

**Monday Aug 21, 2017 from Tulsa**

**89% partial Solar Eclipse.**

**11:40 AM** Partial Eclipse begins

**1:09 PM** Maximum Eclipse

**2:37 PM** Eclipse Ends

Image from *Eclipse2017* App

Link to Interactive [Google Style Eclipse Map](#)



\* Subtract 5 hours for Central Daylight time

On Monday Aug 21<sup>st</sup> the moon will pass in front of the Sun. All areas of mainland United States will see at least a partial Solar Eclipse. Person's along an approximately 70 miles wide central path will see a Total Solar Eclipse. The moon's shadow first strikes land on the west coast in Oregon and races along a 2,500 mile long path to South Carolina taking only an hour and a half to cross the country. As it passes over Oklahoma it will be moving at 1,500 miles per hour!

[NASA Eclipse 2017 Live](#) - Viewers around the world will be provided a wealth of images captured before, during, and after the eclipse by 11 spacecraft, at least three NASA aircraft, more than 50 high-altitude balloons, and the astronauts aboard the International Space Station – each offering a unique vantage point for the celestial event. **Note:** Internet coverage may be slow due to high demand during the eclipse.

**EYE PROTECTION is ESSENTIAL for all of the partial phases of the eclipse!** Even if only 10% of the sun is still visible it's still 100,000 times too bright for the unprotected eye. There is nothing Extra Dangerous about the sun during an eclipse. It's the same sun we see every day. Except during an Eclipse people want to see what is happening up there. **Only persons observing the 2 ½ minutes of Totality when the sun is completely covered can safely view the eclipse without eye protection.**

**Safe Ways to observe the Partial Eclipse** – Experiment techniques before the eclipse day.

**1 Solar Projection** – Get **two Index cards** – Punch a small hole about 1/8 inch in one card.

Stand with your back to the sun and hold the 2<sup>nd</sup> card in the shadow of the other.

You'll see an image of the sun projected onto the card.

**\*\* DO NOT LOOK THROUGH THE HOLE AT THE SUN !**

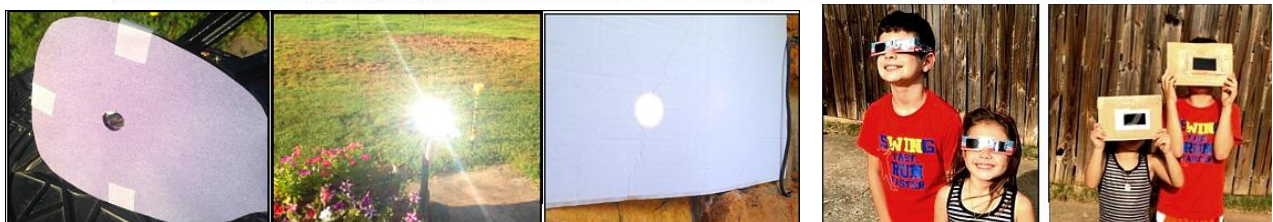
**2 Hold a Kitchen Collander** a foot or so above a white paper.

You'll see dozens of tiny eclipse images on the paper.

**3 Mirror Projection** – cover a mirror with a dark stiff piece paper. Cut a 1/4 to 1/2 inch hole in the paper. Project the sun's image onto a shaded wall or white paper a few feet away.

**Tip:** Try positioning the mirror to shine through a N or S facing window to cast the sun's image on a wall or ceiling.

**4** As the Eclipse nears maximum or more **look on the ground under a tree** to see tiny sun images filtering through the leaves. Don't have a tree nearby? Try to **Chris-Cross your fingers** and let the sun light filter through your fingers to project solar images



**Direct Viewing - Use only ISO Certified Eclipse Glasses** These have been tested to block 99.99% of visible light as well as harmful infrared and Ultraviolet. **SUN GLASSES and other dark materials are NOT SAFE !!!** For younger children cut a hole in a sheet of cardboard large enough to cover their face and securely tape the eclipse glasses over the holes.

A **#14 Welder's Lens** is also safe. You can tape it securely between two sheets of cardboard with a viewing window.

**Safety Tip: Turn Away from the Sun** - Put on the Eclipse glasses –

Then turn to face the sun. - - - **Turn Away from the Sun** again - Before taking them off.

\*\* Eclipse glasses and welder's lenses are **not safe for telescopes and binoculars.**

**LOCAL Sources of Eclipse Glasses** we have heard.

The STEMcell Science shop downtown BoxYard district Tulsa

Hobby Town – Some Lowes stores – Best Buy – and some Wal-Marts