

Different Phases of the Moon



What will we learn?

- We will learn about moon phases
- How many moons we have compared to other planets
- Why we have moon phases
- What the different moon phases look like
- How to find our birthday moon phase

Our Planet Earth has 1 MOON!

This is our moon



This is Earth



Other Planets have many moons!

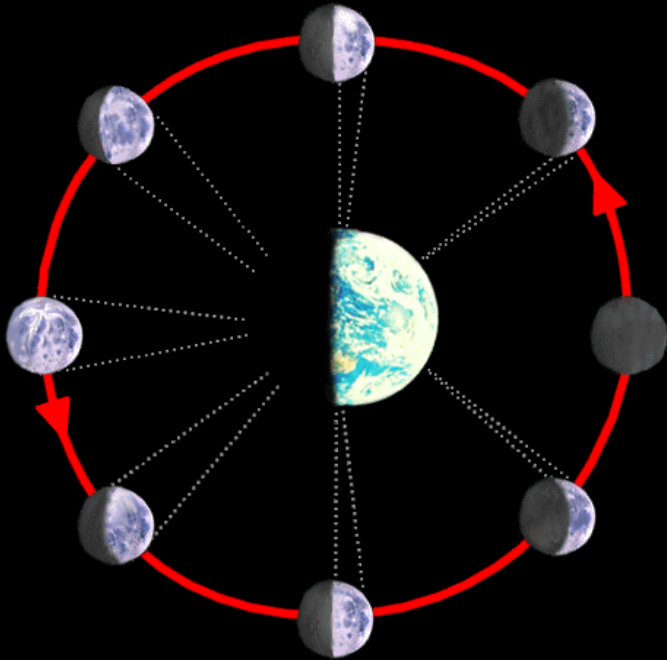


THIS IS MARS



**FOR EXAMPLE: MARS
HAS TWO MOONS !!
EACH MOON HAS ITS
OWN NAME. THEIR
NAMES ARE: PHOBOS
& DEIMAS**

What Causes the different phases of the moon?



1. The Moon Revolving around the Earth

2. The Moon reflecting sunlight towards the Earth.

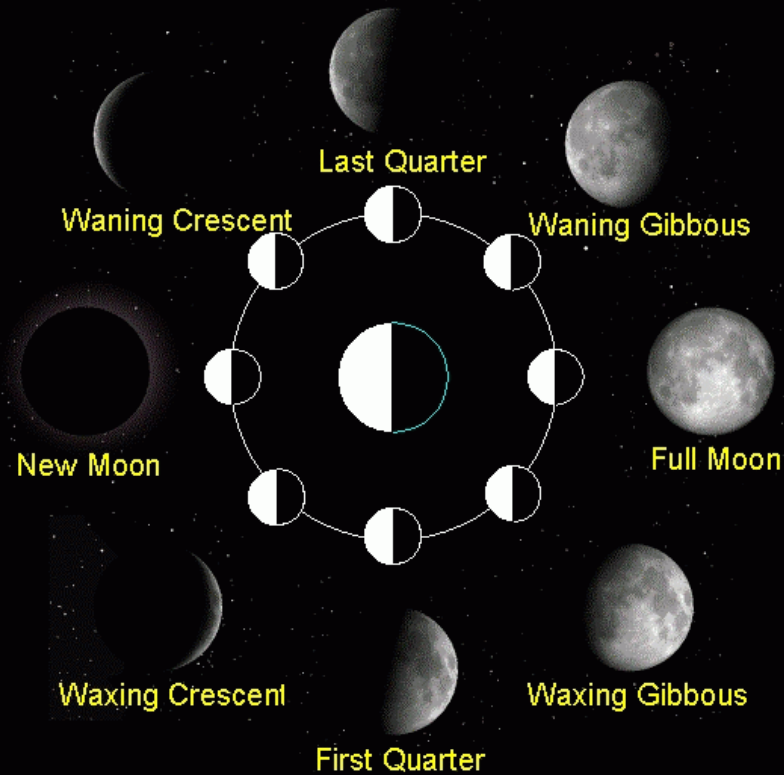
Half of the Moon is always lit, not just what we see. Sometimes We only see a profile of the lit portion of the Moon.

Some phases of the Moon result depending on its orbit, and the Moon's orbit is responsible for the phase changes we see.

Key Vocabulary

- **Orbit - The path of the Moon around the Earth.**
- **Rotate - The Earth spins around, like a top, about its axis once each day.**
- **Waning - Shrinking.**
- **Waxing - Growing**
- **Gibbous - Swollen on one side**

Different Phases of the Moon



Since we only see the lit portion of the moon that is facing Earth, we see a Moon phase.

There are 8 phases of the moon & they always occur in the same order starting with the NEW MOON and ending with WANING CRESCENT

Shadow on the Moon



New Moon



During a NEW MOON we do NOT see any of the Moon's surface that is lit.

We ONLY see the dark side of the moon.

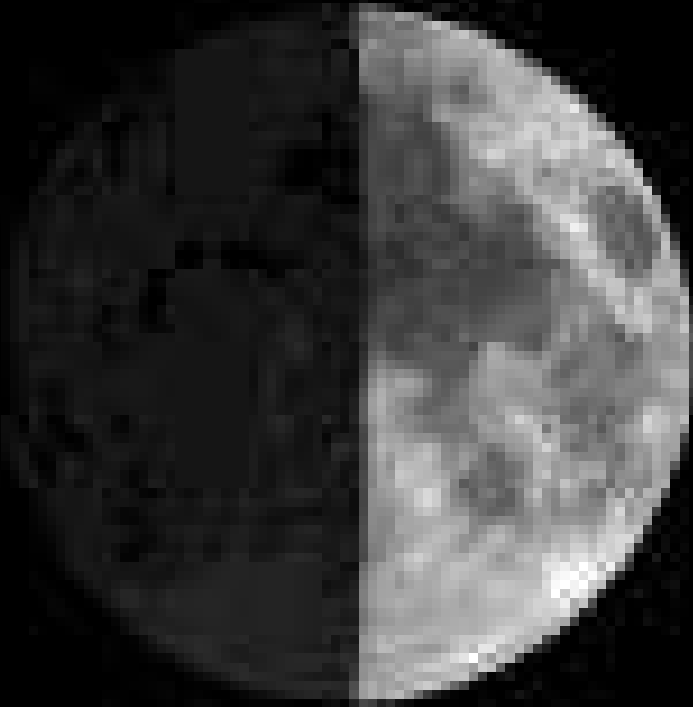
This is the first phase in the moon's cycle.

Waxing Crescent

During the Waxing Crescent moon phase we see : a small sliver of the lit moon on the right side. **A waxing moon seems to grow larger**



First Quarter



During the first quarter phase, we see: The right half of the lit Moon.

This means that the Moon and Earth are now –side by side–

Waxing Gibbous

During this moon phase we see almost the entire right side of the lit moon. The moon is still growing!! It is swollen on one side.



Full Moon



During a full moon, we can see the entire half of the moon's lit surface.

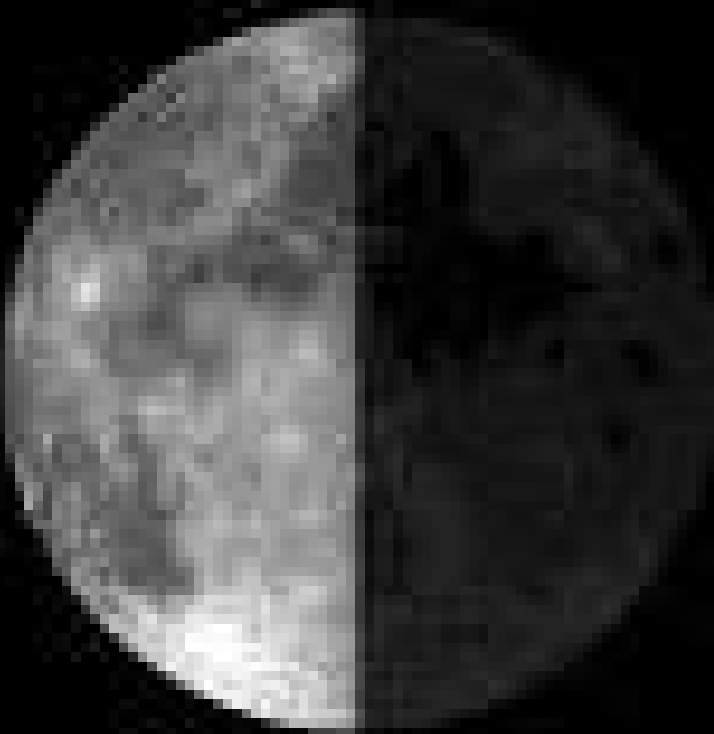
This is when the moon is positioned behind the Earth and Sun.

Waning Gibbous

During this moon phase, we see almost the entire left side of the lit up moon. The moon seems to be shrinking. It is also swollen on one side.



Last Quarter



During the last quarter moon phase, we see the left half of the Moon lit.

The Moon and Earth are now positioned –side by side– again.

Waning Crescent

During the waning crescent moon phase, we see a sliver of the lit Moon, now on the left side.



The Phases of the Moon

The Moon's Orbit



New Moon

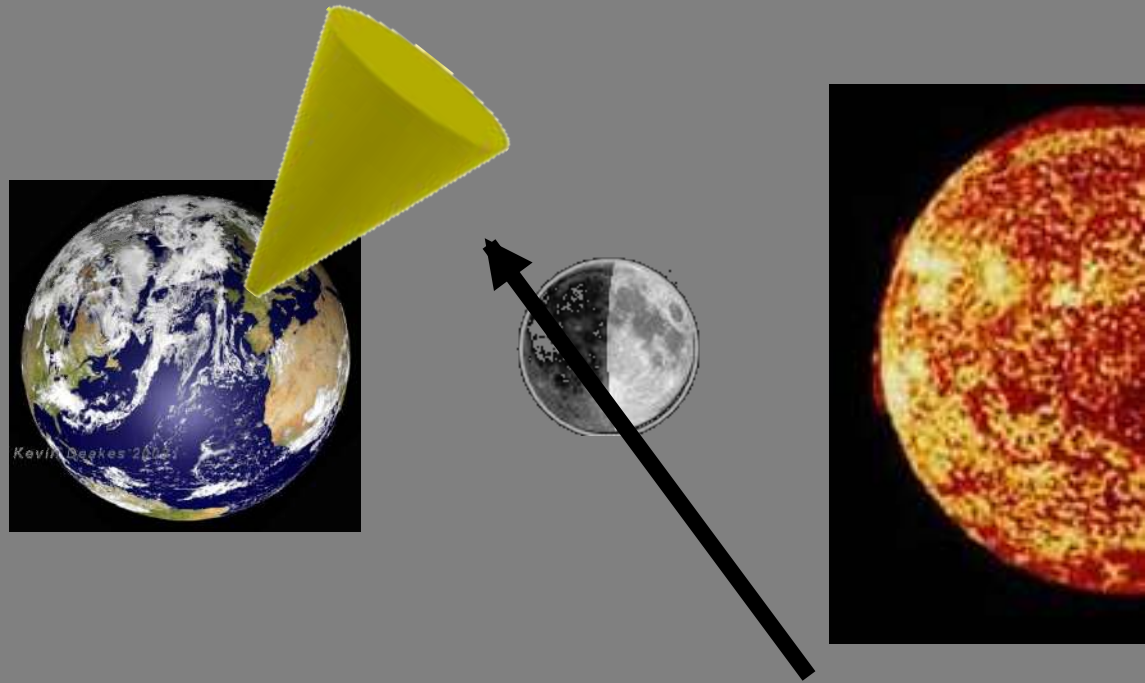
Light Half



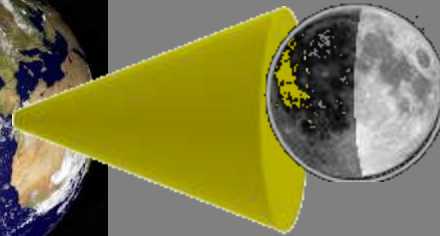
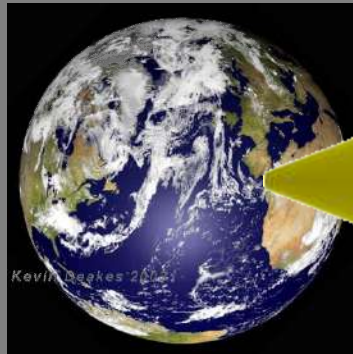
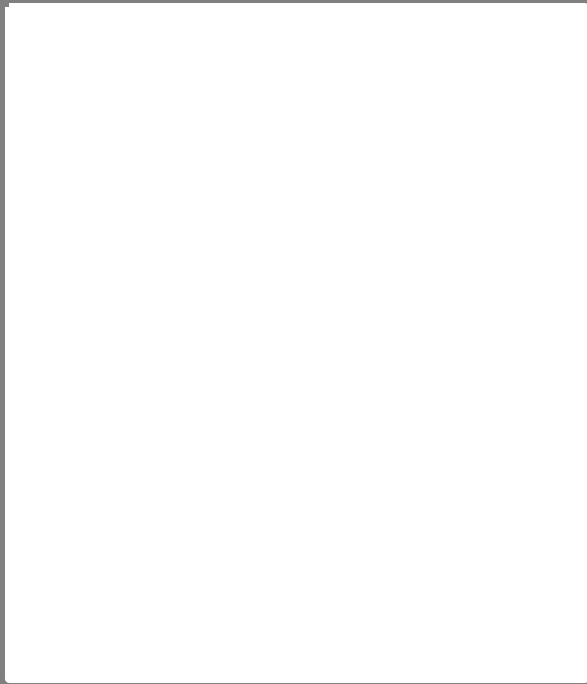
Dark Half

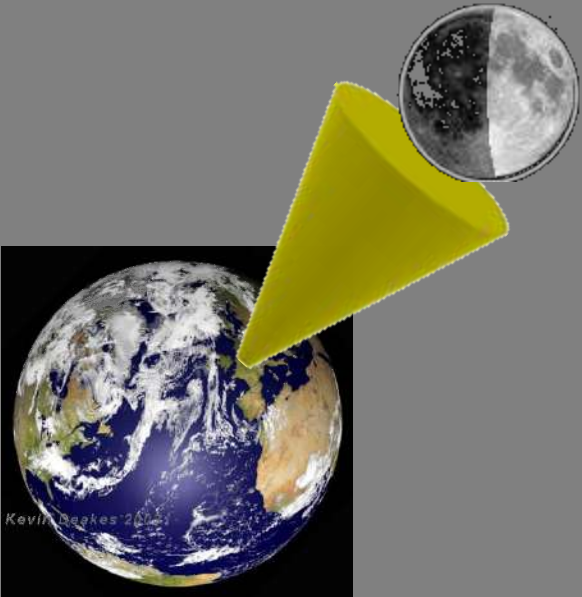
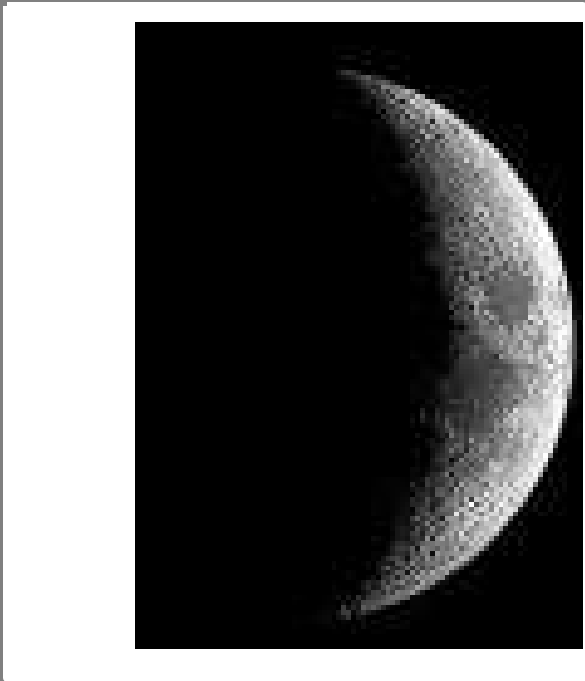


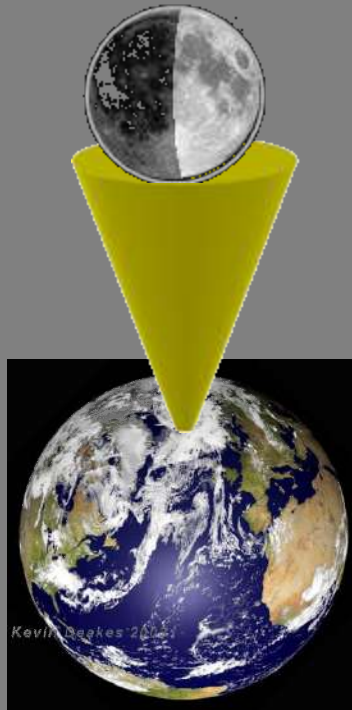
How the
Moon looks
from Earth

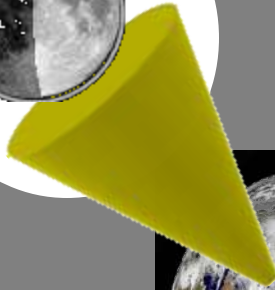


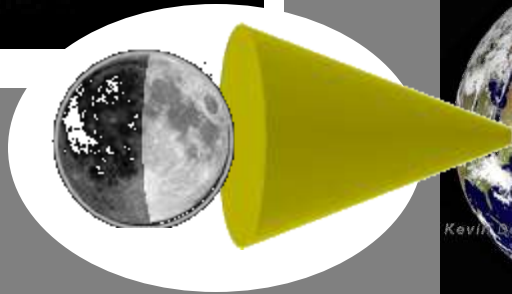
Part seen
on Earth

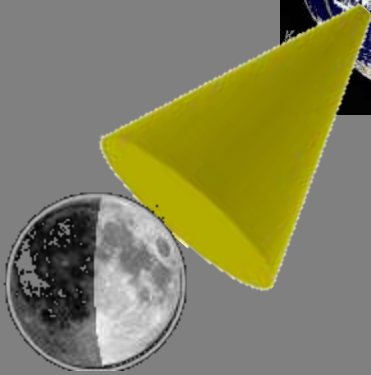
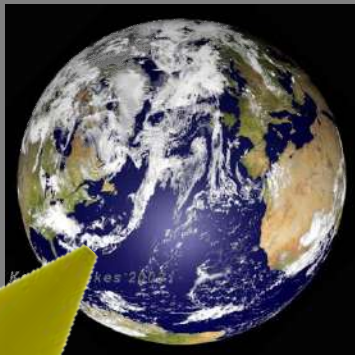


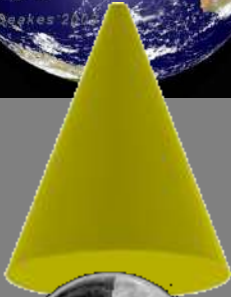


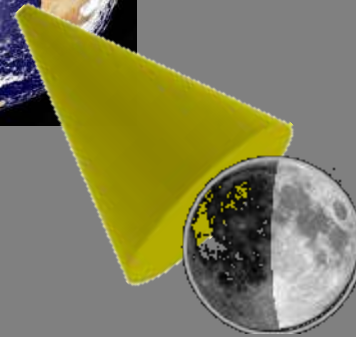
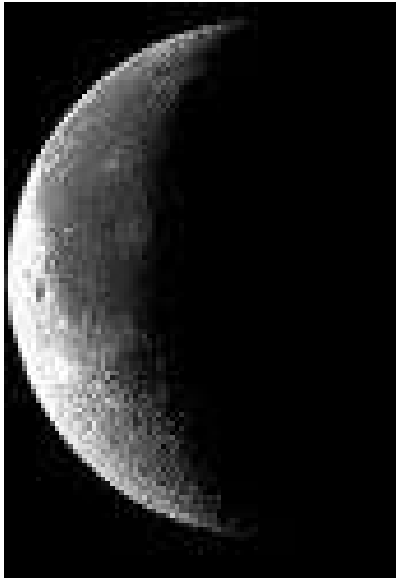


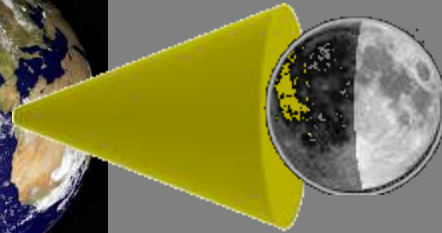
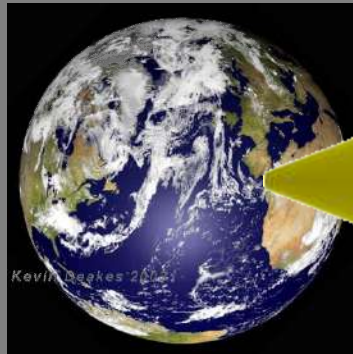
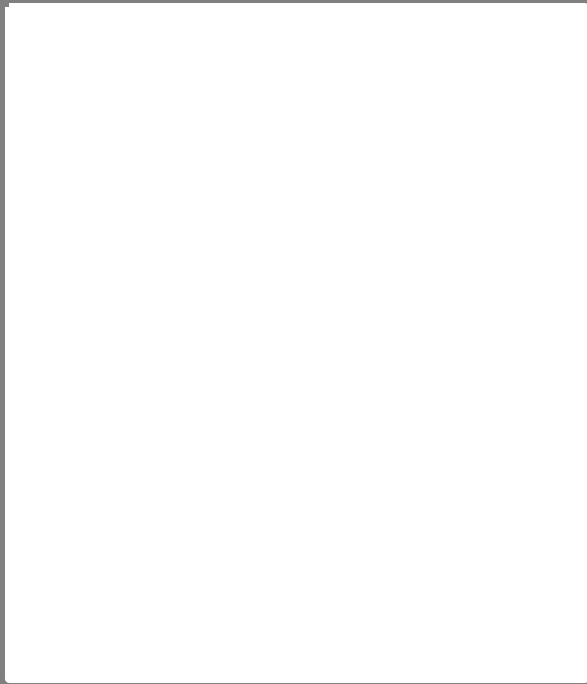














Birthday Moon Phases!

<http://tycho.usno.navy.mil/vphase.html>

Have you ever noticed that the Moon appears to change shape?

Does this occur randomly or is there a pattern of change?

Discover the answer by taking a virtual trip to the Moon for your birthday!

Summary

- Our moon has 8 phases.
 - Because it reflects sunlight towards Earth & because it revolves around Earth.
 - The Moon appears to change shape because of the shadow cast onto the moon.
 - There is a pattern of change, which we know is the moons' phases.
 - Everyone's birthday has a different moon phase.