THE ASTRONOMER'S WORKBOOK

TARGET LIST

February 2014

LUNAR PHASES

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

☐

FIRST QUARTER FEBRUARY

6

19:22 UT

☐

FULL MOON FEBRUARY

14

23:53 UT

☐

LAST QUARTER FEBRUARY

22

17:15 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 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.

ASTRONOMICAL EVENTS

Moon At Apogee (farthest from Earth) on February 12 at 5h UT.

Moon At Perigee (closest to Earth) on February 27 at 20h UT.

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.

Northern Hemisphere

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

- ☐ Auriga
- ☐ Camelopardalis
- ☐ Canis Major
- ☐ Gemini
- ☐ Lynx
- ☐ Orion
- ☐ Taurus

Southern Hemisphere

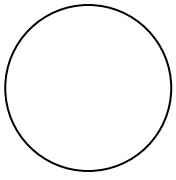
These constellations appear at or south of the **celestial equator**.

- ☐ Canis Major
- ☐ Carina
- ☐ Columba
- ☐ Dorado
- ☐ Lepus
- ☐ Mensa
- ☐ Monoceros
- ☐ Pictor
- ☐ Puppis
- ☐ Volans

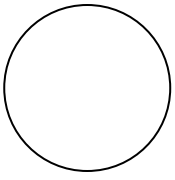
LUNAR PHASES

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.

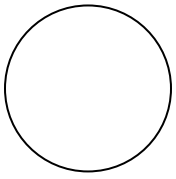
☐ **Waxing Crescent**
Visible Feb 1-5
Date and Time:



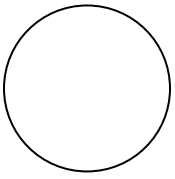
☐ **Waning Gibbous**
Visible Feb 15-21
Date and Time:



☐ **Waxing Gibbous**
Visible Feb 7-13
Date and Time:



☐ **Waning Crescent**
Visible Feb 23-28
Date and Time:



true martian

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THE CLASSICAL PLANETS

☐ **Mercury -** Evening sky. Moving lower into sunset at the beginning of the month.

☐ **Venus -** Eastern morning horizon. Greatest illuminated extent on Feb 15 at 9h UT.

☐ **Mars -** Rising at midnight in Virgo.

☐ **Jupiter -** Transits late evening in Gemini.

☐ **Saturn** - Rising early morning in Libra.

MESSIER OBJECTS VISIBLE IN THE EVENING SKY

TAURUS

☐ M1 The Crab Nebula

LEPUS

☐ M79 Globular Cluster

AURIGA

☐ M36 Open Cluster

☐ M37 Open Cluster

☐ M38 Star Cluster

ORION

☐ M42 Great Orion Nebula

☐ M43 Mairan's Nebula

☐ M78 Reflection Nebula

GEMINI

☐ M35 Star Cluster

CANIS MAJOR

☐ M41 Open Cluster

MONOCEROS

☐ M50 Open Cluster

PUPPIS

☐ M47 Open Cluster

☐ M46 Star Cluster

☐ M93 Star Cluster

ADD YOUR OWN TARGET

☐ _____

☐ _____

COMETS

☐ **C/2013 R1 (Lovejoy)**

☐ **C/2012 X1 (LINEAR)**

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

DWARF PLANETS

☐ **Ceres -** Rising at midnight in Virgo, magnitude 7.

☐ **Pluto -** Rising on eastern horizon before sunrise in Sagittarius, magnitude 14.

ASTEROIDS

☐ **4 Vesta -** Rising at midnight in Virgo, magnitude 6.

☐ **2 Pallas -** At opposition on February 22 at 9h UT in Hydra.

METEORS AND SATELLITES ☐

Choose a night to record any meteors or satellites you observe. (ex: 𝍸) 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.