

# WEEKLY STARGAZERS' NEWSLETTER

by Dr. Bob

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These are the notes that I use for the weekly radio broadcast on Rome Radio Station WLAQ AM 1410 and FM 96.9. The program airs at 7:50 a.m. each Tuesday morning. The radio station also has a live FaceBook broadcast at the same time: WLAQ-Rome. Send questions to: ryoung@highlands.edu

Etowah GYSTC  
Website QR code



## OBSERVATION PERIOD:

10/11/22 – 10/17/22

## FUN FACT OF THE WEEK:

We know that a day is caused by the Earth spinning on its axis once every day at 23 hours 56 minutes. Have you ever wondered how long a day would be on other planets? The planet with the shortest day is Jupiter at 9 hours 55 minutes! That is especially surprising since it is so large, over 1,000 times larger than the Earth. The planet with the longest day is Venus at 243 days 26 minutes.

## MOON FOR THE WEEK:

The Moon will be **Third Quarter** on Monday, October 17<sup>th</sup>. Also on the 17<sup>th</sup> the Moon will be at **Apogee**, furthest distance from the Earth, 404,328 kms (251,238 miles).



Third Quarter

To convert kms to miles, multiply kms by 0.62 miles/km.

## HORIZON TO HORIZON PLANET VIEW

The sun rises at 7:42 a.m. (EDT) and sets at 7:13 p.m. (EDT). The Sun is still in the constellation Virgo, the Maiden. The Earth is now 0.998 AU from the sun as compared to 1.0005 AU last week. As we have discussed, the Earth is getting closer and closer to the Sun by the week.

As a review, one **Astronomical Unit** is about 93 million miles. Thus, the current distance to the Sun is  $1.49 \times 10^8$  kms or  $0.92 \times 10^8$  miles.

The Sun will reach an altitude of 49.9 degrees from 51.6 degrees altitude last week.

### **The Planets:**

**Mercury** rises at 6:18 a.m. That is about 30 minutes before the Sun. Look for it low on the Eastern horizon before sunrise.

**Venus** (Earth's Twin) rises at 7:28 a.m. which is 15 minutes before the Sun. Venus is too close to the horizon at sunrise to view.

**Mars** rises in the East at 10:44 p.m. The Red Planet will be up all night long. By 5:53 a.m. it crosses the meridian, so it is high in the South before sunrise.

**Jupiter** rises in the East at 6:33 p.m. Jupiter crosses the meridian at 12:34 a.m. This planet is visible all night long. The best time to see it might be 9:00 p.m. where it will be high in the eastern sky. If you get up before sunrise, Jupiter will be lower toward the western horizon and very bright. This Gas Giant is the largest planet in the Solar System. It is larger than all of the other planets put together. If you have a pair of binoculars, you can easily see the four Galilean Moons. Jupiter with its big red spot has a total of 79 moons, last count.

**Saturn** rises at 4:35 p.m. and can be seen all night long. The Saturn is one of the best objects to be seen with a small telescope. The Ringed Planet crosses the meridian at 9:47 p.m. making this planet in a perfect location to study. Saturn will set in the western sky at 3:04 a.m. Saturn has the beautiful ring system and has the most moons of any planet in the solar system.

### **MARS ROVER PERSEVERANCE**

To get regular and current updates on the progress of NASA's Perseverance rover on Mars, go to the website:

<https://www.space.com/news/live/mars-perseverance-rover-update>

### **SATELLITES FOR THE WEEK (ISS PASSES):**

There are no good views of the International Space Station this week.

## **CELESTIAL FEATURE OF THE WEEK:**

### **Cepheus the King**

He is featured in the Perseus legend as the husband of lovely Cassiopeia and father of Princess Andromeda, and whose brother Phineus expected to marry Andromeda.

When the god **Poseidon** sent the sea monster Cetus to attack Aethiopia after his wife boasted that Andromeda was more beautiful than the Nereids, Cepheus and Cassiopeia consulted with a wise oracle who told them to sacrifice Andromeda to Cetus. Cepheus and Cassiopeia had Andromeda chained to a rock near the ocean so that Cetus could devour her.

Andromeda was saved from this fate when Perseus arrived and killed Cetus. Cepheus and Cassiopeia allowed Perseus to become Andromeda's husband after he used Medusa's head to turn Phineus and his men to stone.

It was one of the 48 constellations listed by the 2nd century astronomer Ptolemy, and remains one of the 88 modern constellations.

There a couple of interesting stars in Cepheus:

In the center of the constellation, **VV Cephei A**, is currently recognized as one of the largest stars in the galaxy, with an estimated radius of 1,050  $R_{\odot}$ , over a **billion times the volume of the sun!!**

**Garnet Star** in the center of the base of the house asterism. This is a nice red star that happens to be closed to the “north star” of Mars, HD201834.

## **SPACE HISTORY OF THE WEEK**

### **October 13, 1773, Charles Messier, observed M51**

the Whirlpool Galaxy, one of the most beautiful and famous of them all. Part of a two-galaxy system 23 million light years away, it has been a favorite for amateurs and professionals alike for more than 160 years.

You can see the Whirlpool Galaxy with a pair of binoculars by looking just off the underside of the end of the handle of the Big Dipper.

### **October 14, 1947, first supersonic flight.**

The first manned supersonic flight occurred on 14 October 1947, less than a month after the U.S. Air Force had been created as a separate service.

Captain Charles "Chuck" Yeager piloted USAF aircraft Bell X1 #46-062, nicknamed **Glamorous Glennis** for his wife. The airplane was drop launched from the bomb bay of a modified B-29 Superfortress bomber and reached Mach 1.06 (700 miles per hour).

Following burnout of the engine, the plane glided to a landing on the dry lake bed. This was XS-1 flight number 50.

### **QUESTION OF THE WEEK**

**Why would we want to try to send a colony to Mars, why not another planet? Hank B.**

As far as planets go, Mars is the only other one to consider.

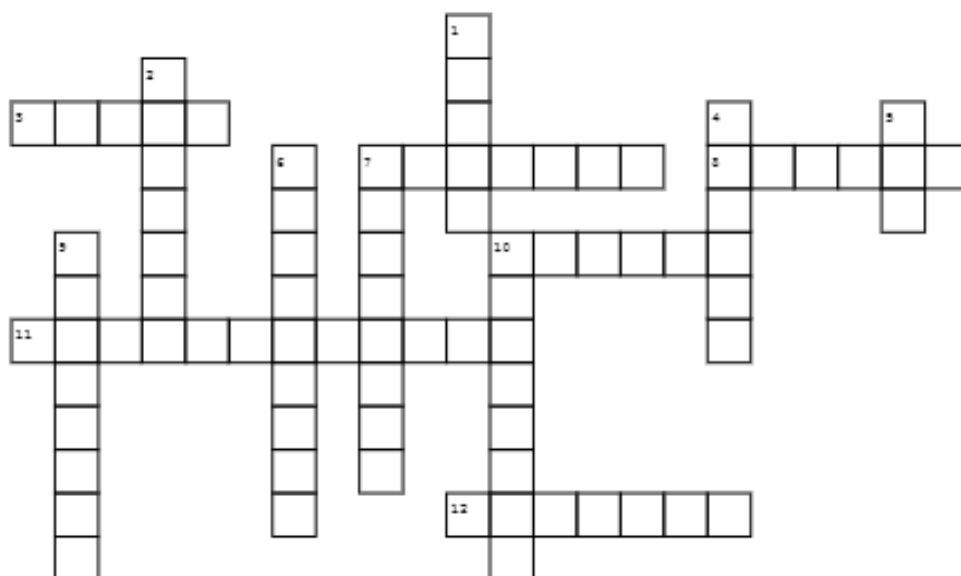
Mercury is -200 degrees at night +800 degrees during day and no atmosphere at all.

Venus is 860 degrees, tremendous pressure 98 times that of Earth (1,323 lb/in<sup>2</sup>) and it rains **sulfuric acid**.

Mars – no liquid water but a lot of ice at poles, atmosphere 1% of Earth, axis tilted like Earth so it has seasons, its temperature range is -82 ... 95F

Outer planets do not have a solid surface... gaseous only

# The Stargazers' Newsletter



## Down:

1. Current phase of the Moon this week
2. Largest planet in the Solar System
4. Which star in Cepheus, the King, is closest to Mars' "North Star"?
5. The planet with the amber hue, the \_\_\_\_\_ Planet
6. What did Chuck Yeager call his X-1 rocket plane that he used to break the sound barrier? \_\_\_\_\_ Glennis
7. To calculate miles from kms, you \_\_\_\_\_ kms by 0.62
9. The god who sent Cetus, Sea Monster, to attach Aethiopia
10. What is the rain on Venus made up of? \_\_\_\_\_ acid

## Across:

3. Earth's Twin with a very thick atmosphere
7. The planet last up in the Eastern Pre-dawn sky
8. The distance of the Moon from Earth this week
10. Planet with the most moons
11. The distance between the Earth and Sun... \_\_\_\_\_ Unit
12. How much larger is VV Ceiphei A than the Sun.. more than a \_\_\_\_\_ times.