





TARGET LIST - AUGUST 2014

How many objects and events can you observe this month? Check each of the boxes provided next to the objects and events you observe!

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			
FIRST QUARTER AUGUST	FULL MOON AUGUST	LAST QUARTER AUGUST	NEW MOON AUGUST
4	10	17	25
00:50 UT	18:09 UT	12:26 UT	14:13 UT

YOUR LOCAL TIME ZONE: _____ (ex: EST = UT -5)

It is important to distinguish your local time from the astronomical standard of **Universal Time (UT)**. Universal Time is the standard by which all observers agree to measure an astronomical event. It is also known as Greenwich Meantime (GMT) or Universal Time Coordinated (UTC). Use a time zone chart (<http://www.worldtimezone.com/>) to find your local time zone and record how many hours + or - from UT 0 (GMT). Use your local time to add to or subtract from the UT times listed to get your local time for an event. **Do not forget to account for time changes due to local observance of Daylight Savings Time. (ex: Eastern Standard Time (EST) = UT-5 becomes Eastern Daylight Time (EDT) = UT-4)**

ASTRONOMICAL EVENTS

Moon At Apogee (farthest from Earth) on August 24 at 6h UT.

Moon At Perigee (closest to Earth) on August 10 at 18h UT.

Conjunction of Venus and Jupiter Morning sky on August 18 at 4h UT. (0.2°)

CONSTELLATIONS

The following constellations appear at or near the **zenith meridian** (the line running directly north/south in the sky) at 22:00 (10:00pm) **local time** on the first night of the month.

North Celestial Hemisphere

These constellations appear at or north of the **celestial equator**.

- Draco
- Hercules
- Lyra
- Ursa Minor

South Celestial Hemisphere

These constellations appear at or south of the **celestial equator**.

- | | | |
|---|--|--|
| <input type="checkbox"/> Apus | <input type="checkbox"/> Ophiuchus | <input type="checkbox"/> Triangulum Australe |
| <input type="checkbox"/> Ara | <input type="checkbox"/> Pavo | |
| <input type="checkbox"/> Circinus | <input type="checkbox"/> Sagittarius | |
| <input type="checkbox"/> Corona Australis | <input type="checkbox"/> Serpens Cauda | |
| <input type="checkbox"/> Norma | <input type="checkbox"/> Scorpius | |
| <input type="checkbox"/> Octans | <input type="checkbox"/> Telescopium | |

THE CLASSICAL PLANETS

- Venus** - Visible just before sunrise.
- Mars** - Moving from Virgo into Libra.
- Jupiter** - Moving out of sunrise in Cancer.
- Saturn** - Setting evening sky in Libra.
- Uranus** - Rising at midnight in Pisces.
- Neptune** - At opposition August 29 at 15h UT.

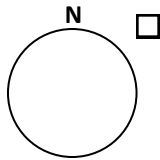
DWARF PLANETS

- Ceres** - Moving from Virgo into Libra, mag 8.
- Pluto** - Transiting late evening in Sagittarius, mag 14.

TARGET LIST - AUGUST 2014

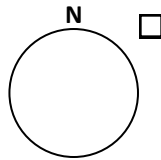
LUNAR PHASES

Observe and record lunar phases. Sketch the degree of observed phase by shading in the circles provided. Orient the north lunar limb to top. Record the date and time of observation in UT.



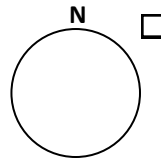
WAXING
CRESCENT
VISIBLE
AUGUST

1-3, 26-31



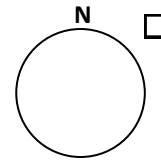
WAXING
GIBBOUS
VISIBLE
AUGUST

5-9



WANING
GIBBOUS
VISIBLE
AUGUST

11-16



WANING
CRESCENT
VISIBLE
AUGUST

18-24

COMETS

- C/2012 X1 (LINEAR) Mag 9.5 in Grus.
- C/2012 K1 (PANSTARRS) Mag 8.2 in Leo.
- C/2013 UQ4 (Catalina) Mag 10.1 in Andromeda.

Visit <http://cometchasing.skyhound.com/> for finder charts and more information on these and other visible comets.

ASTEROIDS

- 4 Vesta** - Moving from Virgo into Libra, mag 6.
- 3 Juno** - Rising before dawn. Moving from Taurus into Gemini, mag 9.

MESSIER OBJECTS VISIBLE IN THE EVENING SKY

HERCULES

- M13 Great Hercules Cluster
- M92 Globular Cluster

LYRA

- M57 The Ring Nebula

OPHIUCHUS

- M9 Globular Cluster
- M10 Globular Cluster
- M12 Globular Cluster
- M14 Globular Cluster
- M19 Globular Cluster
- M62 Globular Cluster
- M107 Globular Cluster

SAGITTARIUS

- M8 The Lagoon Nebula
- M17 The Swan Nebula
- M18 Open Cluster
- M20 The Trifid Nebula
- M21 Open Cluster
- M22 Globular Cluster
- M23 Open Cluster
- M24 SGR Star Cloud
- M25 Open Cluster
- M28 Globular Cluster
- M54 Globular Cluster

- M69 Globular Cluster

- M70 Globular Cluster

SCORPIUS

- M4 Globular Cluster
- M6 The Butterfly Cluster
- M7 Ptolmey's Cluster
- M80 Globular Cluster

SCUTUM

- M11 The Wild Duck Cluster
- M26 Open Cluster

SERPENS CAPUT

- M5 Globular Cluster

SERPENS CAUDA

- M16 The Eagle Nebula

ADD YOUR OWN TARGET

- _____
- _____
- _____
- _____
- _____
- _____

AUGUST 12-13

PERSEID METEOR SHOWER AND SATELLITES

Record any meteors or satellites you observe. (ex: $\uparrow\uparrow\uparrow$) If there are multiple observers be sure that each observer keeps record of only the meteors and satellites they observe and not what other observers report. Record date and observation start/stop time in UT.

METEORS

SATELLITES

Visit <http://www.amsmeteors.org/meteor-showers/meteor-shower-calendar/> for more information on meteor showers.