

# Seeing A Solar Eclipse Safely

There is a total solar eclipse on August 21, 2017 for all of North America. The moon's shadow will travel from west to east across the United States: even Alaska and Hawaii will be under the shadow of the moon on this day. An eclipse from coast to coast such as this hasn't been seen since 1918!



The Stateline area is north of the path of totality: the band of shadow where the moon completely blocks the sun. Those in the Rockford area will be able to see a "crescent sun" as the new moon comes between Earth and Sun. As the moon

slides in front of the sun, it will block all but 10-15% of the sun's light, depending on how far south you live. An eclipse takes almost three hours from start to finish. The time when most of the sun will be covered for our area is 1:16 p.m.

Whether you're sticking close to home or traveling to the path of totality, Discover Center has you covered! At NO time will it be safe to look at the sun during this eclipse because we in the Rockford area are outside of the path of totality. But safe viewing devices are easily constructed. On Sunday, August 20 and Eclipse Day, August 21, Museum members and the general public are invited to Discovery Center's eclipse event to make their own no-cost eclipse viewers. Visitors will get hands-on with the hows and whys of eclipses, check out solar projections from Discovery Center's telescopes, and explore space science. Plus, Discovery Center has a limited number of eclipse glasses to give away (one pair per household) on Sunday on Monday.

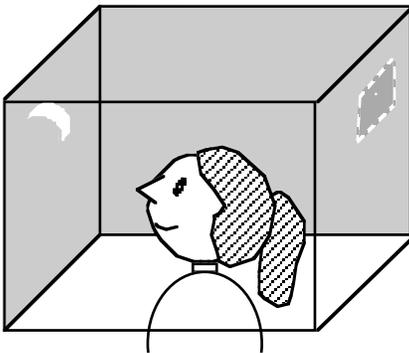
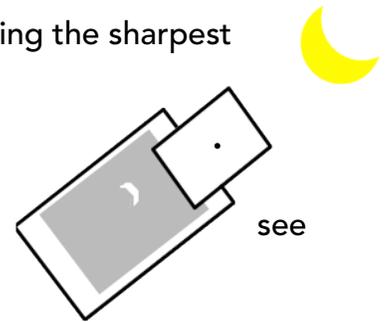
**Below are two ways to create your own safe eclipse viewers!**

**Remember: never look directly at the sun! Even a brief exposure to unfiltered sunlight can cause permanent retinal burns.**

Two types of eclipse viewers are described below. Practice getting the sharpest image a few days before the eclipse so you can be an expert.

[1] Put a pinhole in a 3 x 5 card. Stand with your back to the sun and hold the card so the sun shines through the card onto the ground or onto another piece of paper. The small circle you is the sun.

On eclipse day, this shape will be a crescent.



[2] Use a box large enough to put your head inside. Cut a small hole in one end and tape aluminum foil over that hole. Directly across from the hole on the inside surface, tape a piece of white paper. Use a pin to punch a small hole in the middle of the aluminum foil. Put your head inside the box and stand with your back and the hole to the sun. The sun will shine through the hole and be visible as a white circle on the paper inside the box. On eclipse day, this small circle will be a crescent.

You can safely look at the sun through welders' glass if these three provisions are met:

- ☼ It must be sold in the United States by a reputable dealer.
- ☼ It must be shade #14. (Shade #13 and lower are not dark enough.) The shade number is printed right on the glass. Shade #14 glass is darker than most welders use, so the supply company may need to order this for you.
- ☼ Do not use it with a telescope. This is for "eyes only" viewing.

One 2 x 4-1/4 inch piece (standard size) should cost \$2-\$3. Any welding supply house can get it.