

Merrillville Community Planetarium
Fact Sheet
September 8, 2016



Solar Eclipse of August 21, 2017

Weather permitting, observers in Northwest Indiana will be able to observe a partial solar eclipse during the afternoon of Monday, August 21, 2017. At maximum eclipse, about 88% of the sun's surface will be obscured by the moon as seen from our location. Further south — in southern Illinois, western Kentucky, and northern Tennessee — a total solar eclipse will be visible.

As seen from Northwest Indiana, the eclipse will begin at 11:55 a.m. as the moon begins to cover the sun. The eclipse reaches its maximum at 1:21 p.m. when about 88% of the sun will be covered by the moon. The partial eclipse ends at 2:44 p.m.

Eclipses are the result of the changing positions of the sun, Earth, and moon. As Earth and the moon are illuminated by the sun, they cast shadows into space. A solar eclipse occurs when the moon passes between the sun and Earth. As the moon orbits Earth, the moon's shadow sweeps over the surface of Earth.

There are different types of eclipses depending on the location of the sun, Earth, and moon. A total solar eclipse occurs when the moon appears to completely cover the surface of the sun. For the eclipse of August 21, the path of totality crosses the United States from northwest to southeast, passing through the states of Oregon, Idaho, Wyoming, Nebraska, Kansas, Missouri, Illinois, Kentucky, Tennessee, North Carolina, Georgia, and South Carolina. No part of Indiana will see a total eclipse, although it will be very close in Evansville, where about 99% of the sun will be obscured.

The sun should never be observed by looking directly at it. Infrared and ultraviolet radiation from the sun — the same rays that warm and tan human skin — can cause permanent damage to the eye. Anyone who wants to observe the eclipse should watch it online, attend a professionally sponsored viewing session, construct a pinhole camera for indirect observing, or use filters specifically designed for safe direct observation of the sun.

People sometimes attempt to observe the sun using unsafe filters. Unsafe filters include photographic film, neutral density filters, crossed polarizing filters, and many types of welder's glass. Some small telescopes come with a "solar filter" eyepiece. These filters may crack due to the sun's light and heat being concentrated at the eyepiece. They are dangerous and should be disposed.

The Merrillville Community Planetarium is offering filters designed for safe observing of the sun. Individual solar eclipse viewers — solar filters in a cardboard holder — are available for purchase from the planetarium's Gift Shop.