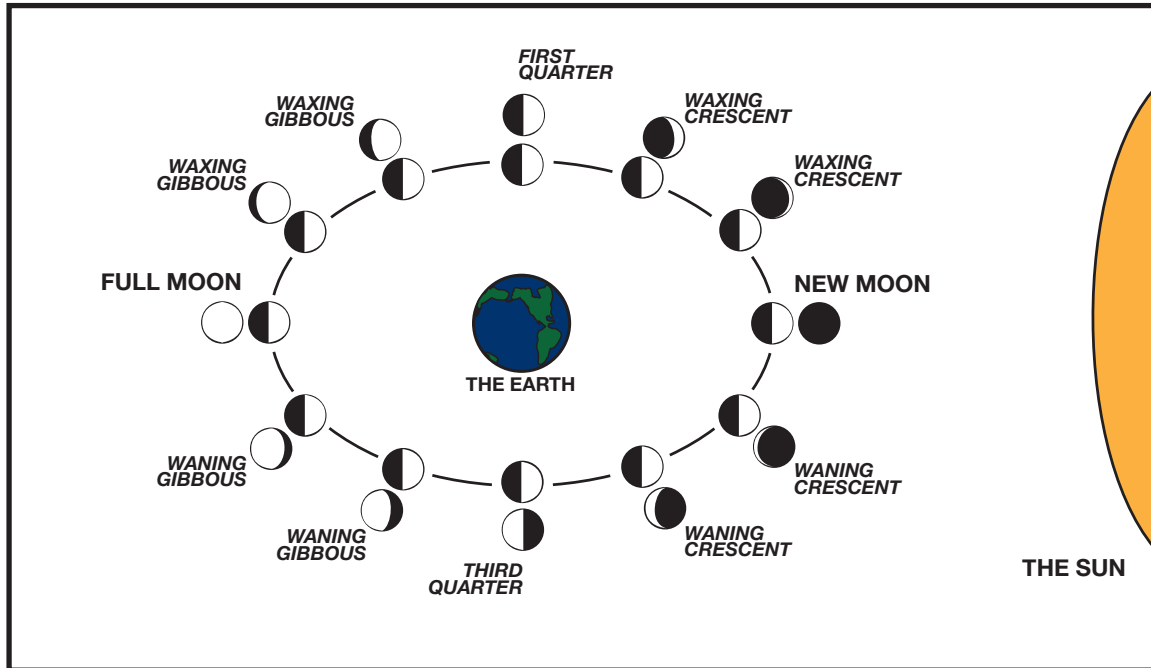


Our Mysterious Moon!

How does the Lunar Cycle Work?

Why does the moon appear to change shape in the sky, and how does this happen?



This illustration shows how the movement of the moon relative to the Earth and Sun creates the shape we see in the sky. The lunar cycle lasts about 29.53 days, so the timing of the phases shifts by nearly a day for each successive month.

Interpret:

- 1) Based on the diagram, what do you think *gibbous* means?
A: When the visible part of the moon is growing smaller.
B: When more than half of the moon is lit and visible.
C: When less than half of the moon is lit and visible.
D: When the visible part of the moon is growing bigger.
- 2) Based on the diagram, what do you think *crescent* means?
A: When the visible part of the moon is growing smaller.
B: When more than half of the moon is lit and visible.
C: When less than half of the moon is lit and visible.
D: When the visible part of the moon is growing bigger.
- 3) Based on the diagram, what do you think *waxing* means?
A: When the visible part of the moon is growing smaller.
B: When more than half of the moon is lit and visible.
C: When less than half of the moon is lit and visible.
D: When the visible part of the moon is growing bigger.
- 4) Based on the diagram, what do you think *waning* means?
A: When the visible part of the moon is growing smaller.
B: When more than half of the moon is lit and visible.
C: When less than half of the moon is lit and visible.
D: When the visible part of the moon is growing bigger.

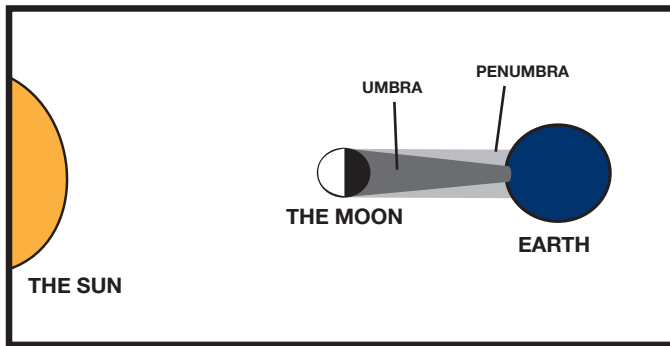
Activity Question: Find out what time the moon will rise in your area tonight. Observe the moon and record what shape you see. Using a calendar that shows what dates the new moon and full moon fall on, determine what phase the moon is in.

Our Mysterious Moon!

How do Eclipses Work?

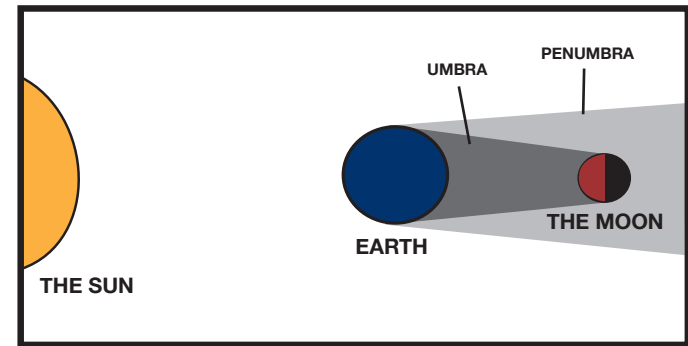
There are two kinds of eclipses, and the position of the moon in relation to the Earth and sun determines what type of eclipse will be seen.

SOLAR ECLIPSE



A solar eclipse occurs near or during a new moon, or when the moon is between the Earth and the sun, causing the moon to cast a shadow on part of the Earth. When the moon is at just the right distance, once the moon covers the sun completely (called a total solar eclipse), the atmosphere, or corona, can be seen with the correct equipment glowing around the moon like a halo. When the moon is slightly farther from the Earth, it appears smaller than the sun, and the sun appears as a bright ring around the moon (called an annular eclipse). Areas of the Earth that are within the umbra see a total solar eclipse, and areas that are within the penumbra see only a partial eclipse.

LUNAR ECLIPSE



A lunar eclipse occurs near or during a full moon, or when the Earth is between the moon and the sun, causing the Earth to cast a shadow on the moon. During a total lunar eclipse the umbra of the Earth's shadow completely covers the moon. The sunlight is scattered through the Earth's atmosphere, causing the moon to appear red in the sky. During a partial lunar eclipse only part of the moon enters the umbra.