

# 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

**OBSERVATION PERIOD:**  
08/30/22 – 09/05/22

Etowah GYSTC  
Website QR code



## **FUN FACT of the Week:**

When humankind goes to Mars, will there be a “North Star” like we have on Earth (Polaris)? The answer might surprise you. Mars is close enough to Earth that the sky appears virtually identical to that on our planet, with all the stars and constellations in the same configurations. Unfortunately, there is no star directly above the celestial pole for Mars. So, for all intents and purposes, humans on Mars would **not** have a bright, easily visible “North Star” to guide them.

Under ideal conditions or with binoculars or a telescope, inhabitants on Mars could use star HD 201834 as their Martian North Star. I guess if you live on Mars and you can find this very dim star with a telescope, you already know where North is!

## **MOON FOR THE WEEK:**

The Moon will be First Quarter on Saturday, September 3<sup>rd</sup>. On Saturday, the Moon will cross the meridian at 2:05 p.m., six hours behind the setting Sun.

The Moon is 371,909 kms (231,093 miles) from the Earth. This is 33,509 kms (20,821 miles) closer to the Earth than it was last week (405,418 km or 253,779 miles).



First Quarter

## **HORIZON TO HORIZON PLANET VIEW**

The sun rises at 7:12 a.m. (EDT) and sets at 8:11 p.m. (EDT). This week the Sun still appears to be in the constellation **Leo**, the Lion. Additionally, the Earth is getting closer to the Sun. Last week it was 1.010 AUs from the Sun and this week it is 1.0098 AUs! On Sunday, January 4<sup>th</sup>, the Earth will reach perihelion and will be 0.9838 AUs from the Sun.

This week, the Sun will reach an altitude of 64.9 degrees above the horizon which is lower than it was last week (67.3 degrees above the horizon).

### **The Planets:**

**Mercury** sets in the evening sky at 9:06 p.m. an hour after the Sun. This should mean that you might get a good glimpse of this elusive planet low on the western horizon after sunset. Mercury crosses the meridian at 3:16 p.m., about mid-day.

**Venus** rises at 6:03 a.m. which is about an hour before the Sun. It is so close to the Eastern horizon at sunrise, you should still be able to see it, as long as you have a good low eastern horizon and clear skies. Earth's Twin crosses the meridian at 12:47 p.m., around lunch.

**Mars**, the Red Planet with its two moons, rises at 12:27 a.m., just after midnight. You should be able to see it rise in the East and cross the sky until sunrise the next morning. The best time to spot it is in the early morning before sunrise. Mars crosses the meridian at 7:23 a.m. so if you are looking before sunrise, say about 6:00 a.m., it will be just to the left of the meridian (eastward). Look for the amber hue of this planet. It is pretty bright and will be easy to spot.

**Jupiter** rises in the East at 9:32 p.m. By mid-night it will be pretty high in the eastern sky. It will cross the meridian at 3:38 a.m. If you get up before sunrise and look for it, it will be to the right of the meridian and very bright. Jupiter is an easy planet to view, all you need is clear skies.

**Saturn** rises at 7:27 p.m. and can be seen all night long. The Ringed Planet is a great evening sky object. Saturn crosses the meridian at 12:45 a.m., just after mid-night, so it is high all night long.

## **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 ISS passes during this week's observation window.

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

### **Cepheus. The King**

Cepheus is a constellation in the northern sky. It is named after Cepheus, King of Aethiopia in Greek mythology. It was one of the 48 constellations listed by the 2nd century astronomer Ptolemy, and remains one of the 88 modern constellations.

Cepheus looks like a house with the vertex of the roof pointing roughly toward the North Star...

Cepheus was the King of Aethiopia. He was married to Cassiopeia and was the father of Andromeda, both of whom are immortalized as modern day constellations along with Cepheus.

There is story about how Cassiopeia offended the sea god, Posidion by what he said. Posidion had the Kracken (sea monster) go to destroy the kingdom.. but a seer suggested that Cepheus offer his daughter Andromeda to the Kracken in exchange for not destroying the kingdom. Hence Andromeda the changed princess.. as she was chained to the rocks along a rocky shore. As the Kracken was about to devore her, Perseus the hero flying on Pegesas came to the rescue and saved her.

## **SPACE HISTORY OF THE WEEK**

Sept 1, 1979: Pioneer 11 becomes first spacecraft to fly by at Saturn.

Pioneer 11 (also known as Pioneer G) is a 259-kilogram (571 lb) robotic space probe launched by NASA on April 6, 1973 to study the asteroid belt, the

environment around Jupiter and Saturn, solar wind, cosmic rays, and eventually the far reaches of the Solar System and heliosphere. It was the first probe to encounter Saturn and the second to fly through the asteroid belt and by Jupiter. Due to power constraints and the vast distance to the probe, last contact with the spacecraft was on September 30, 1995.

### **QUESTION OF THE WEEK**

**What is the difference between a “shoot star” and a meteor? Tony M.**

Hey, Tony, this is a fun question. It is no wonder that folks who see a “shooting star: call it just that. One moment you don’t see anything then all of a sudden you see this streak of light firing across the sky. As we have spoken before, there are times when we can see a “shooting star” shower. Of course we don’t call it that, we call it a meteor shower. Getting back to why folks call them “shooting stars”. They apparently look small like a star and they are bright.

In actuality, stars are enormous, thousands, millions, and sometimes billions of times large than the Earth. Everyday shooting stars (meteors) range in size from pieces of sand to large rocks. Of course, there are some very big meteors that happen once in a great while.

Since meteors are moving at great velocities, 10s of thousands of miles an hour, when they strike the Earth’s atmosphere, they burn up and leave a long streak in the sky. Some do not completely burn up but land on the ground as a red hot mass.

Scientists refer to the object in three categories depending on where it is: Meteoroid, Meteor, and Meteorite.

**Meteoroid:** Material flying (floating in space since the beginning of time)

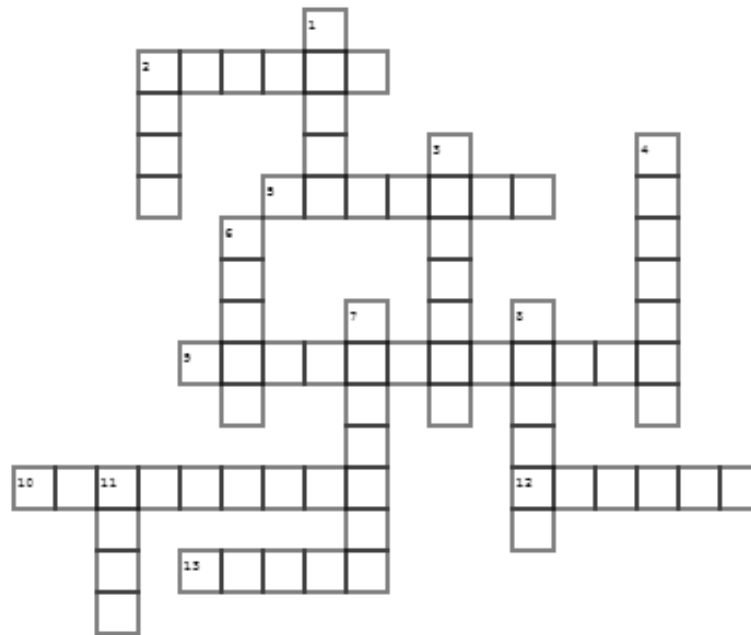
**Meteor:** (Shooting Star)

Growing debate: friction as meteor rubs air molecules vs ram pressure heating up do to the huge pressure in front of the meteor

**Meteorite:** the meteor that finds its way through the Earth’s atmosphere and lands on Earth.

A couple tons of meteoroid material hits the Earth's atmosphere each day. Much of it finally hits the Earth, some little larger than fine sand or dust.

## The Stargazers' Newsletter : 22-08-30



### Down:

1. What is the shape that is often used to describe the constellation Cepheus?
2. What planet has two moons?
3. Which planet is West of the meridian at sunrise?
4. What was the first satellite that first passed by Saturn? \_\_\_\_\_ 11.
6. What is the color of Mars? \_\_\_\_\_ hue
7. What is the name of the constellation that is referred to as the King?
8. Which planet rises in the East at 7:30 p.m. and is visible all night long?
11. What is another name for Venus? Earth's \_\_\_\_\_

### Across:

2. The correct name of a "shooting star"?
5. Planet that sets in the West at 9:08 p.m.
9. What is the name of the last Martian rover that is currently operating on the planet?
10. A "rock" that was traveling in space and fell through the atmosphere and landed on the Earth.
12. What is another name for Saturn? It is the \_\_\_\_\_ planet.
13. Which planet rises in the East about an hour before the Sun?