


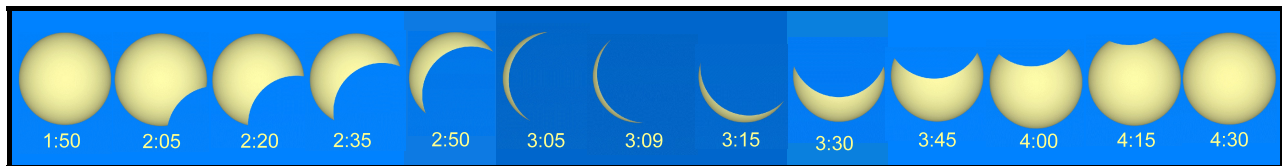
# April Skies over the Pinnacles

April 2024  
by Jeff Hutton

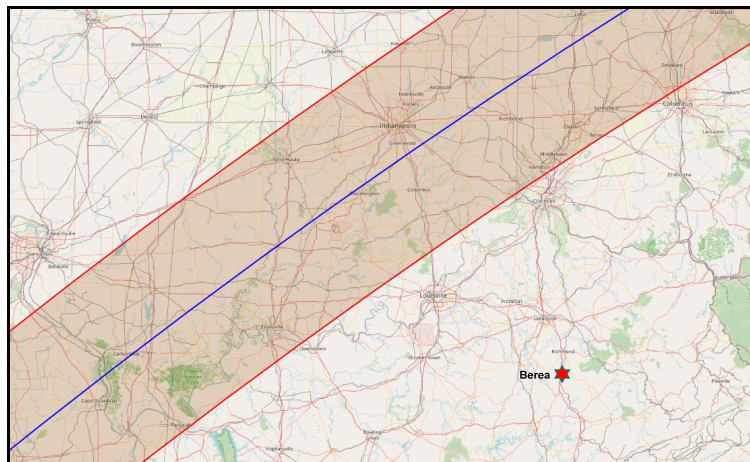
## April's Four Principal Phases of the Moon

April 2	Last Quarter	
<b>April 8</b>	<b>New Moon</b>	
April 15	First Quarter	
April 23	Full Moon	

## What Will We See in Berea on April 8?



Here's a series of simulated images and clock times taken from the NASA website located at [https://eclipse2024.org/eclipse-simulator/2024/index.html?city\\_id=17062](https://eclipse2024.org/eclipse-simulator/2024/index.html?city_id=17062). Cut and paste it into your browser and you'll get an excellent guide to the April 8 solar eclipse. Below is a map of the path of the Moon's shadow as it tracks nearest us on the big day.

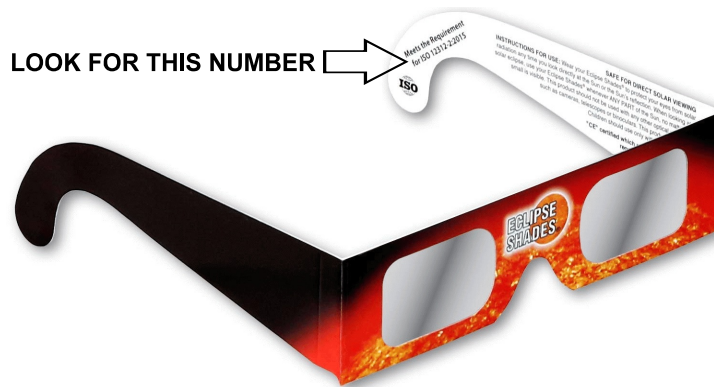


My wife and I are lucky enough to make the trip into the path of totality with a group of friends. Most folks don't have that luxury. If you're one of them, don't feel left out. There will still be a great show here in Berea. Even if it's cloudy, try to get outside a little after 3PM and experience the eerie darkness that will descend on Berea. If it's clear you have a wonderful opportunity to witness a great natural show!

I want to review some safe ways of seeing the Sun as it is reduced to a sliver as over 95% of the solar disk is covered by the moon. I will start with the most important thing I have to say.

**DO NOT EVER LOOK DIRECTLY AT THE SUN WITHOUT APPROVED EYE PROTECTION!**

There are two ways of viewing the sun that are safe. The first is by looking through an approved filter. This is usually in the form of approved solar eye wear that can range in the price range of FREE, to expensive. Most people will use inexpensive solar glasses like these.



**Solar safety glasses must meet the International Standards Organization number ISO 12312-2:2015**

You can also go to a welder's supply and buy a glass filter used for arc welding with a density of **#14 or darker**. These filters are usually sold for use in welder's helmets and may have sharp edges, so put tape around the edges to avoid being cut. I mounted a #14 welder's glass in a plastic handle for easy solar viewing. This method gives a clearer view of the sun, as long as you don't mind the sun being colored green.



The second safe way to view the Sun is by projecting it's image on a screen. This is even safer because, first, the projected image isn't bright enough to hurt your eyes and, second, you are looking away from the sun when you look at the projected image. I found this really great way to do this online. First, get a cereal box, a jumbo size works best. (Eat the cereal first!) Take out the inner bag and tape a small white piece of paper in the bottom of the box. That's your screen. Next, cut away half of the box top and tape or glue the remaining half of the box top together. Cut a 1/2-inch square through the remaining, closed half of the box lid. Now put a piece of aluminum foil over your hole and tape it down. Finally, using a sewing needle or compass point, poke a clean hole through the foil.



Here, I used a piece of aluminum sticky tape over the hole and pushed the point of a compass through the tape. The tape helped hold the box together and made it stiffer.



Here's a closeup of the hole I made.

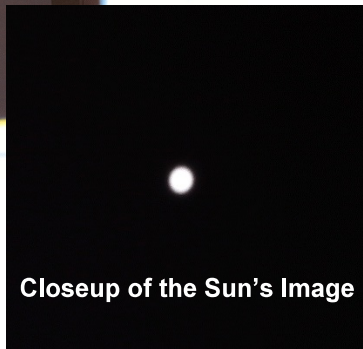




The final product, at left, is aimed at the sun this morning. To use it, face away from the sun and look through the hole left in the left side.



And what do you see?



Closeup of the Sun's Image

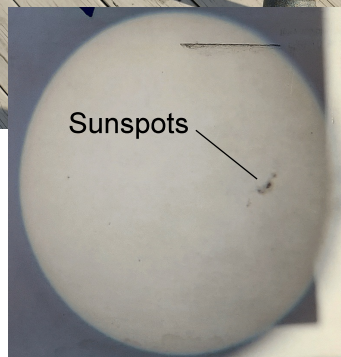
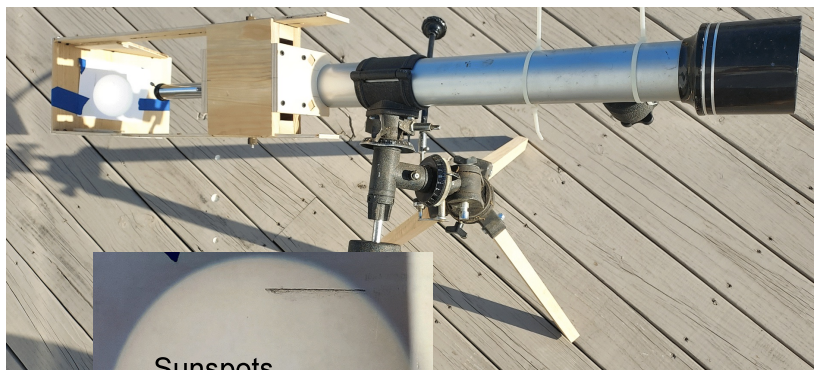


The Sun's Image on April 8



At left is a picture of the Safe Solar Projectors (SSP) I built with materials donated by the Forestry Outreach Center and given away free on March 30 to Berea teachers and other citizens for use on April 8.

Below is a telescope that a good friend rescued from a garbage can. It was re-purposed as a deluxe Safe Solar Projector.



Sunspots

This is the first projected image the "garbage telescope" produced, complete with a detailed image of a complex of sunspots!

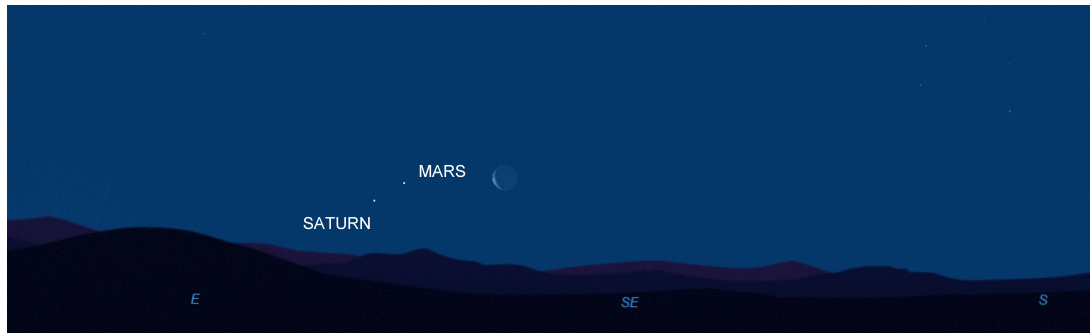
## Attractions in April

When you hold your hand all the way out and hold three fingers out, like the scout's salute in panel 2, your fingers create an **angular distance** of 5 degrees, about the width of the bowl of the Big Dipper. When I talk about the angular distance between, say, the Moon and a star or planet, I'll say that they are separated by a certain number of degrees. Sky and Telescope magazine is my source for most of the following information.



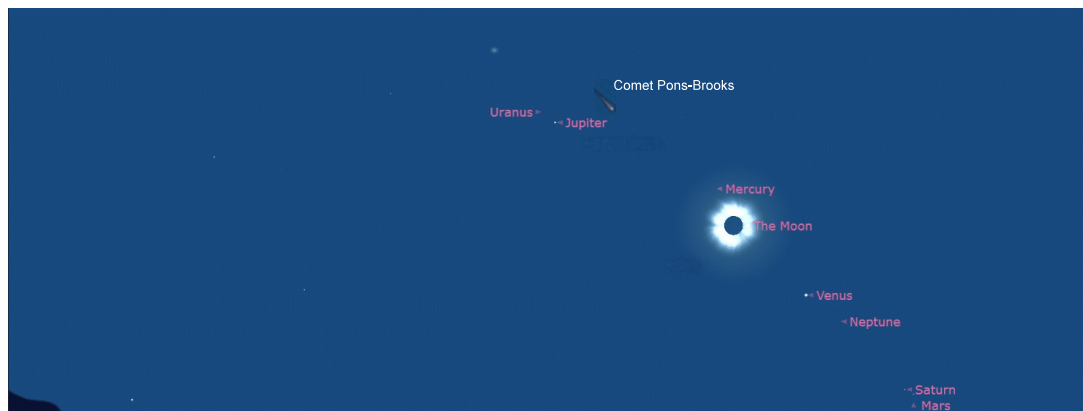
### April 6

As a preview of the planetary lineup that darkened skies during April 8<sup>th</sup> total solar eclipse will reveal, get up early and see Saturn and Mars as they follow the almost-new Moon into the southeastern sky.



### April 8

New moon and, um, the total eclipse of the Sun! Every solar eclipse is spectacular and for those in the path of totality there will be three extra-special treats. First, the sun is approaching its period of maximum activity. That may make its corona particularly spectacular. Second, all of the planets visible to the naked eye will be visible arrayed on either side of the sun, along the plane of the solar system, just like they should be. Third, Comet Pons-Brooks (aka, the 'Devil Comet') might be visible to the right of bright Jupiter.



### April 10

Check out the smug-looking Moon in the west after sunset just 4 degrees to the upper right of Jupiter. Don't forget the star cluster, the Pleiades hanging above.





**April 11**

Now check out how it looks like the Moon and Pleiades have done a do-see-so this evening.



**April 18**

Check out the gibbous Moon as it lies in the heart of the constellation Leo.



**April 21-22**

This is the best night to catch the annual Lyrid Meteor Shower. It might be the best year for these “shooting stars” because the bright Moon will light up the night sky, making the shower hard to see.

**April 22**

The Moon snuggles up to the blue star, Spica, in the constellation, Virgo, this evening.

