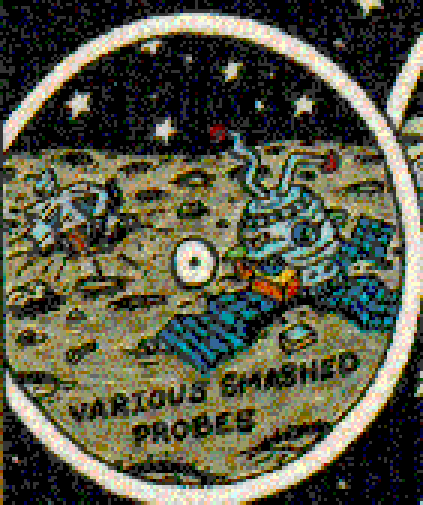


**GREETINGS**

*from*  
**EARTH'S  
WORLD  
-FAMOUS**





# The Moon

# 1) When did the MOON form?

- When the moon formed, it was about 14,000 miles away from us. Now it is 250,000 miles away from us.
- The moon most likely formed at the same time as the Earth



# Giant Impact Theory (The Big Whack)

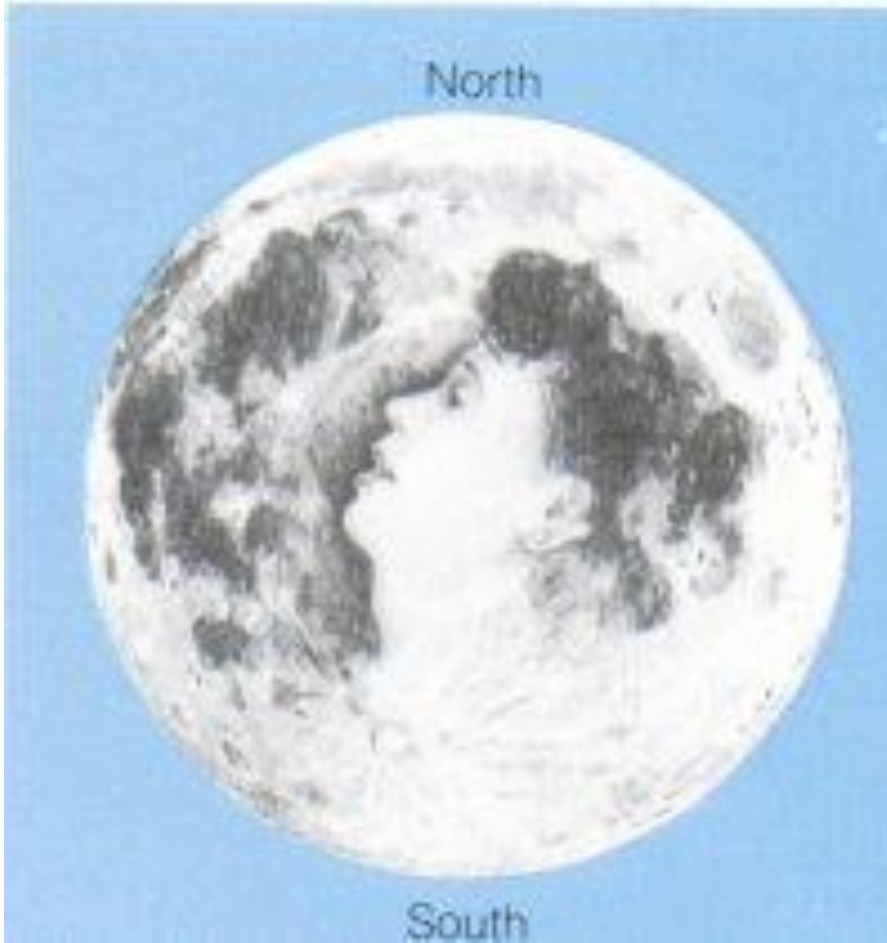
2) proposes a Mars-sized asteroid  
collided with Earth 4.5 billion years  
ago.







### 3)The “Man” on the Moon



# FACTS

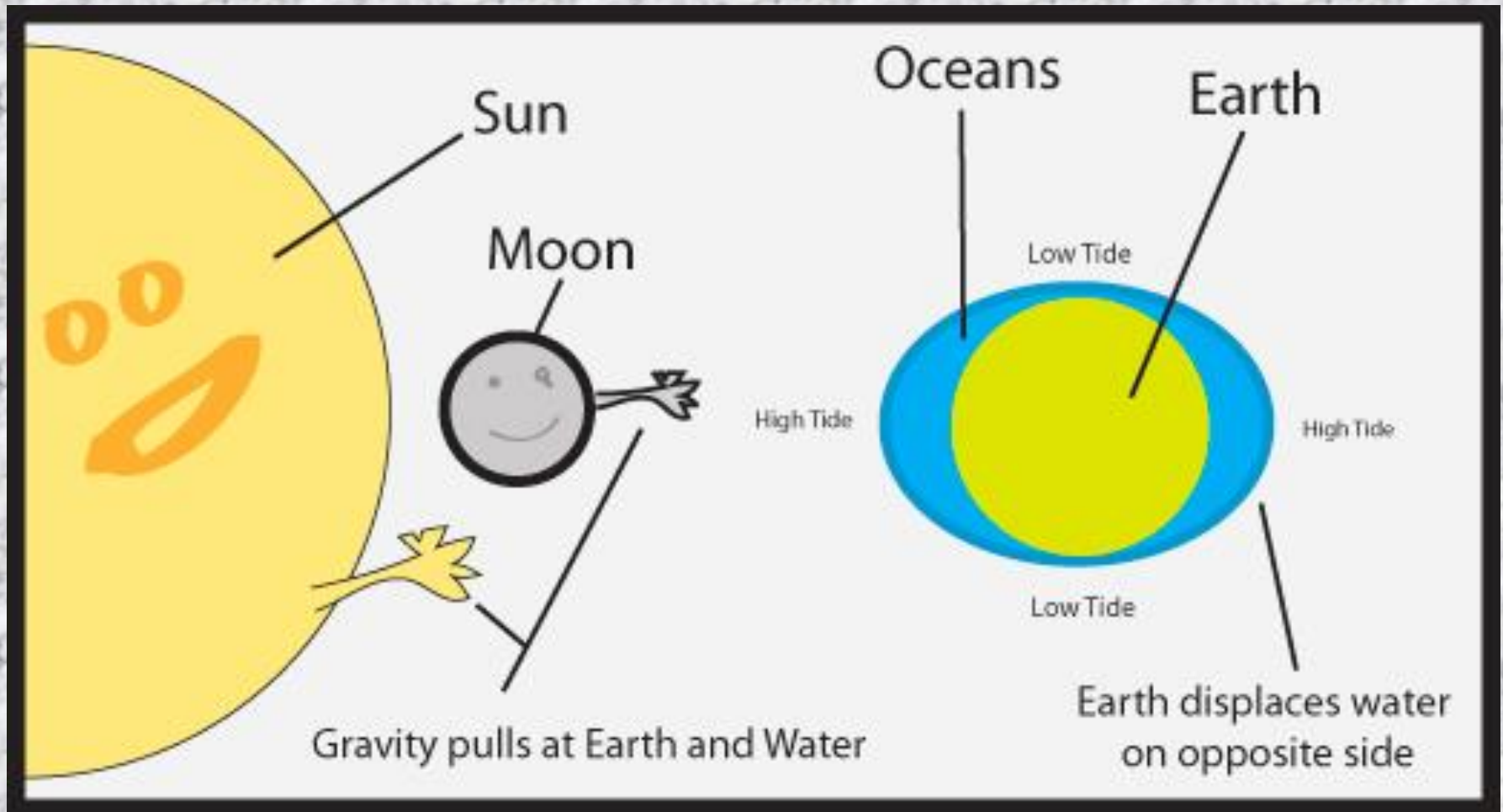
- 4)The moon does not have an iron core

It is  $\frac{1}{4}$  the size of the Earth.





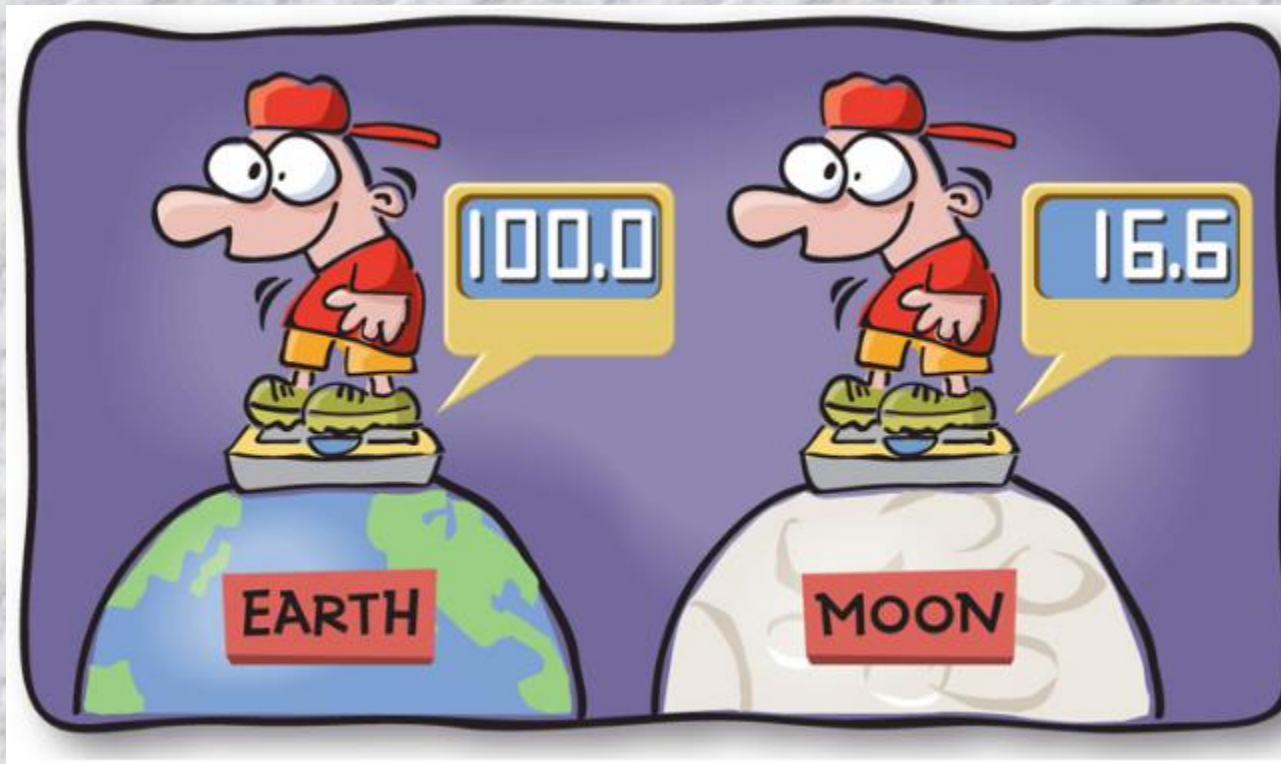
## 5) **The moon** causes TIDES here on earth.





# MOON FACTS

6) The gravity of the moon is  $\frac{1}{6}$  that of Earth's gravity. If you weighed 100 lbs here, then you would weigh 16 lbs on the moon.



# Buzz Aldrin's Footprint on the Moon

- The Moon's surface is covered with ***Regolith*** (***dust***).... It varies between 1 inch – 15 km in depth.
- Powdered rock created by billions of years of impacts.



# 7)What is it like on the moon?

\*no weather - no wind

\*no atmosphere to protect you from extreme temperatures of space.

\*Very cold (- 173 C ) AND hot (+100 ° C)

\*It has no magnetic field. Compasses don't work.



# 8) CRATERS

Large round  
pits formed  
by impacts  
of asteroids

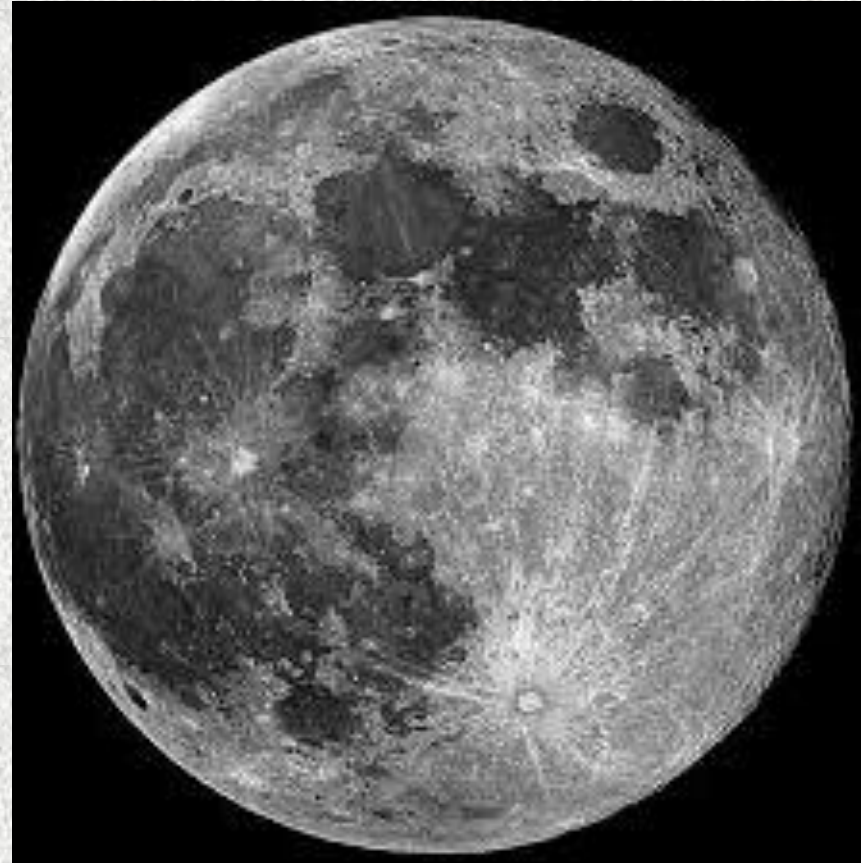


## 9) 2 Types of terrain on the Moon

a) HIGHLANDS-  
heavily cratered  
and very old

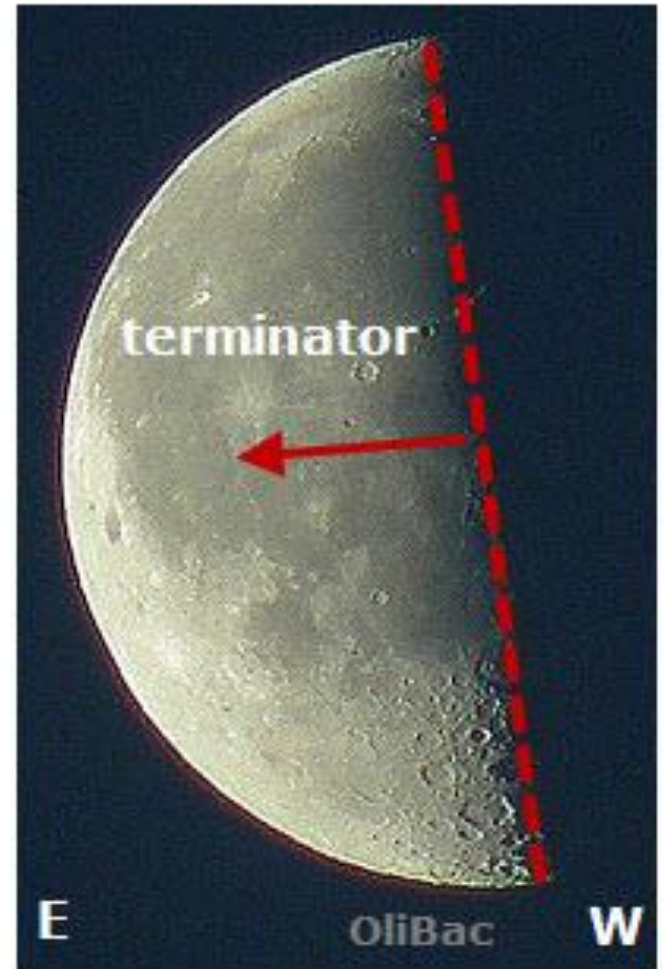
b) MARIA- dark, flat  
areas

- Maria is mostly on the near side. The far side of the moon is beaten up with asteroid impact craters.





# Terminator: Day-Night Line





# 10) TIDES CAUSED BY THE MOON (NO MOON, NO TIDES!)

## Bay of Fundy, Nova Scotia

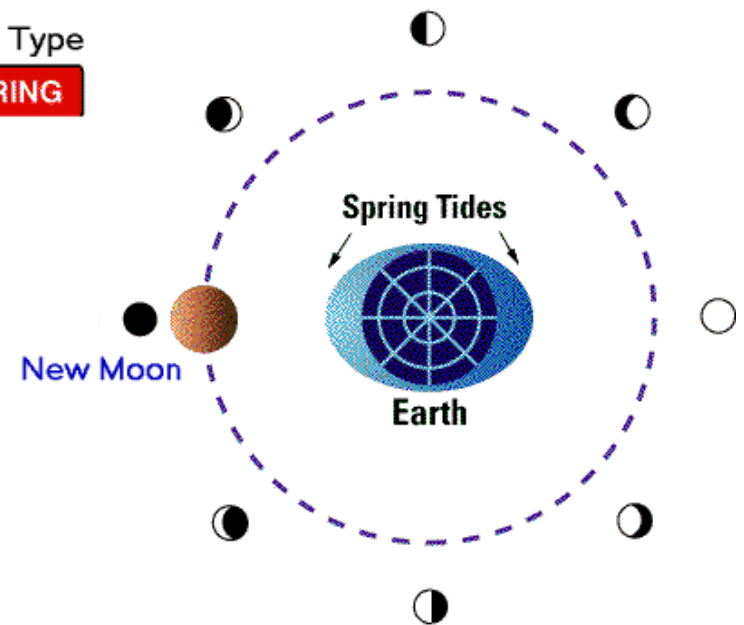
Difference between high tide and low tide  
averages 55 feet every 6h 25m



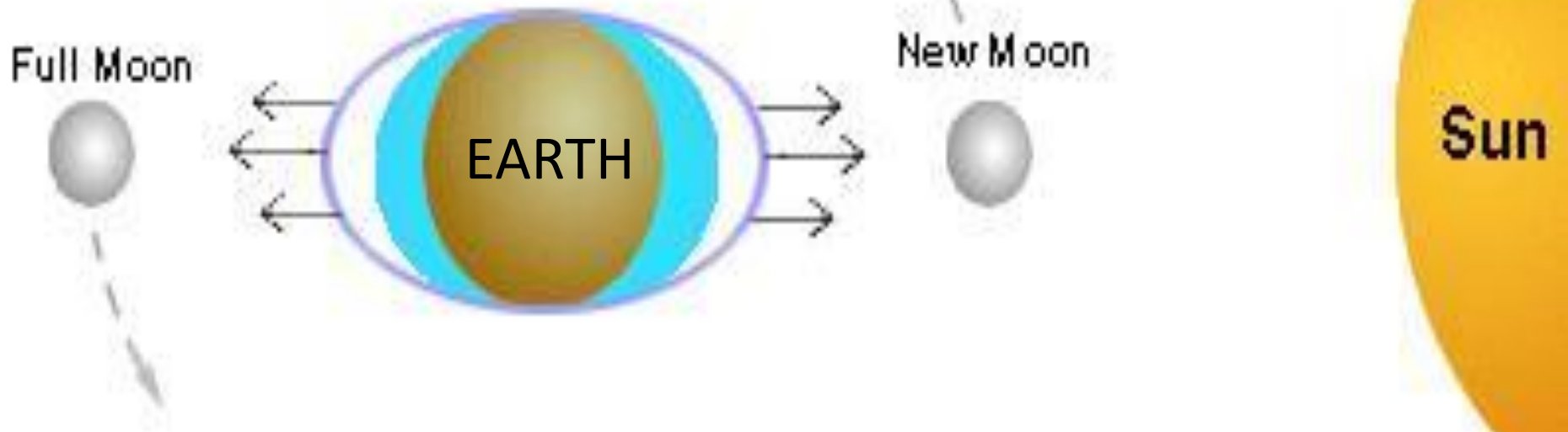


Tide Type

**SPRING**



# 11) Spring Tide

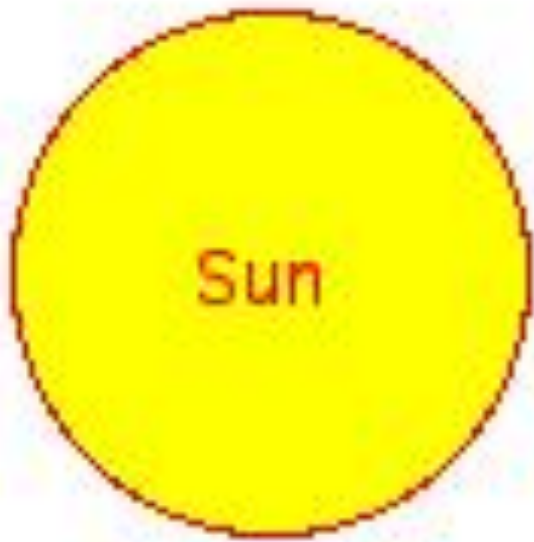


\*Spring Tide causes the highest HIGH tide and the LOWEST low tide





## 12) Neap Tide



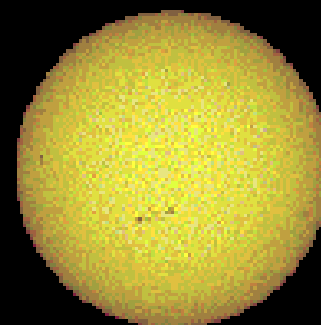
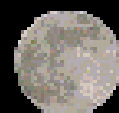
Last Quarter



First Quarter

Neap tide occurs during 1<sup>st</sup> Quarter  
and 3<sup>rd</sup> Quarter

Earth-moon-sun at right angle

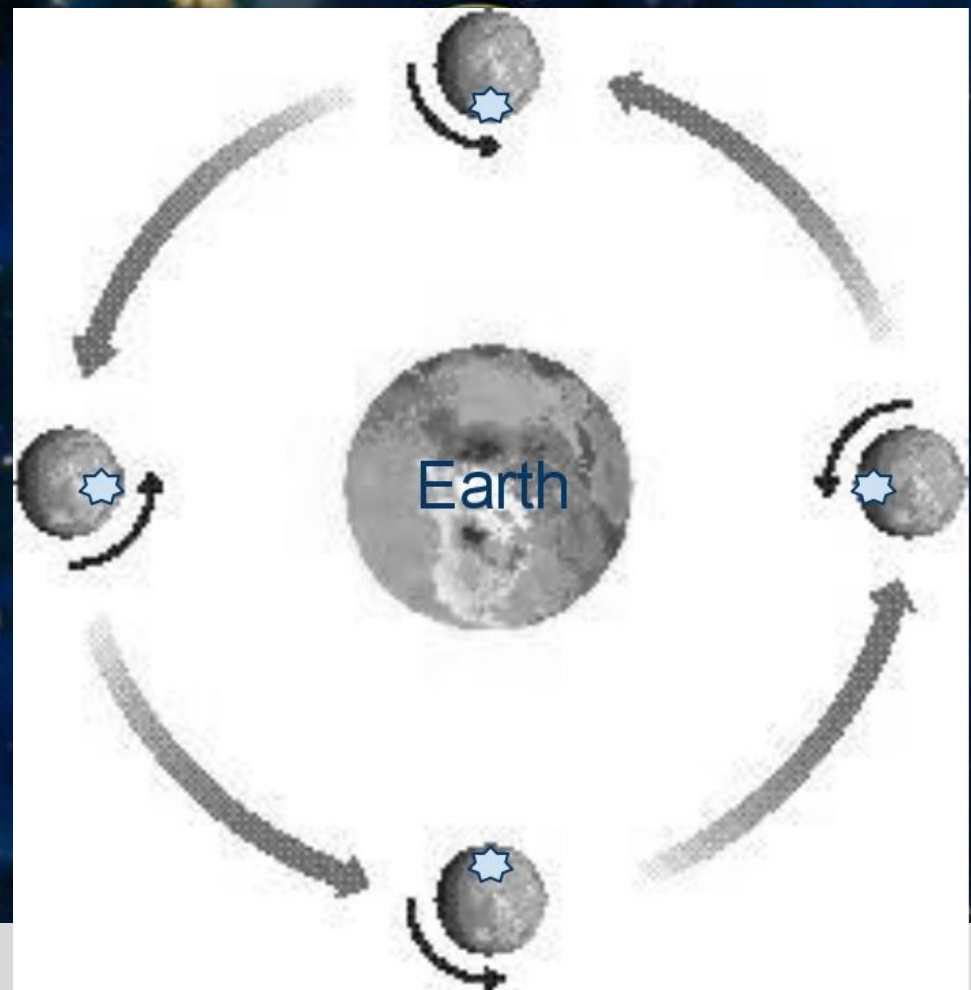


# MOTIONS OF THE MOON



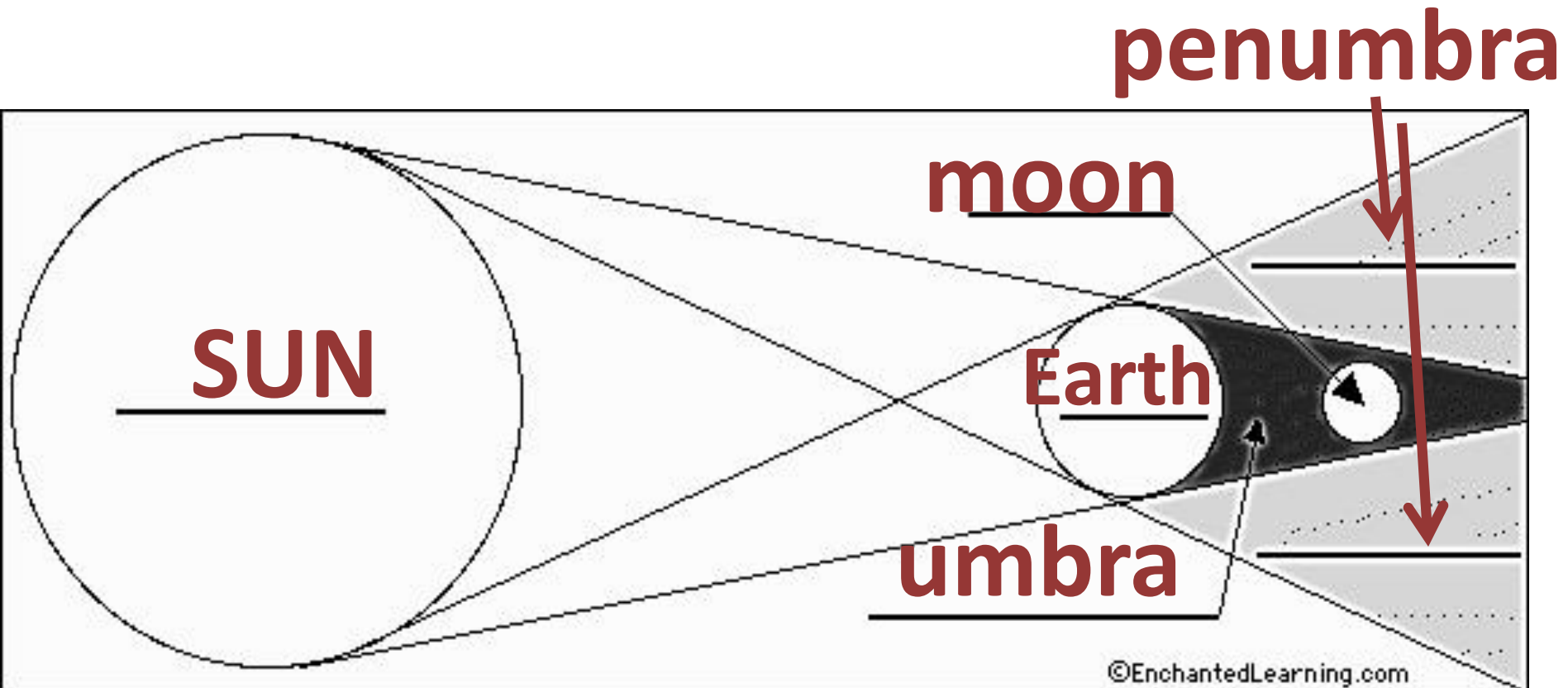
**13) The moon rotates once in the SAME time as it revolves.**

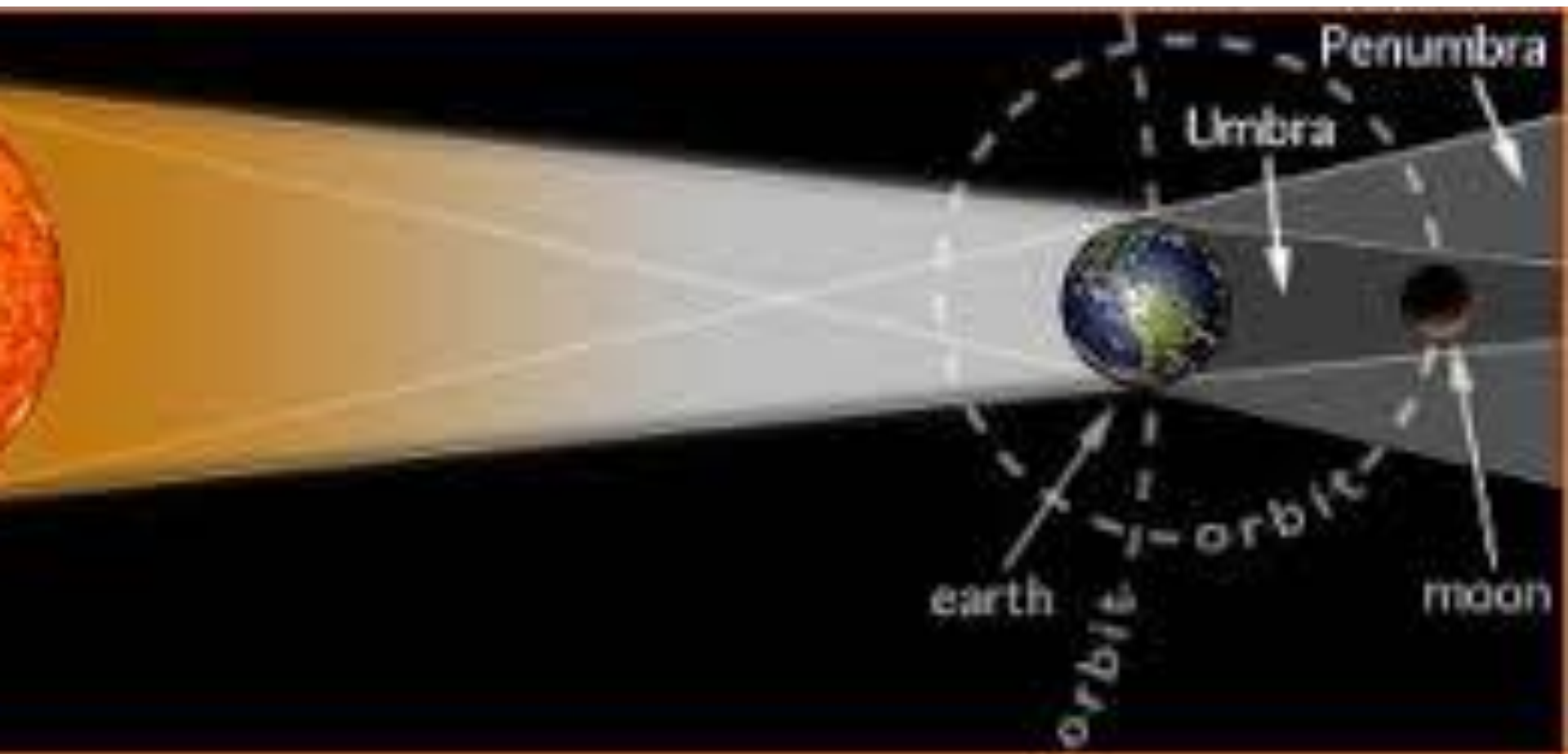
- **Because of this, you see the same side of the moon**
- **A moon day = a moon year. (1:1)**



## 14)Lunar Eclipse

- A lunar eclipse happens when we look at the moon and see Earth's shadow and see the FULL moon.







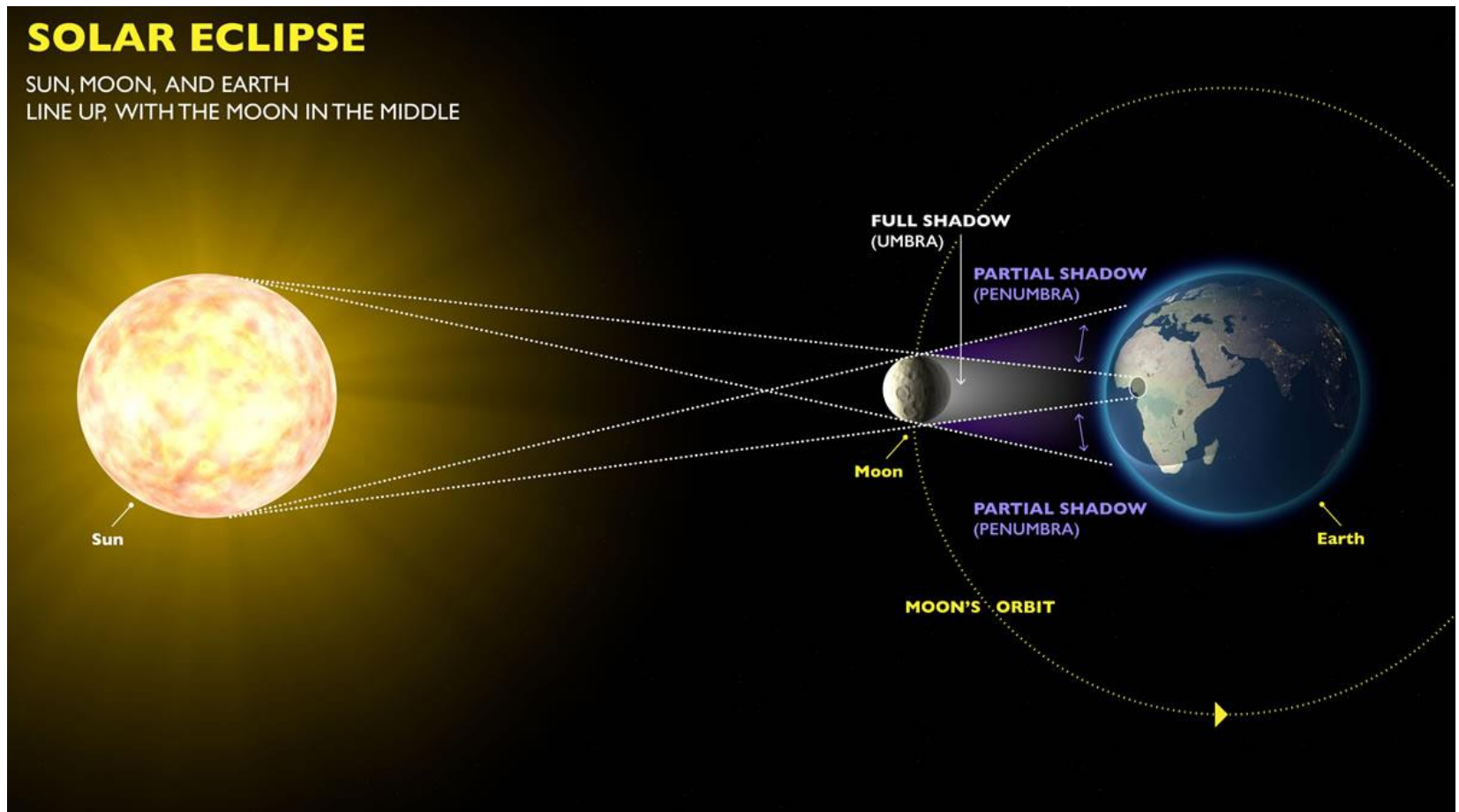
Total Lunar Eclipse - Bozeman, MT - 02/20/2008

*chad frettin*



# 15) Solar Eclipse

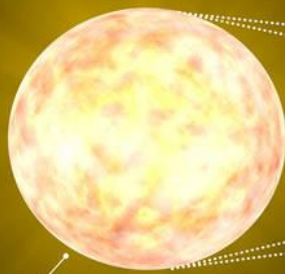
- A solar eclipse is when you look at the sun and see the NEW moon blocking the light of the sun.



# SOLAR ECLIPSE

SUN, MOON, AND EARTH  
LINE UP, WITH THE MOON IN THE MIDDLE

## Solar Eclipse



Sun

FULL SHADOW  
(UMBRA)

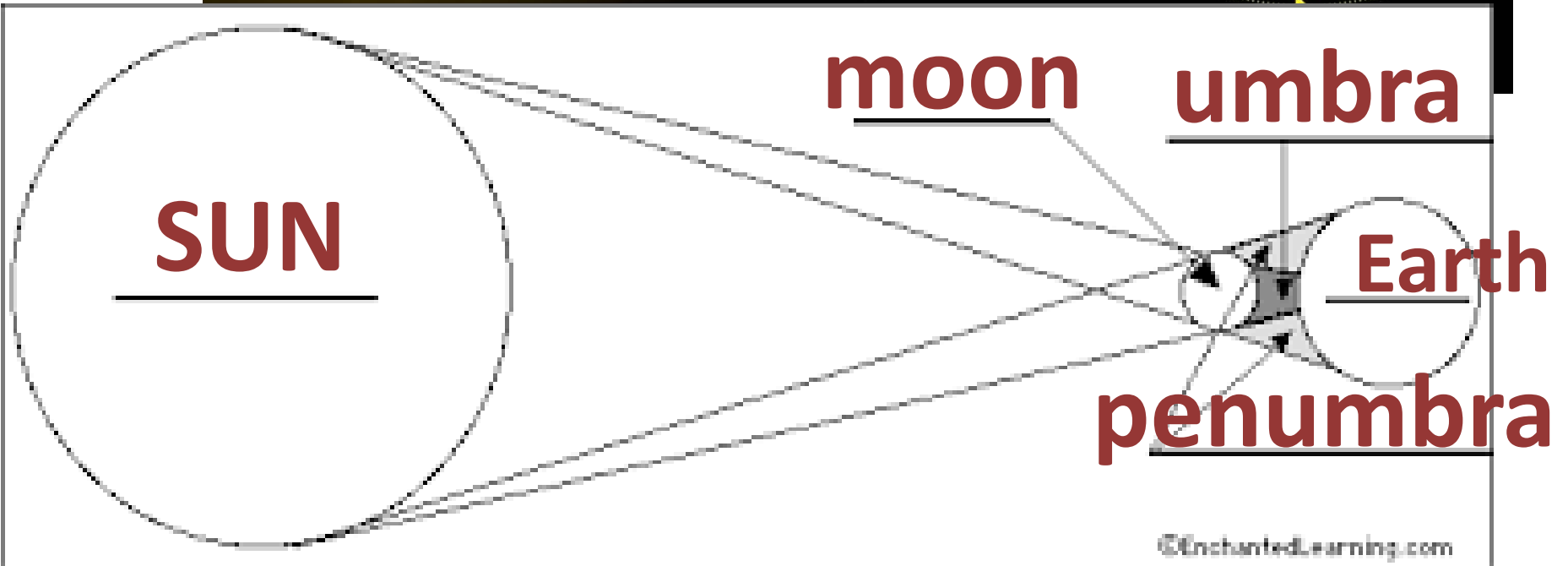
PARTIAL SHADOW  
(PENUMBRA)

Moon

PARTIAL SHADOW  
(PENUMBRA)

Earth

MOON'S ORBIT



# The Orbit of the Moon

