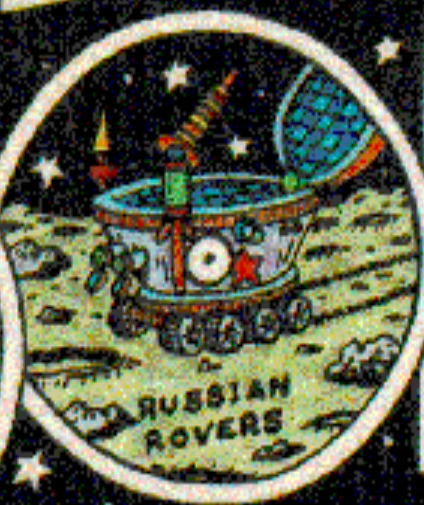


**GREETINGS**

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







# The Moon

# 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.
- 1) The moon most likely formed at the same time as the Earth



# Giant Impact Theory (The Big Whack)

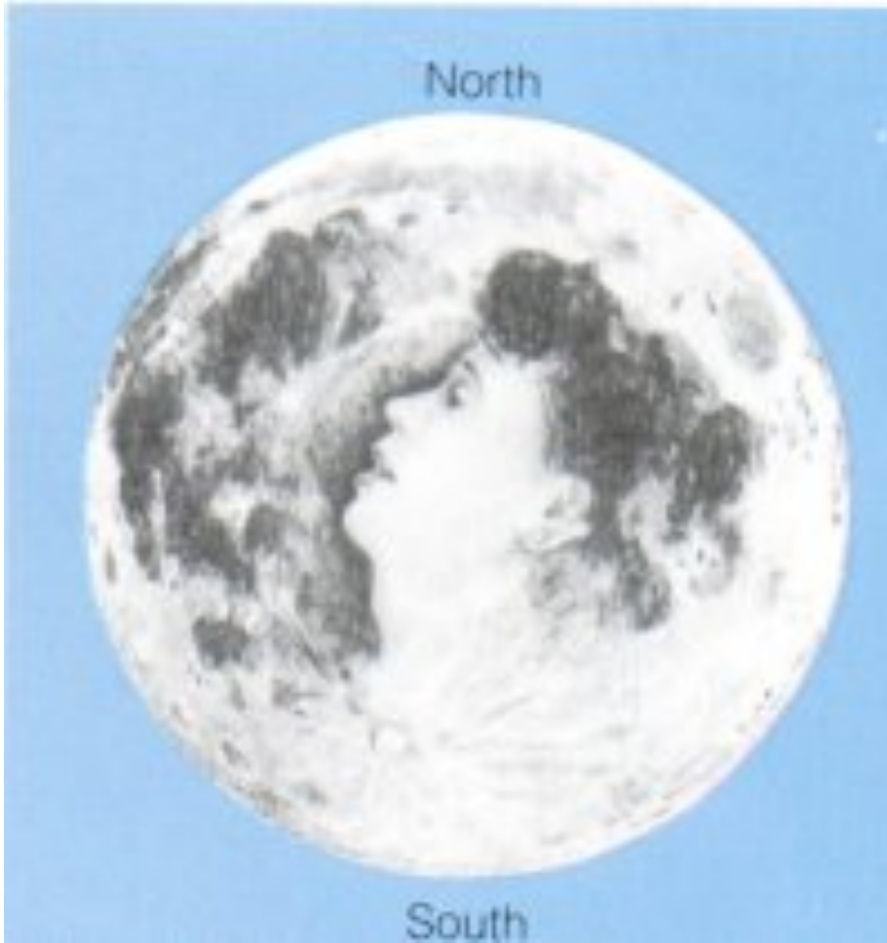
2) proposes a Mars-sized asteroid  
collided with Earth 4.5 billion years  
ago.







# The “Man” on the Moon





# FACTS

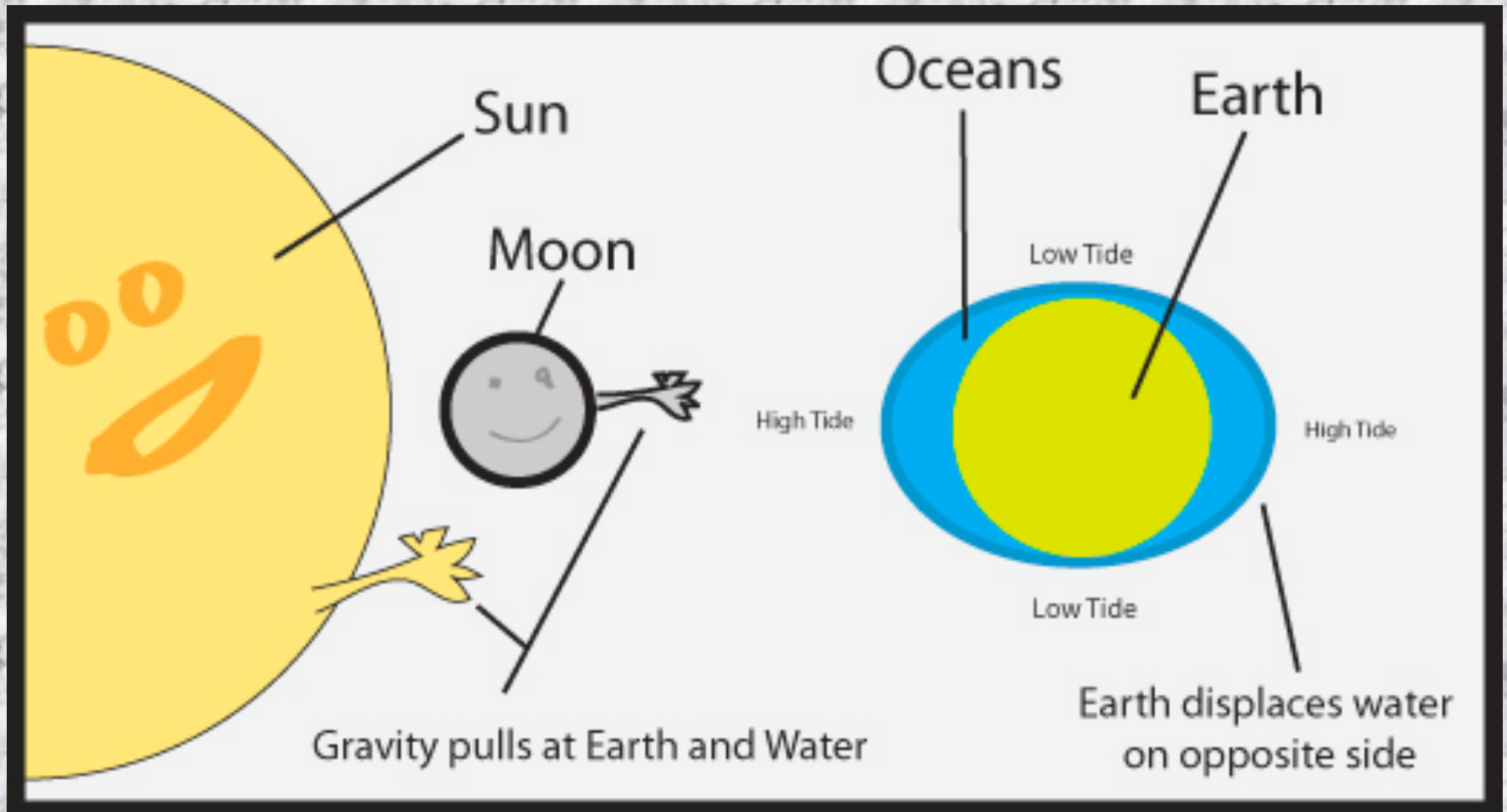
- The moon does not have an iron core

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



# MOON FACTS

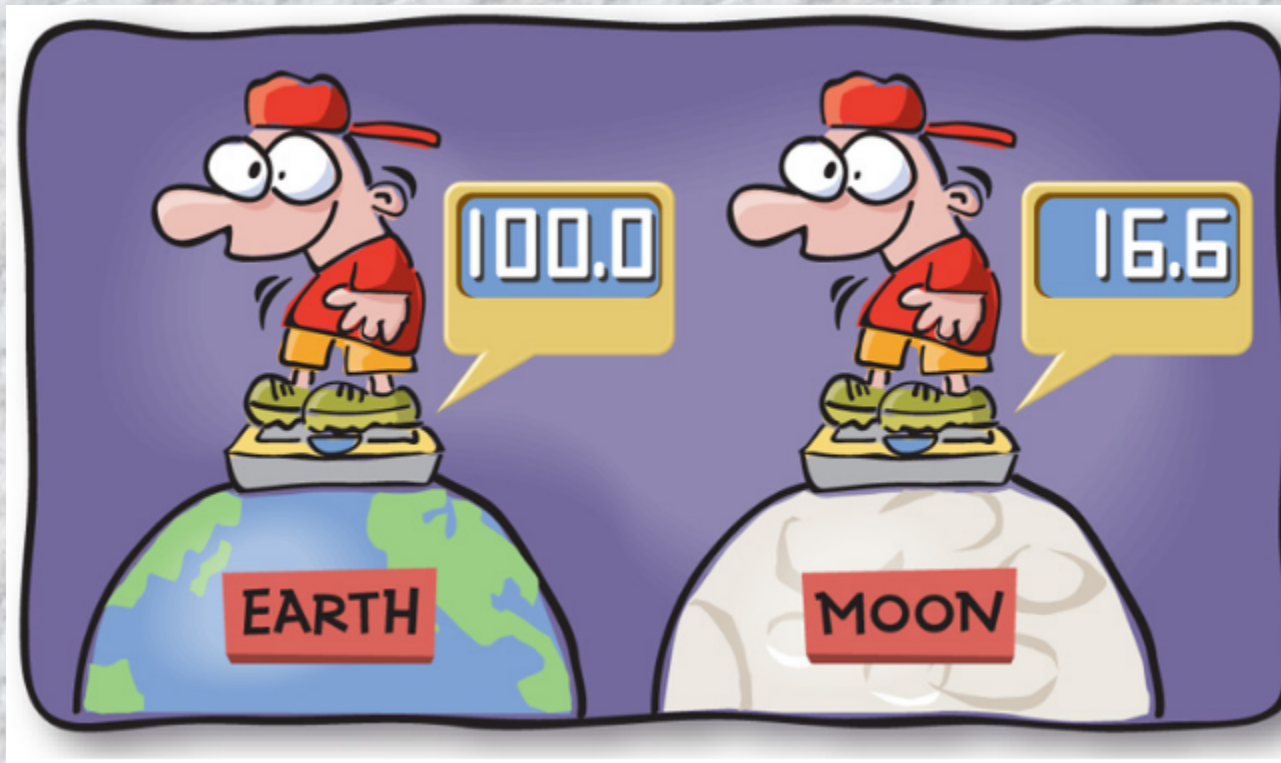
4) The moon causes TIDES here on earth.





# MOON FACTS

5) 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.



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

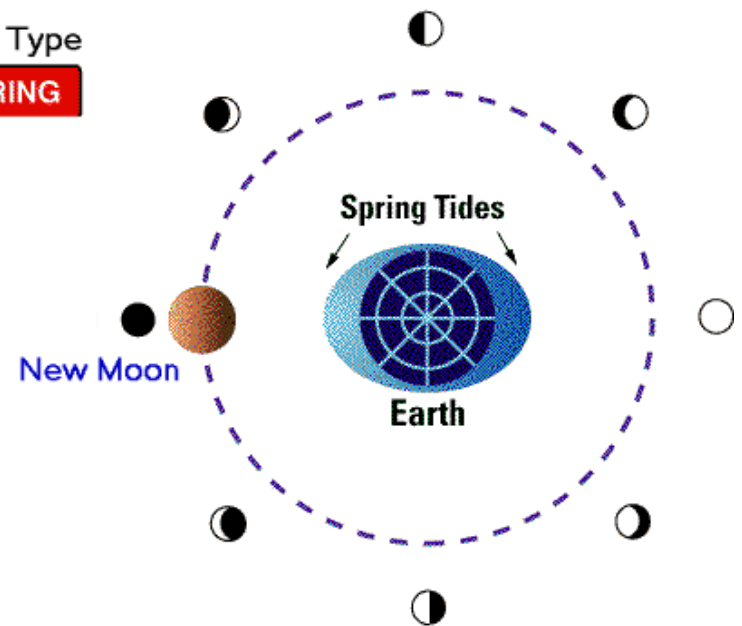


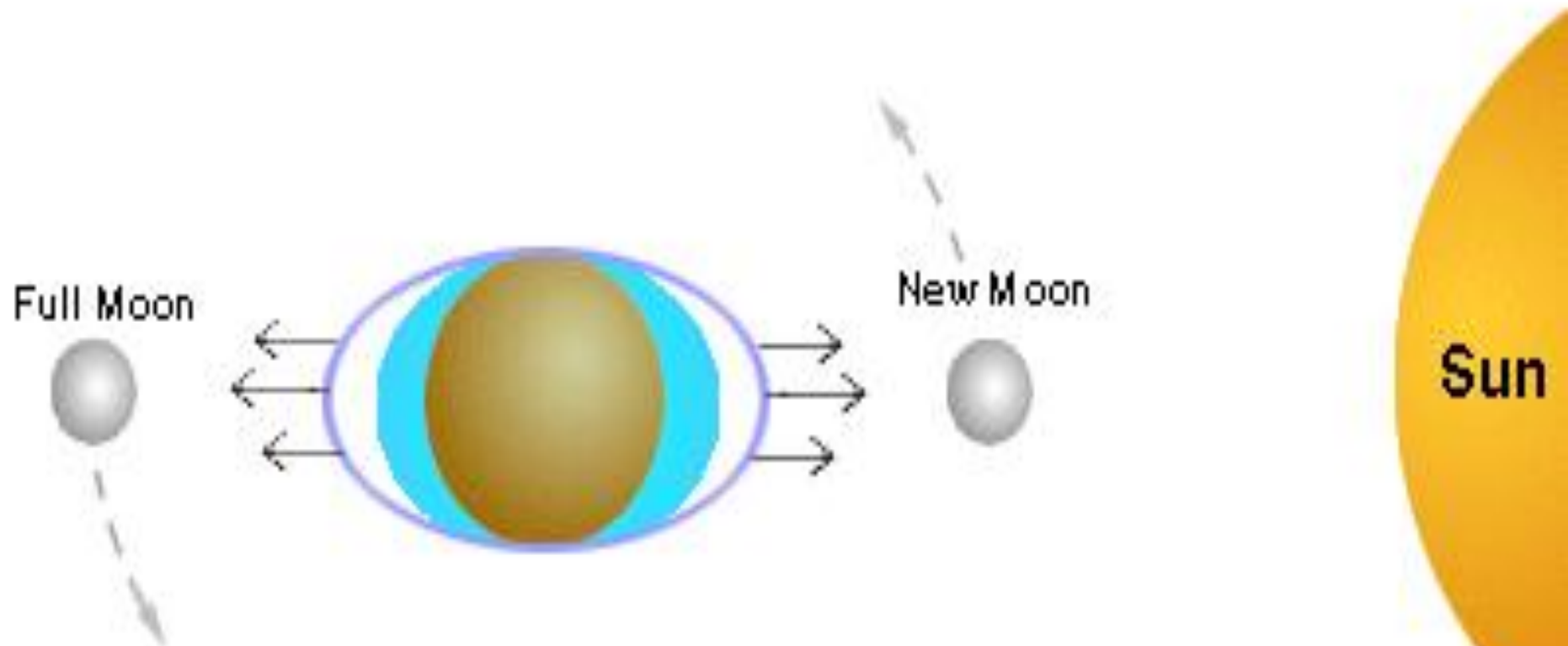




Tide Type

**SPRING**



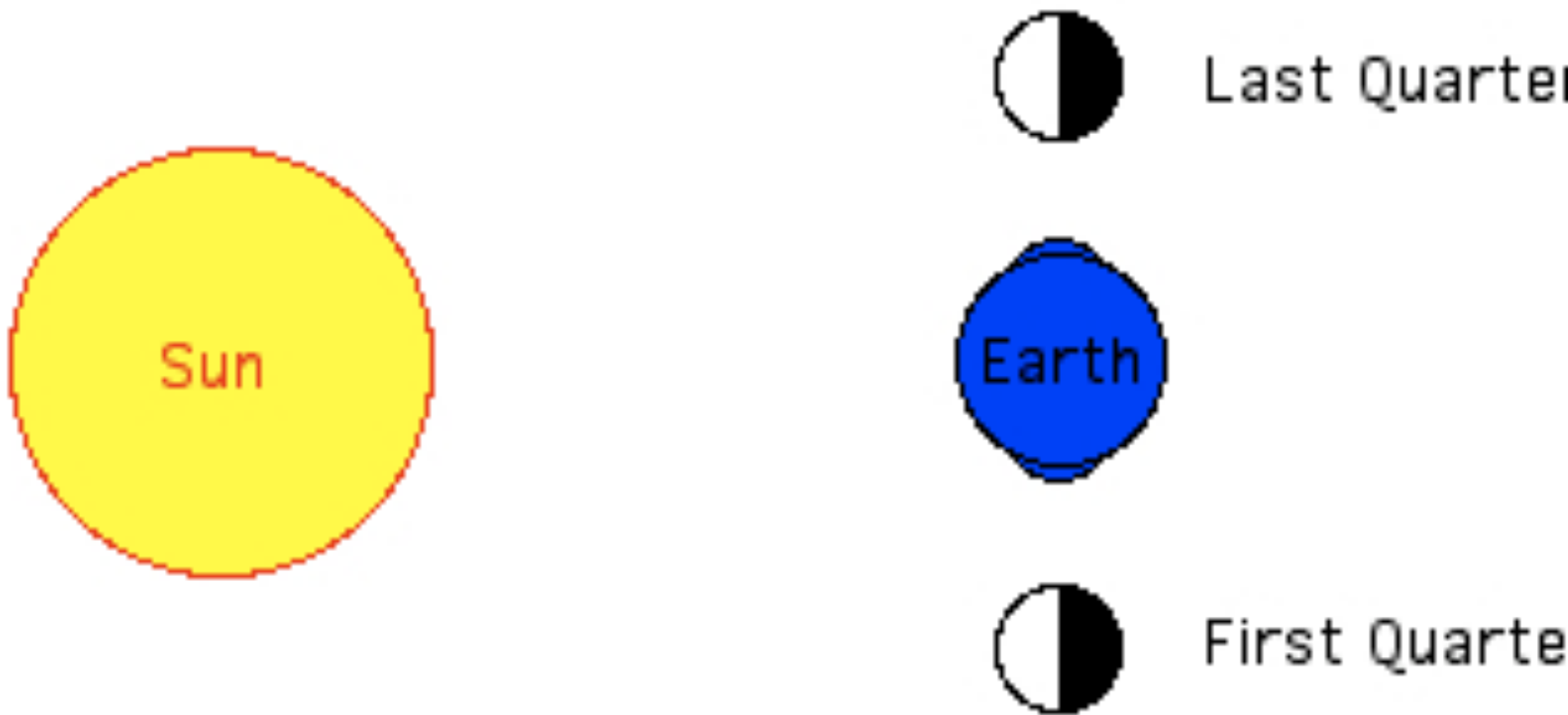


6) Spring Tide causes the highest HIGH tide and the LOWEST low tide

7) Spring Tide alignment - Earth Moon and Sun in a straight line

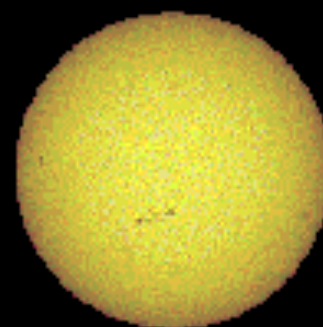
8) Occurs during new moon and full moon





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

10) Earth-moon-sun at right angle





# CRATERS

11) Large  
round pits  
formed by  
impacts of  
asteroids



# 12) 2 Types of terrain on the Moon

a) HIGHLANDS-  
heavily cratered  
and very old

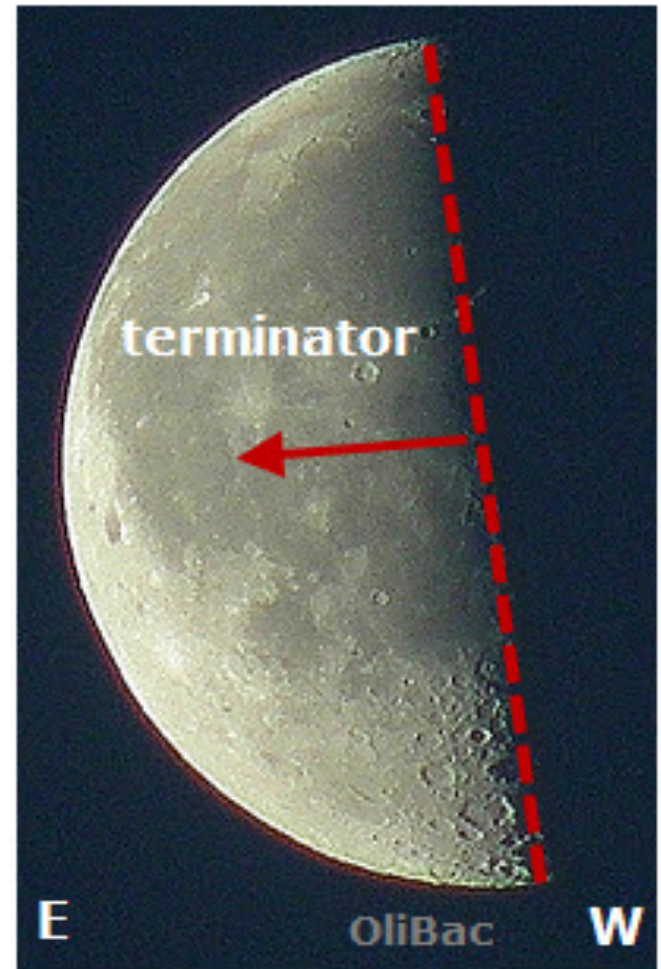
b) MARIA- dark, flat  
areas

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





# 13) Terminator: Day-Night Line





# 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.





# What is it like on the moon?

14) no weather - no wind

15) no atmosphere to protect you from extreme temperatures of space.

16) Very cold ( $- 173^{\circ}\text{C}$ ) AND hot ( $+100^{\circ}\text{C}$ )

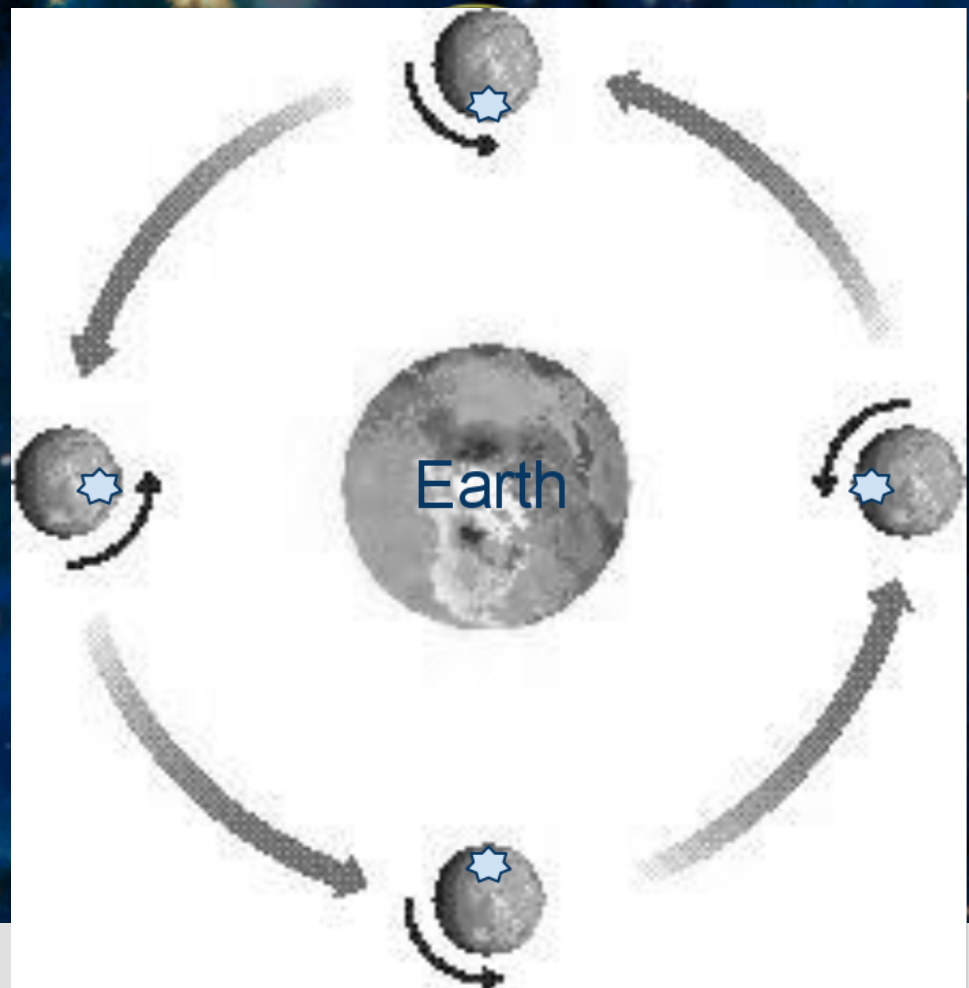
17) It has no magnetic field. Compasses don't work.

# MOTIONS OF THE MOON

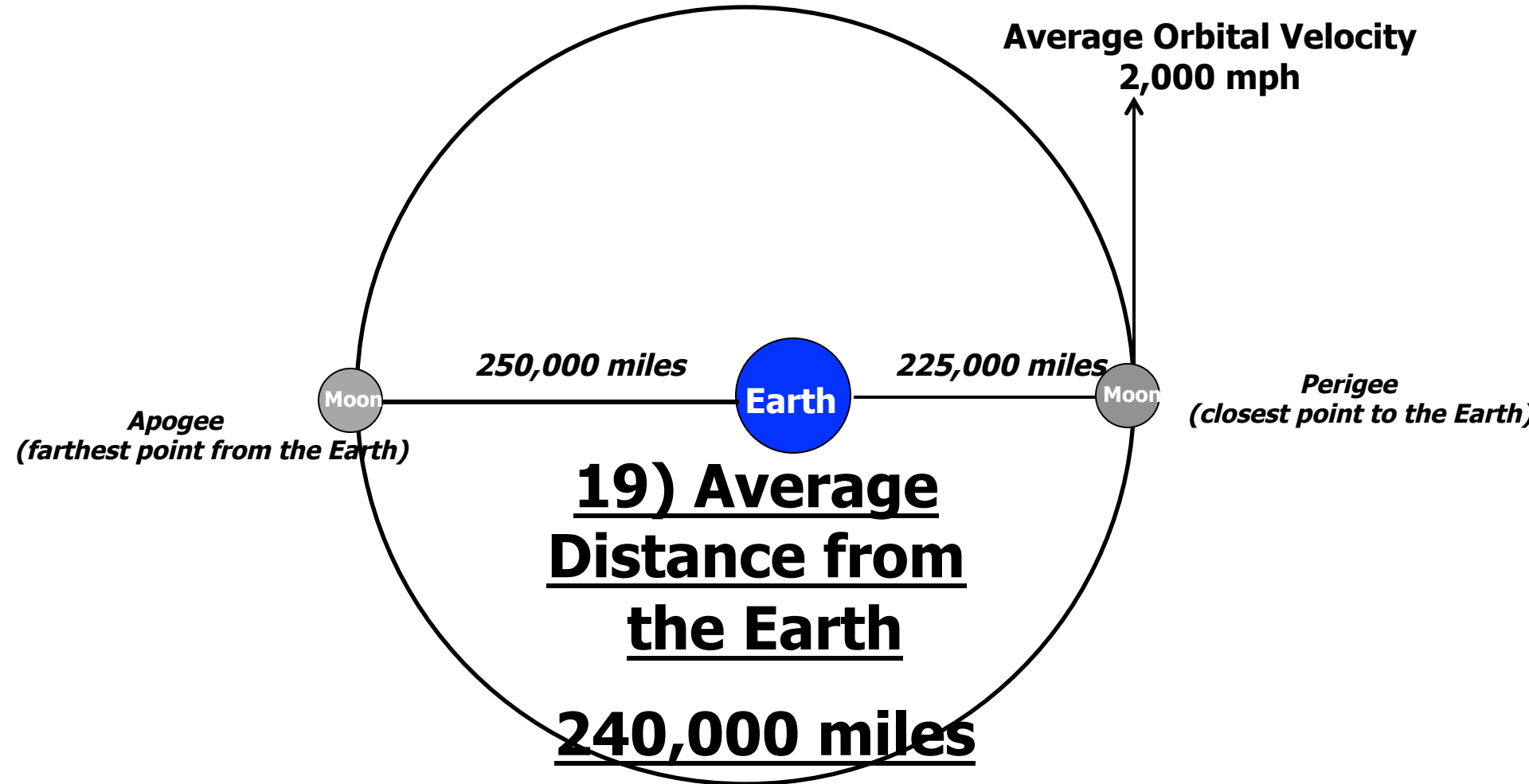


**18) The moon rotates once  
then the SAME  
time as it  
revolves.**

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

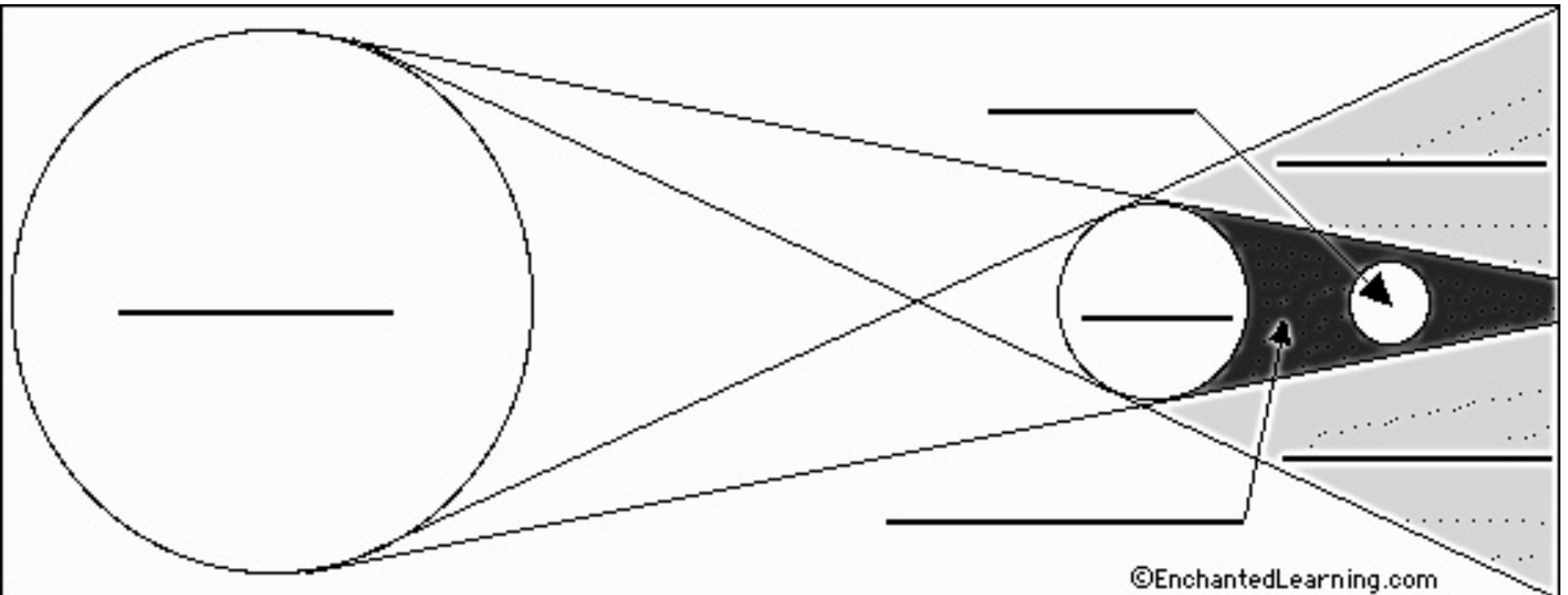


# The Orbit of the Moon

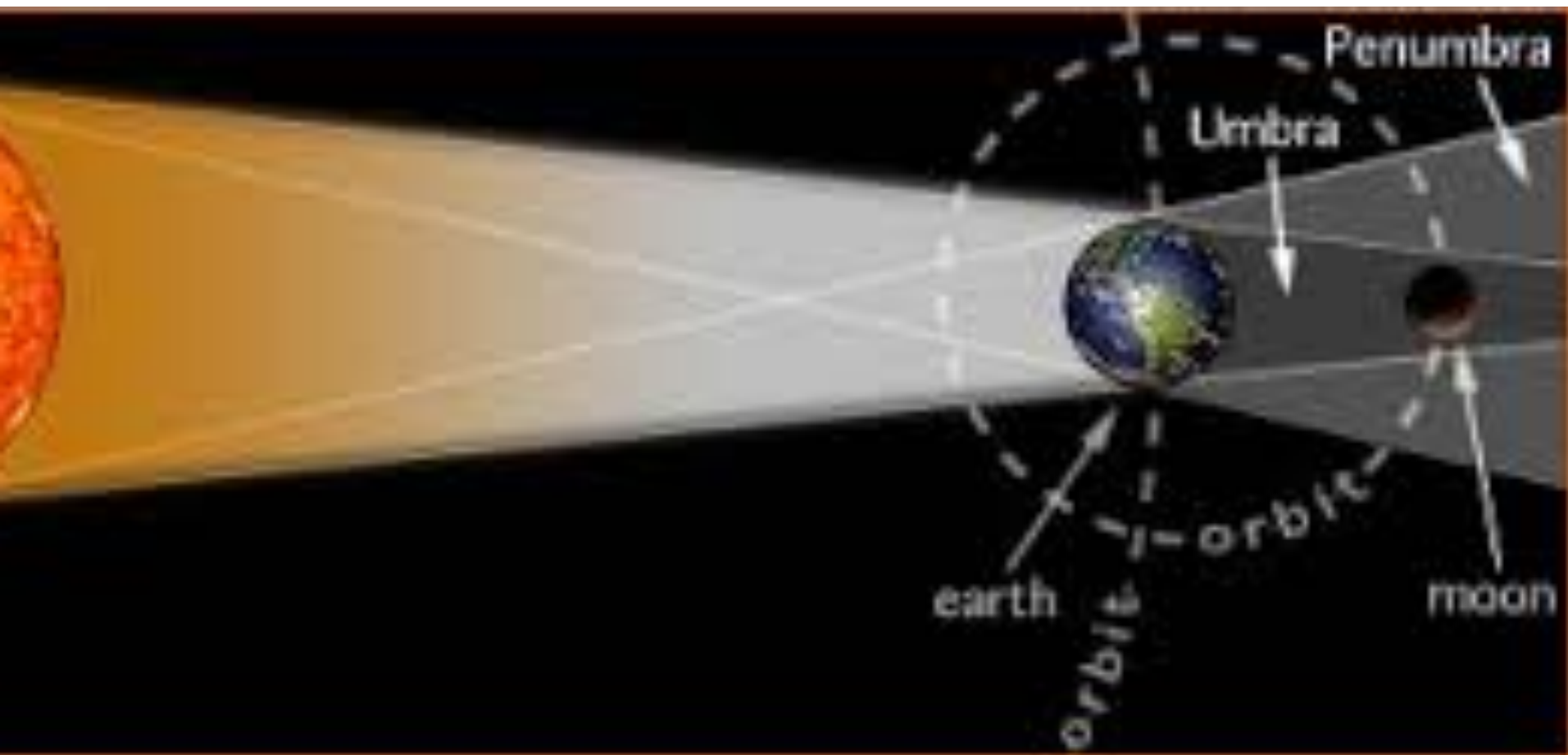


# Lunar Eclipse

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







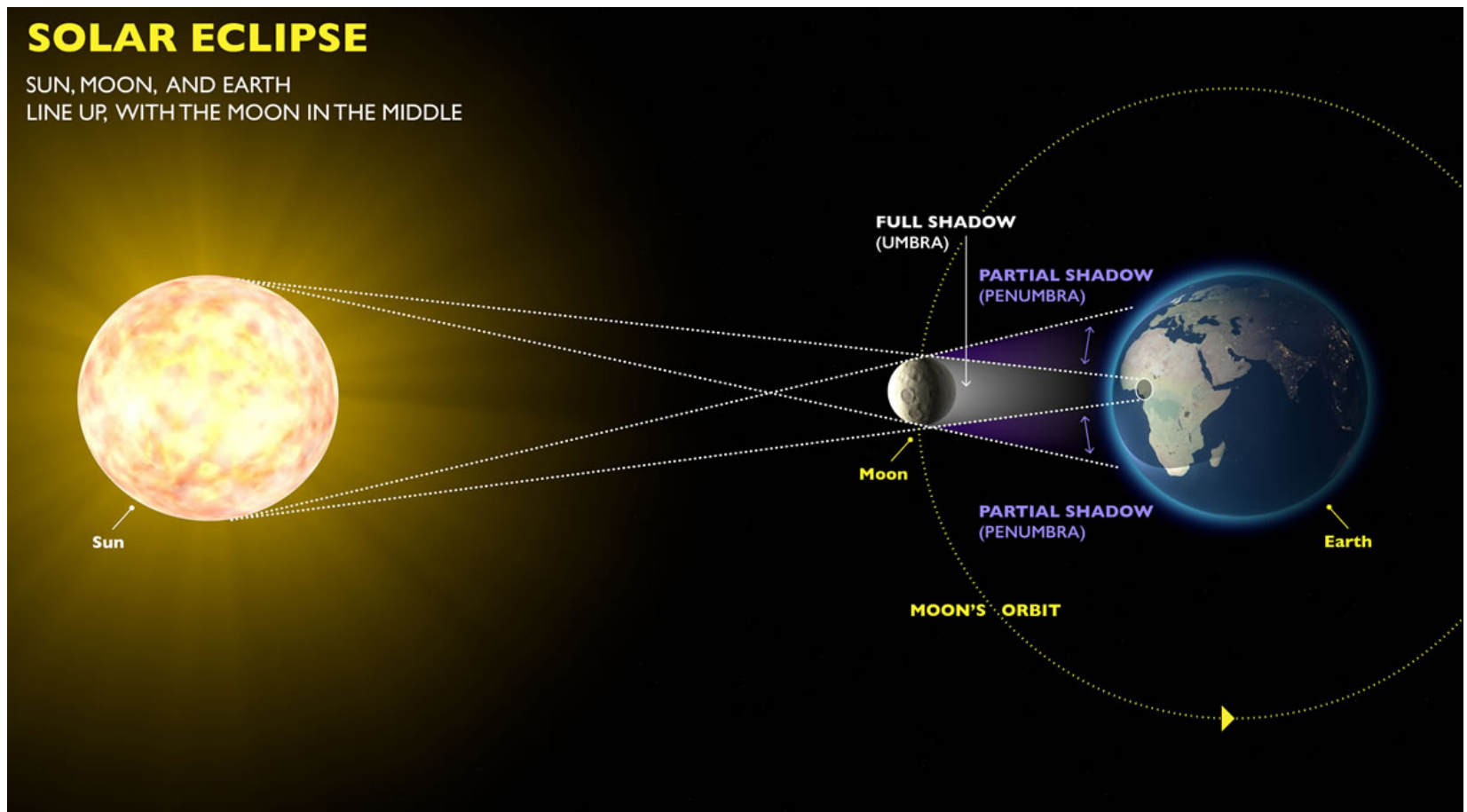


Total Lunar Eclipse - Bozeman, MT - 02/20/2008

*chad fretlin*

# Solar Eclipse

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

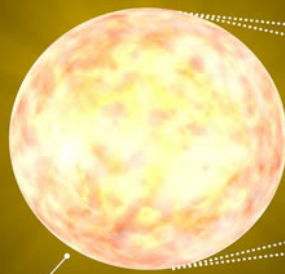




# SOLAR ECLIPSE

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

