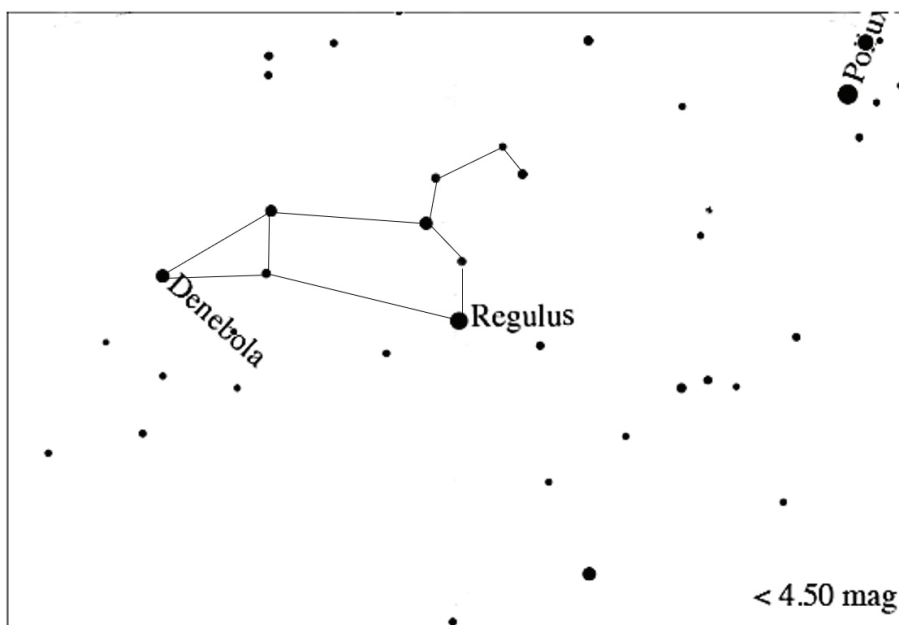


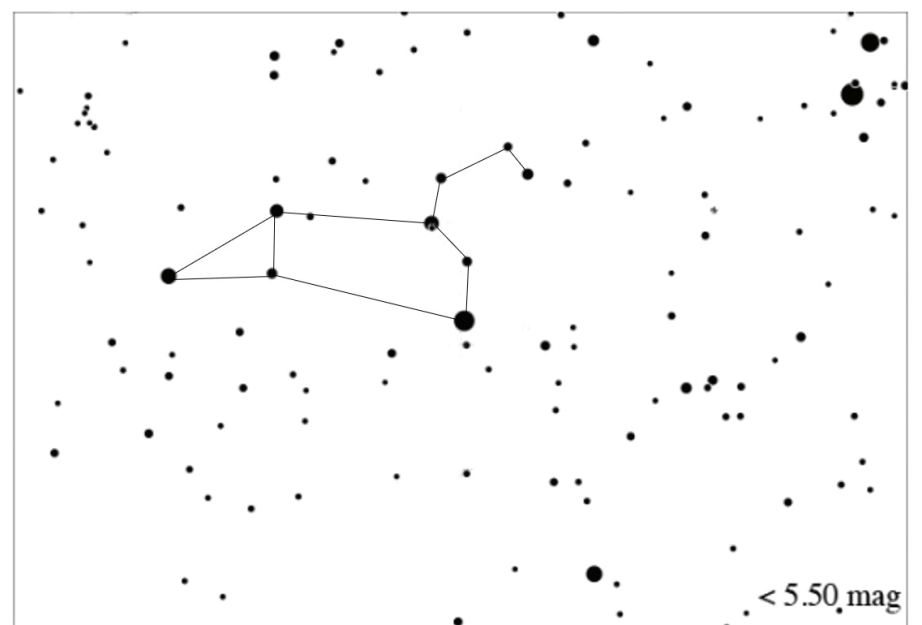
WHAT'S UP?

Hi! Last week was International Dark Sky Week, so I thought I'd say a few words about dark skies. As I've written before, we Plymptonians, Halifaxians, and Kingstonians have a great resource in our dark night sky and a resource is "a natural feature or phenomenon that enhances the quality of human life." Light in our night skies affects both animals (migration patterns) and plants (trees may bud earlier, before the danger of frost is past). And as to us humans, besides disconnecting us from nature, unneeded lighting costs us money when we pay our electric bills. As to safety, well-designed lighting (putting the light where it is most needed) provides a safer space than just "more" lighting will do. General guidelines for outdoor lighting are that it only be on when needed, only light the area that needs it, be no brighter than necessary, minimize blue light emissions (a component of white LED light that is more disruptive to our sleep cycles, which in turns causes other health-related problems), and be fully shielded (pointing downward). As I travel around our towns, I see examples of well-done lighting and bad lighting. Take a look at the outdoor lighting at your house. How do each of the lights compare with the general guidelines? If they differ, can you make any easy changes to make them match better with the guidelines? We all need to do our part in this. And remember – eliminating unnecessary lighting saves you money! The International Dark-Sky Association has loads of information about how to keep our dark skies dark (<https://www.darksky.org/> and <https://www.darksky.org/our-work/lighting/lighting-for-citizens/residentialbusiness-lighting/>).

I invite you to go out at night and evaluate the darkness of the sky from your yard. The *Globe at Night* program (<https://www.globeatnight.org>) is an international citizen-science campaign to raise public awareness of the impact of light pollution by inviting citizen-scientists to measure their night sky darkness and submit their observations from a computer or smart phone. More than 200,000 measurements have been contributed from people in 180 countries over the last 14 years. How does it work? Each month when the Moon is not in the evening sky (roughly between the 3Q and New Moon phases), the program asks you to go outside at least an hour after sunset and let your eyes become used to the dark for 10 minutes before your first observation. Find the particular constellation they designate and compare the stars that you see with charts that are matched to different levels of darkness. For instance, the *Magnitude 4 Chart* shows all the stars that have a visual magnitude of 4.5 and higher. The *Magnitude 5 Chart* adds all of the stars between magnitude 4.5 and 5.5. Here's an example. For the April reporting period that just passed, *Leo* was the constellation that was selected. Since it is an easy constellation to recognize (we saw it in *What's Up?* #19 last May) go outside and after your eyes have adjusted to the darkness, compare the stars that you see with the charts shown here. Which chart matches best with the number of stars that you see?



Magnitude 4 Chart



Magnitude 5 Chart

The charts range from Magnitude 0 to 7 (<https://www.globeatnight.org/magcharts/leo>). From here, you can submit your data using their report page (<https://www.globeatnight.org/webapp>). If you don't want to make a report, that's fine but you should still go outside and try this. If you don't see as many stars as you think you should be able to, look around you. Are there lights on your property that aren't really needed to be on? The night sky is a treasure that we all share and we all have to take care of it! For educators, the program has a lot of resources you can use in your classrooms. Go to <https://www.globeatnight.org/dsr> to see what's there.

If you're thinking about listening for meteors on your FM radio as explained in the March 12th *What's Up?*, the *Lyrids* meteor shower is at its peak on the night of April 21st-22nd and the *eta Aquariids* shower has its peak on the night of May 4th-5th. Check them out! As to what else is happening in our night sky, the Moon reaches its First Quarter phase on Tuesday night (the 20th) and is just 5 degrees to the left of Mars. If you are looking at the Moon through binoculars or a telescope look just below it and you will see open star cluster Messier 35 just off the left foot of Castor, one of the Gemini twins. Jupiter and Saturn are bright in the morning sky.

You can reach me at astroblog@comcast.net with any questions and comments you have. This is *What's Up?* Installment #43. Until next time, Keep looking up!

Barry