P	Planet	DP	Dwarf Planet
GX	Galaxy	SC	Star Cloud
GXG	Galaxy Group	S	Star
GC	Globular Cluster	DS	Double Star
OC	Open Cluster	MS	Multiple Star
PN	Planetary Nebula	CS	Carbon Star
EN	Emission Nebula	VS	Variable Star
SN	Supernova Remnant	DiffN	Diffuse Nebula
DN	Dark Nebula	A	Asteroid
RN	Reflection Nebula	Ast	Asterism
C	Comet	Q	Quasar
N	Nova	O	Other