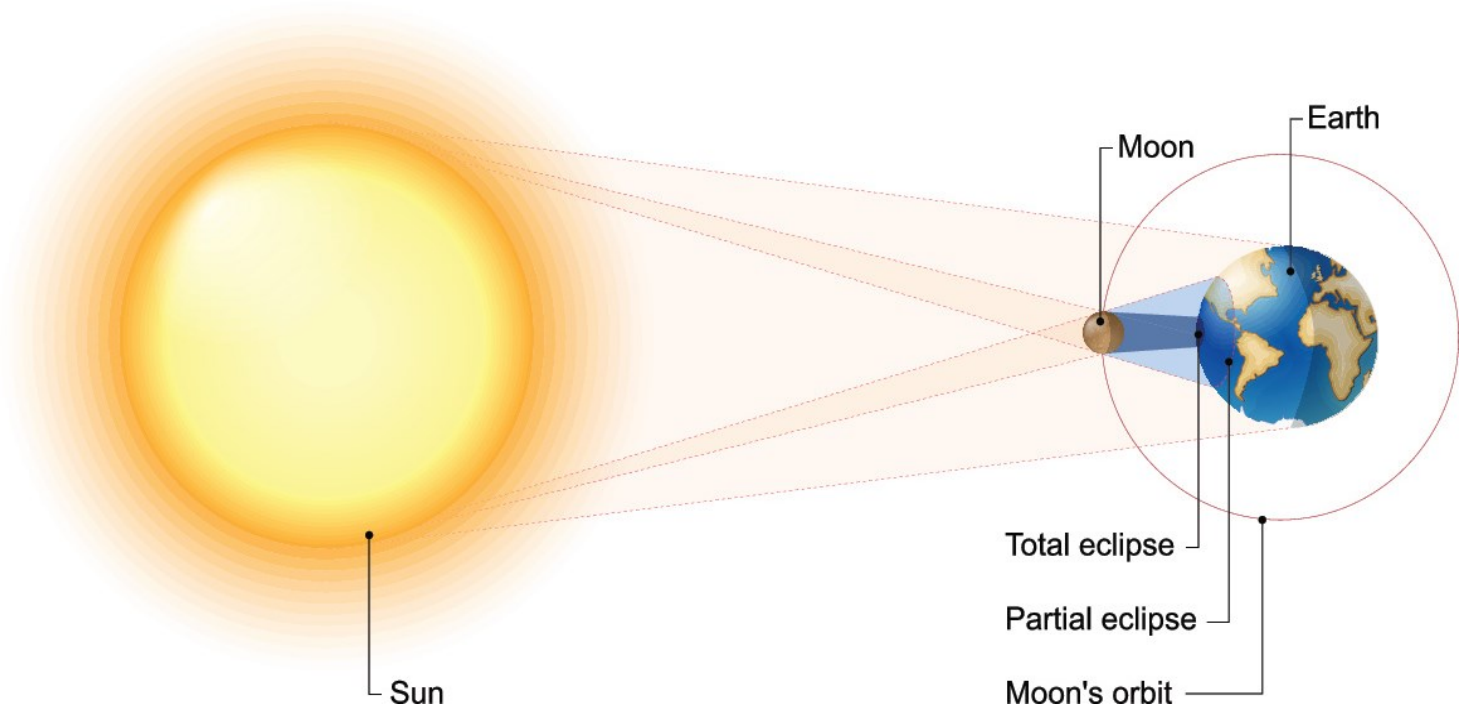


# Solar Eclipse



# Vocabulary Pack

You can utilize the glossary provided here as a print-out for reference or have your student look up the words using: [NASA Total Eclipse Glossary](https://eclipse2017.nasa.gov/eclipse-glossary) to look up the definitions of these words and write their meanings on the lines below.

(<https://eclipse2017.nasa.gov/eclipse-glossary>)

Solar Eclipse Vocabulary Pack

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# Solar Eclipse Glossary

## ANNULAR ECLIPSE

A solar eclipse that occurs when the apparent size of the moon is not large enough to completely cover the sun. A thin ring of very bright sunlight remains around the black disk of the moon.

## ANOMALISTIC MONTH

The time it takes for the moon to orbit Earth from apogee to perigee and back to apogee.

## ANTUMBRA

That part of the moon's shadow that extends beyond the umbra. An annular eclipse is seen by an observer in the antumbra.

## APHELION

The point in an object's orbit when it is farthest from the sun. Currently, Earth reaches aphelion in July.

## APOGEE

The point in an object's orbit when it is farthest from Earth.

## ASTRONOMICAL UNIT

The average distance between Earth and the sun (149,597,870 km or 92,955,807 miles)

## BAILY'S BEADS

The effect seen just before and just after totality when only a few points of sunlight are visible through valleys around the edge of the moon.

## CENTRAL ECLIPSE

A solar eclipse in which the central axis of the moon's shadow traverses Earth. Central solar eclipses can be total, annular or hybrid.

## CHROMOSPHERE

The lower atmosphere of the sun just above the photosphere that appears as a thin crimson ring around the edge of the sun during a total solar eclipse.

## CONTACT

One of the instances when the apparent position of the edges of the sun and the moon (for eclipses) and the sun and a planet (for transits) cross one another. They are designated as first, second, third and fourth contact.

## CORONA

The upper atmosphere of the sun. It appears as a halo around the sun during a total solar eclipse.

## DIAMOND RING

The effect seen in the few seconds just before and after totality of a total solar eclipse when there is a single point of sunlight brilliantly shining through a valley on the limb of the moon.

## ECLIPSE

The alignment of celestial bodies so that one is obscured, either partially or totally, by the other.

## ECLIPSE SEASON

The period of time when the sun is near alignment with a lunar node, during which eclipses may take place. For solar eclipses, this time window of 31-37 days occurs every 173.3 days.

## ECLIPSE YEAR

The length of time it takes for the apparent motion of the sun to take it from one node of the moon to the other and back to the original node (about 346.6 days).

## ECLIPTIC

The plane of Earth's orbit around the sun. As seen from Earth, the sun appears to move along the ecliptic during the course of a year.

## GIBBOUS

Phase of the moon when it appears more than half illuminated.

## HYBRID ECLIPSE

A solar eclipse which appears annular or total along different sections of its path.

## LUNAR ECLIPSE

The passage of the moon into the shadow of Earth, which can only occur at a full moon.

## LUNAR MONTH

See synodic month.

## MAGNITUDE (of a solar eclipse)

The fraction of the apparent diameter of the sun covered by the moon. By convention it is usually quoted at maximum phase.

## MARE

A large flat area on the moon formed by volcanic material.

## NODE

The two points where a tilted orbit intersects a geometrical plane. For example, where the moon's orbit intersects the ecliptic, that is the plane that contains Earth and the sun.

## OBSCURATION (of a solar eclipse)

The fraction of the sun's area covered by the moon.

#### PARTIAL LUNAR ECLIPSE

A lunar eclipse where a portion -- but not all -- of the moon enters Earth's umbra.

#### PARTIAL SOLAR ECLIPSE

A solar eclipse seen from within the moon's penumbra. The moon appears to block part -- but not all -- of the sun's photosphere.

#### PATH OF TOTALITY

The path (up to about 270 km or 168 miles wide) that the moon's shadow traces on Earth during a total solar eclipse.

#### PENUMBRA

The part of a shadow -- as of the moon or Earth -- within which the source of light, such as the sun, is only partially blocked. Also, it refers to the lighter outer area of a sunspot.

#### PENUMBRAL ECLIPSE

An eclipse of the moon when the moon enters the penumbra of Earth's shadow.

#### PERIGEE

The point in an object's orbit when it is closest to Earth.

#### PERIHELION

The point in an object's orbit when it is closest to the sun. Currently, Earth reaches perihelion in early January.

#### PHOTOSPHERE

The bright, visible surface of the sun.

#### PROMINENCE

A large-scale gaseous formation above the surface of the sun shaped by the sun's magnetic field.

#### RAYLEIGH SCATTERING

The scattering of light by particles smaller than the wavelength of the light, resulting in separation of colors. This causes the sky to be blue and sunsets to be reddish.

#### REGRESSION

The movement of points in an orbit in the direction opposite from the motion of the orbiting body. For example, the moon travels from west to east but its nodes are regressing from east to west.

#### SAROS

The eclipse cycle, which has a period of 223 synodic months or 6,585.32 days -- the equivalent of 18 years and about 11.3 days.

#### SHADOW BANDS

Faint ripples of light sometimes seen on flat, light-colored surfaces just before and just after totality.

#### SIDEREAL MONTH

The time it takes for the moon to make one orbit of Earth with reference to the fixed stars – a total of 27.32 days.

#### SOLAR ECLIPSE

The passage of the new moon directly between the sun and Earth when the moon's shadow is cast upon Earth. The sun appears in the sky either partially or totally covered by the moon.

#### SOLAR FLARE

An explosive eruption in the sun's atmosphere.

#### SUNSPOT

A magnetic disturbance on the sun that appears as a dark blotch on its surface.

#### SYNODIC MONTH

The time from one full moon to the next, which takes 29.53 days. Also called a lunar month.

#### TERMINATOR

The edge between night and day on the moon or a planet.

#### TOTAL LUNAR ECLIPSE

A lunar eclipse where the moon completely enters Earth's umbra.

#### TOTAL SOLAR ECLIPSE

A solar eclipse seen from within the moon's umbra. The moon appears to completely block the sun's photosphere.

#### TOTALITY

The period during a solar eclipse when the sun's photosphere is completely covered by the moon and the period for a lunar eclipse when the moon is in the complete shadow of Earth.

#### UMBRA

A complete shadow – such as that of the moon or Earth -- within which the source of light, such as the sun, is totally hidden from view. Also, it refers to the dark inner area of a sunspot.

# Solar Eclipse Vocabulary

Write the definitions to the words below.

*Annular Eclipse* -

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*Anomalistic Month* -

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*Antumbra* -

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*Aphelion* -

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*Apogee* -

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*Astronomical Unit* -

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*Baily's Beads -*

*Central Eclipse -*

*Chromosphere -*

*Contact -*

*Corona -*

*Diamond Ring -*

*Eclipse -*



*Eclipse Season -*

*Ecliptic -*

*Gibbous -*

*Hybrid Eclipse -*

*Lunar Eclipse -*

*Magnitude (of a solar eclipse) -*

*Mare -*

*Node -*

*Obscuration (of a solar eclipse)-*

*Partial Lunar Eclipse -*

*Partial Solar Eclipse -*

*Path of Totality -*

*Penumbra -*

*Penumbral Eclipse -*

*Perigee -*

*Perihelion -*

*Photosphere -*

*Prominence -*

*Rayleigh Scattering -*

*Regression -*

*Saros -*

*Shadow Bands -*

*Sidereal Month -*

*Solar Eclipse -*

*Solar Flare -*

*Sunspot -*

*Synodic Month -*

*Terminator-*

Total Lunar Eclipse -

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Total Solar Eclipse -

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Totality -

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Umbra -

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