

Eclipses

Overview

An **eclipse** is a partial or total blocking of light caused by the passing of one celestial body into the shadow of another or the hiding of one celestial body by another.

The **umbra** of an eclipse is the part of the shadow from which all sunlight is excluded. The **penumbra** is the part of the shadow from which sunlight is only partially excluded.

A **solar eclipse** is seen from the Earth when the moon passes between the sun and the Earth, casting a shadow that moves across a strip of the Earth's surface.

In a **total solar eclipse**, the moon completely blocks the sun and only the corona is visible about the solar surface. When the moon only covers part of the sun or only the penumbra touches the Earth, we see a **partial solar eclipse**. The view is similar from within the penumbra of a total eclipse. During **annular solar eclipses**, the moon's apparent size is smaller than the sun's, causing a bright ring of photosphere to surround the moon.

A **lunar eclipse** occurs when the moon passes into the Earth's umbral shadow, an event visible to half the planet at once. Bathed in light refracted by the Earth's atmosphere, the moon appears reddish.

