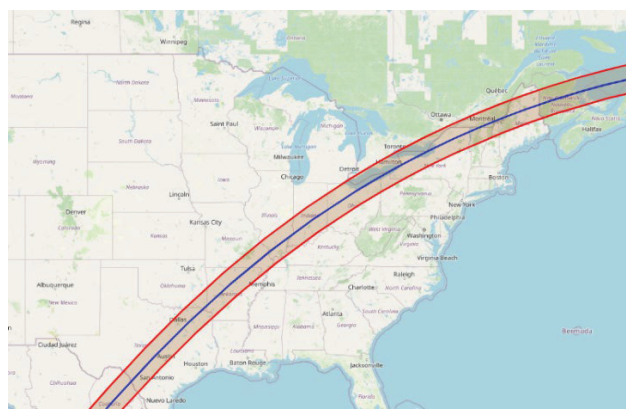
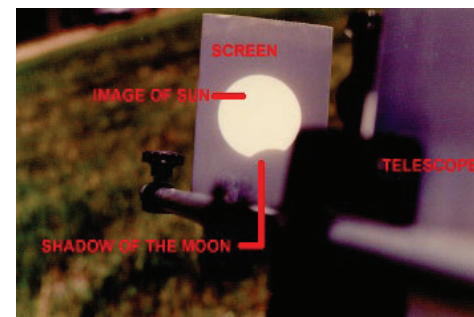


# WHAT'S UP?

Hi. Spring is here! The Sun crossed the celestial equator in our sky around 11 p.m. on Tuesday, the 19<sup>th</sup>. I guess that made Wednesday, the 20<sup>th</sup>, the first “day” of Spring for us. I say that “the Sun crossed the celestial equator”, but we know that it did nothing of the kind. The Sun stayed right where it always was. It was the Earth’s motion around the Sun that changed where the Sun appeared in our sky. In case you’ve forgotten, or didn’t know, the *ecliptic* is a line in our sky that represents the plane of our orbit as projected onto the sky. The Sun and most all other Solar System objects appear to move along this path. At the beginning of Spring, the Sun is at the point on the ecliptic where it crosses from the southern part of the sky to the northern. The word ecliptic comes from the Greek word ἐκλειπτικός, which means something like “of or belonging to an eclipse”. So, for us to have eclipses (lunar, solar, one planet by another, etc.) the bodies must lie on (or very nearly on) this line. And, they do! Speaking of eclipses (what a segue, eh?), I’m sure that you have heard by now that we have a *solar eclipse* coming right around the corner, on April 8<sup>th</sup>. On that day, from where we are located, the black disc of the Moon will begin to cover the Sun’s disc. The eclipse begins here at 2:16 p.m., reaches its greatest extent at 3:30 p.m., and ends at 4:40 p.m. At mid-eclipse, viewers here will see about 92% of the Sun covered by the Moon. Since at no time will the Sun be *completely eclipsed*, you **MUST** use safety precautions if viewing the eclipse. Special “eclipse glasses” are needed if you are going to look up at the Sun. These are cardboard glasses that have a piece of aluminized mylar over the eyeholes. These glasses block 99.999% of the Sun’s light. Be sure that you buy from a reputable source. The website, <https://eclipse2024.org/>, has links to sources that have been approved by the American Astronomical Society. I can’t say to definitely buy though them (my legal team would take exception). But hurry, they will go fast! Another way to view the eclipse is through a telescope that has a solar filter *over the front* of the telescope. Do not look through a telescope that has a filter placed just before the eyepiece. These can crack from the heat of the sunlight and expose your eye to blinding light levels in an instant. Another way to use a telescope is to set it up to project the Sun’s image onto a white card. A great equipment-free way to view is to go under a tree and look at the ground. Do you know how, when you look at the ground beneath a tree, you see little circles of light coming through the leaves? Those circles of light are the Sun’s disc, projected onto the ground. Each little passageway through the leaves forms a pinhole camera that focusses the Sun onto the ground! During an eclipse, instead of circles, you’ll see the partially eclipsed disc of the Sun. It’s a very cool effect. I’m also told that using a kitchen colander will work too, but I’ve never tried it. Now, all this is great. However, if you can get yourself into the path of *totality* – where you can see the Sun *100% eclipsed*, I can’t recommend it enough that you do so! I’m in my mid-sixties. I’ve been doing astronomy since I was nine years old. I’ve seen pictures of total solar eclipses. I’ve seen videos of total solar eclipses. I knew all about total solar eclipses. But, until 2017 when I stood under the totally-eclipsed Sun, I hadn’t a clue about them. It is truly the only thing I’ve ever experienced deserving of the term “awesome”. It was unlike anything I have ever seen.



During totality, you can take off your filtered glasses and look directly at the eclipsed Sun. You’ll see the perfectly round, perfectly black New Moon surrounded by the white, filamentary solar corona. Even though it is midday, it’s dusky. It’s a bit chillier. The birds and insects act differently. You can find a map of the ground-path of the eclipse here: [https://eclipse2024.org/eclipse\\_cities/statemap.html](https://eclipse2024.org/eclipse_cities/statemap.html). Anywhere between the red lines will experience totality. Sites along the blue line will experience the longest times of totality. For this eclipse that will be upwards of four minutes in places. I’ve included the map here, but if you go to the website, you can zoom in and get more specific information.

**Planet Roundup:** By now, Neptune has gone below the western horizon by nightfall and Jupiter, while still very bright is just 15 degrees above the western horizon, with Uranus above and to the left. The Full Moon is on March 23<sup>rd</sup>, the 3Q Moon is on the April 1<sup>st</sup>, 1Q, the New Moon (and solar eclipse!) is on the 8<sup>th</sup>, and the next 1Q Moon is on the 15<sup>th</sup>.

You can email me at [astroblog@comcast.net](mailto:astroblog@comcast.net) with any questions and comments. This is *What’s Up?* installment #82.

Barry