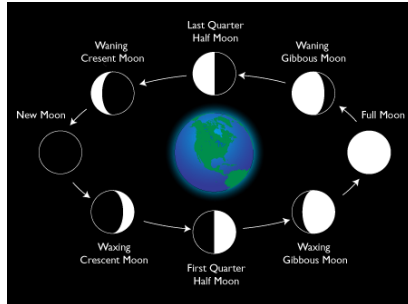


The changing relative positions of the moon, Earth, and sun cause the phases of the moon, eclipses and tides.

Phases- the different shapes of the moon seen from Earth.

The phase of the moon you see depends on how much of the sunlit side of the moon faces the Earth.

Phases of the moon



Lunar eclipse phases



When the moon's shadow hits the Earth or the Earth's shadow hits the moon, an eclipse occurs.

When an object in space comes between the sun and a third object this causes an eclipse.

Solar Eclipse- When the moon passes directly between the Earth and the sun.

Lunar eclipse- When the earth passes directly between the sun and the moon. (more frequently seen than the solar eclipse)

Umbra- the darkest part of the shadow cast by the moon blocking the sunlight directly.

Penumbra- the larger less dark part of the moon's shadow.

Tides are caused mainly by differences in how much the moon's gravity pulls on different parts of the Earth.

Spring tide- the combined forces of gravity of the sun and the moon.

Neap Tide- The sun and moon produce a gravitational pull at a right angle.

