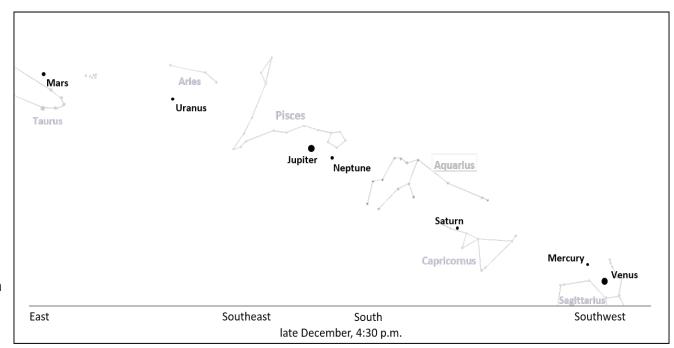


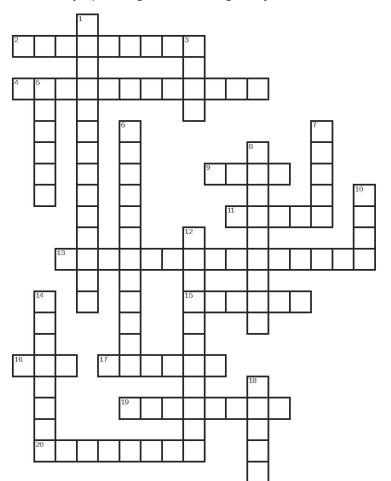
Happy Holidays! A quick review of *What's Up?* articles in 2022 shows that we added twelve constellations to our night sky knowledge. We have four more to cover and we'll see them in 2023. We've also been tracking the changing positions of the planets as they and we orbit the Sun. This brings up one of the explanations that is sometimes given for the Christmas Star. However, we know that they are not stars and their appearance in the sky aren't sudden and unexpected events. Then, people who watched the sky as we've done all year, would have seen the planets slowly moving through the sky would have known just where they would be and when.

The Sun reached its lowest declination in our skies on the afternoon of December 21st the Winter Solstice. From here until June 21st, 2023, our nights get shorter and the daylight time longer. A dozen or so hearty souls came to the Plympton Public Library on the 1st to join me and South Shore Astronomical Society members Michael Collver and Brendan Smith to view the 1st Quarter Moon, Jupiter, and Saturn. The clouds came and went, but when clear, the views were spectacular. I'll try to keep you posted on similar events in 2023.



Planet Roundup: All of the planets are visible in our night sky just after sunset. The map above shows the lineup. To see Mercury and Venus, you'll have to be at a site with clear western horizon. If you wait an hour past that, then it'll be darker and seeing the other five planets that are in the sky will be easier. As always, you'll need binoculars or a telescope to find Uranus and Neptune. Don't forget, we can see the eighth planet 24/7/365! As to the Moon, the 1Q Moon is on December 29th, the Full Moon is on January 6th, the 3Q Moon is on the 14th, and the Moon will be New on the 21st.

As we have done the in the past, here is 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.



Across

- 2 The 13th constellation of the Zodiac (60)
- **4** What satellites disappear into as they cross our sky (59)
- 9 The "Wonderful Star" (57)
- 11 Sea monster sent by Poseidon (57)
- 13 Fishy constellation below Aquarius (63)
- 15 2nd asteroid discovered (56)
- 16 Color of Aldebaran and Mars (62)
- 17 Asterism in Sagittarius (60)
- **19** Grandfather, in Chinese. It's a star also called Phact. (58)
- 20 A winding river of a constellation (57)

Down

- 1 Event that happens in Australia when Summer starts up here (60)
- **3** Abbreviated name of a great local astronomy club (61)
- 5 Constellation of the Air Pump (58)
- **6** Celestial event that causes the Moon to change its appearance (59)
- 7 Horizon-hugging wolf (62)
- 8 Lunar "sea" seen at the far-western edge of the Moon (57)
- 10 Low-flying bird below 13-Across (63)
- 12 Sometimes a great place to find dark skies (60)
- 14 Where you are in one can REALLY change the time it gets dark (61)
- **18** Dwarf planet discovered in 1801 (56)

Barry

You can reach me at astroblog@comcast.net with any questions and comments. This is What's Up? installment #64.