

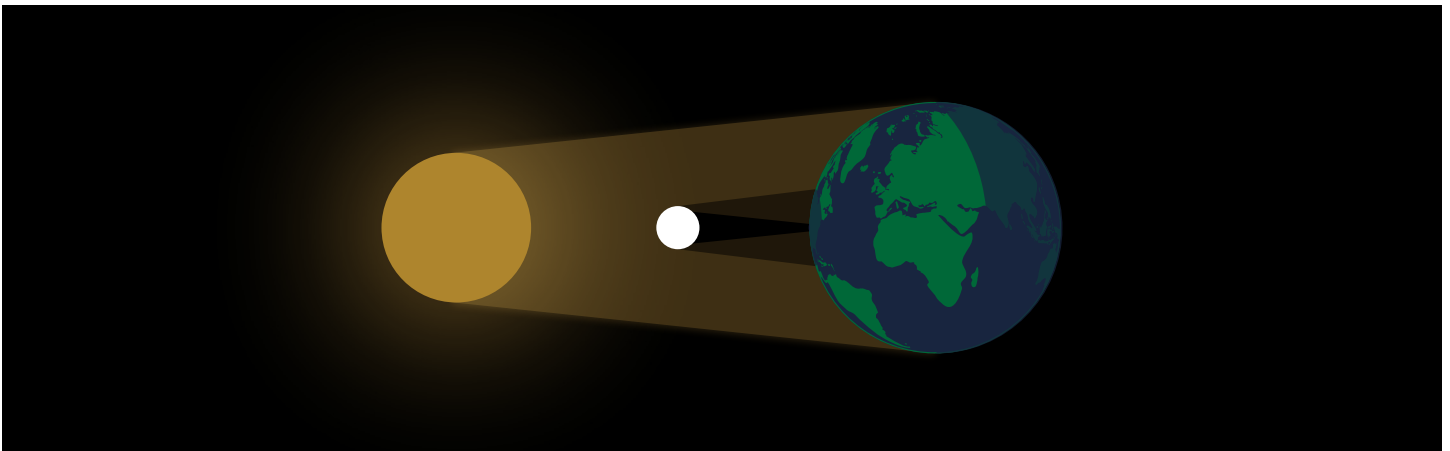
# TOTAL SOLAR ECLIPSE

## WHAT IT IS & WHEN IT WILL OCCUR



## WHAT IS A TOTAL SOLAR ECLIPSE?

A solar eclipse happens when the moon passes between the sun and Earth, casting a shadow on Earth that either fully or partially blocks the sun's light in some areas. This only happens occasionally, because the moon does not orbit in the exact same plane as the sun and Earth do, according to NASA.



People located in the center of the moon's shadow when it hits Earth will experience a total eclipse. The sky will darken as if it were dawn or dusk. Weather permitting, people in the path of a total solar eclipse can see the sun's corona, the outer atmosphere, which is usually obscured by the bright face of the sun.

A total solar eclipse is the only type of solar eclipse where viewers can momentarily remove their eclipse glasses for the brief time when the moon is completely blocking the sun.

## WHEN WILL THE ECLIPSE OCCUR?

The eclipse will begin at approximately 1:45 p.m. Eastern on April 8, 2024, and end at about 4:30 p.m. Eastern. During this time, the sun will be partially obscured by the moon, and you should use special eclipse sunglasses to view the eclipse without risking permanent eye damage.

Totality is the most special stage of the eclipse and is the only period of time when you can observe the total eclipse without eclipse glasses. This stage will occur at roughly 3 p.m. Eastern starting in the southwestern part of the state and will be over within just a few minutes. The exact duration depends on the location. Regardless of where you are in Indiana, by 3:15 p.m. Eastern, totality will be over everywhere in the state.

# PHASES OF A TOTAL SOLAR ECLIPSE



## FIRST CONTACT

Edge of the moon starts to overlap the edge of the sun. The eclipse begins.



## SECOND CONTACT

The moon covers the majority of the sun. Total eclipse begins.



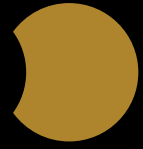
## TOTALITY

Max phase of a total solar eclipse. The sun is completely covered.



## THIRD CONTACT

The moon starts moving away. Parts of the sun's disk reappear.



## FOURTH CONTACT

The moon stops covering the sun. The eclipse ends.

## ADDITIONAL FACTS

- A total solar eclipse is the only type of solar eclipse where viewers can momentarily remove their eclipse glasses (which are not the same as regular sunglasses).
  - It is only safe to remove your eclipse glasses during what's known as totality, the brief period of time when the moon is completely blocking the sun.
- Total solar eclipses are a rare phenomenon. After 2024's eclipse, the next total solar eclipse visible to North America will be in 2044.
- Temperatures may drop as much as 10 degrees Fahrenheit.
- Clear skies are best to view the eclipse. However, a noticeable darkness will still occur with cloud cover.
- While the sun is actually about 400 times larger in diameter than the moon, the moon is also about 400 times closer than the sun. Therefore, the sun and the moon appear to be about the same size in our sky.

## ADDITIONAL RESOURCES

- [American Astronomical Society](#)
- [STARnet's 2023 and 2024 Solar Eclipse guide](#)
- [NASA's Solar Eclipse website](#)
- [Great American Eclipse](#)
- [Visit Indiana's Total Solar Eclipse website](#)



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