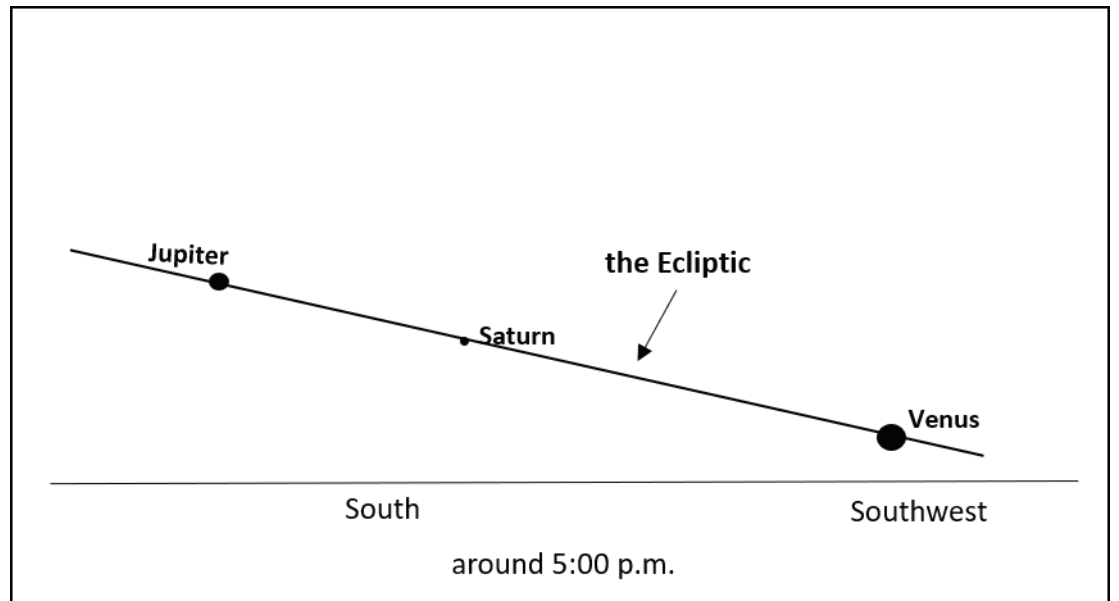


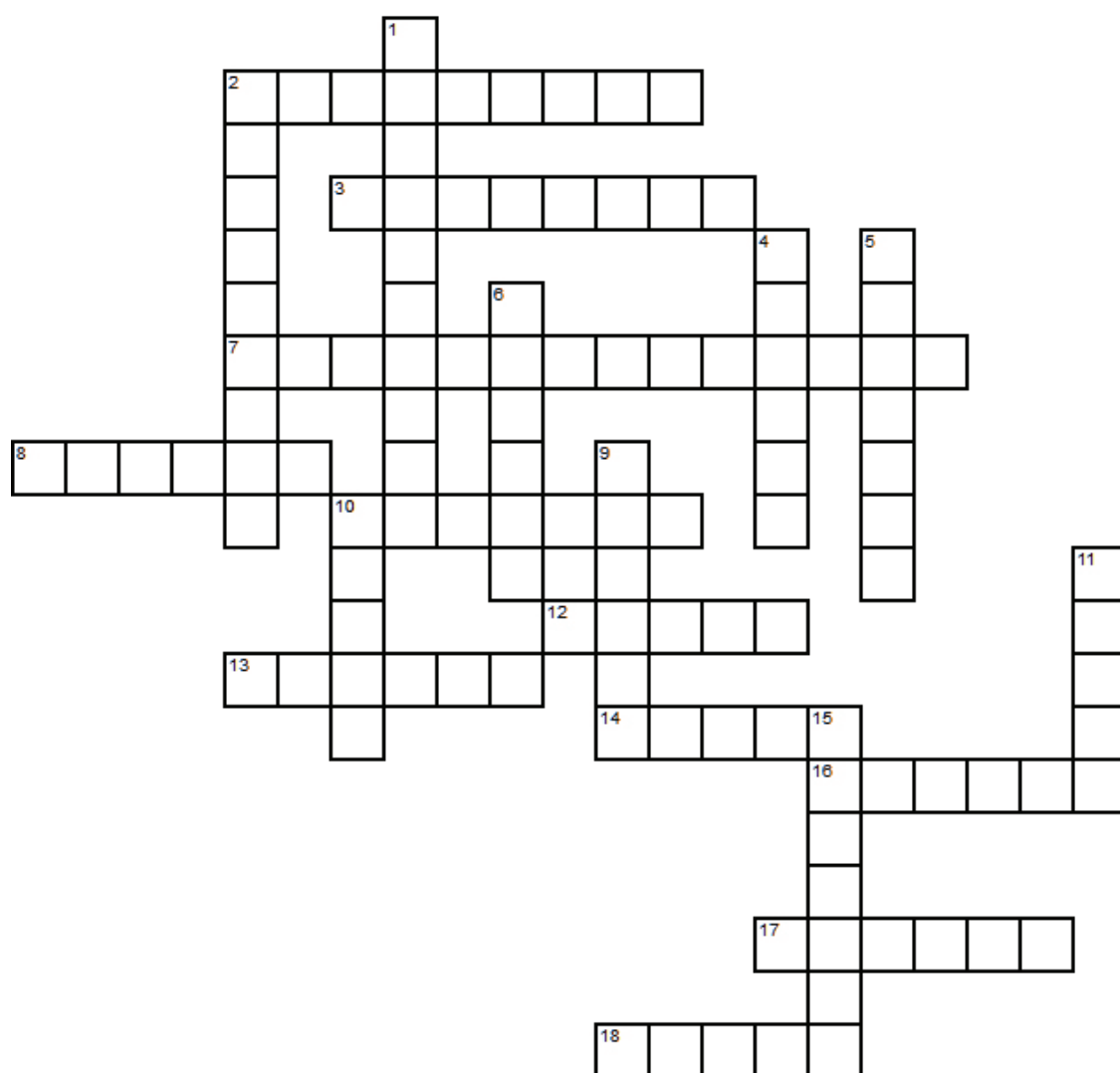
WHAT'S UP?

Hello. It's that time of the year when we look back on what was and look ahead to what will come. I've been remiss in giving you advance notice on some events and will work harder to not let that happen in 2022. Did anyone see the partial lunar eclipse in November? I got to view part of it from the Delaware shore at 0400 in a parking lot. Staying at an old inn, I think I contributed to the stories of ghosts roaming the corridors in the early morning hours! The annual Geminids meteor shower peaked on December 12th/13th. I got to see a few bright ones around midnight, but the Moon was too bright to see many of the dimmer meteors. The night of January 3rd/4th will bring the peak of the Quadrantids meteor shower. These streaks of burning dust particle all seem to originate from a spot between Draco and Boötes in the northeast. The Moon will be a slim, waxing crescent that night and won't interfere at all with our views.



At sunset now, Venus, Saturn, and Jupiter are still visible in the southwest, pearly beads on a string running from where the sun is setting up and to the left. This diagram shows which is which. The Sun reached its lowest declination in our skies on December 21st – the Winter Solstice. From here until June 21st, 2022, our nights get shorter and the daylight time longer.

As we arrive at the end of the year, let's look back on the events and astronomy topics we've talked about in 2021. In the past twelve months, I've identified a lot of constellations. I've put together a little puzzle for you to while away some time at the end-of-year. After each clue is the number of the *What's Up?* installment where the answer can be found. Hopefully, you can get comfy and take some time to reflect. Astronomically speaking, it's been a great year. Happy Holidays!



- | Across | Down |
|--|---|
| 2 A telescope's large lens or mirror (40) | 1 Hunter's armpit (37) |
| 3 Annual August meteor shower (49) | 2 The 13th constellation of the Zodiac (50) |
| 7 Greek for "giraffe-camel" (42) | 4 Asterism in Sagittarius (50) |
| 8 Home to the wild ducks (52) | 5 Animal depicted by Monoceros (39) |
| 10 Heart of the lion (47) | 6 Castor's twin brother (39) |
| 12 Famous Saturn feature (53) | 9 The Charioteer (42) |
| 13 Earth-years in one Saturn year (53) | 10 A branch of astronomy that uses long wavelength light (41) |
| 14 First sign of the Zodiac (39) | 11 The Hunter (37) |
| 16 Number of years in a sunspot cycle (51) | 15 Constellation that is split in two (52) |
| 17 Color of the dragon Xuanyuan (47) | |
| 18 Canis Major's quarry (38) | |

You can reach me at astroblog@comcast.net with any questions and comments. This is What's Up? installment #55.

Barry