

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

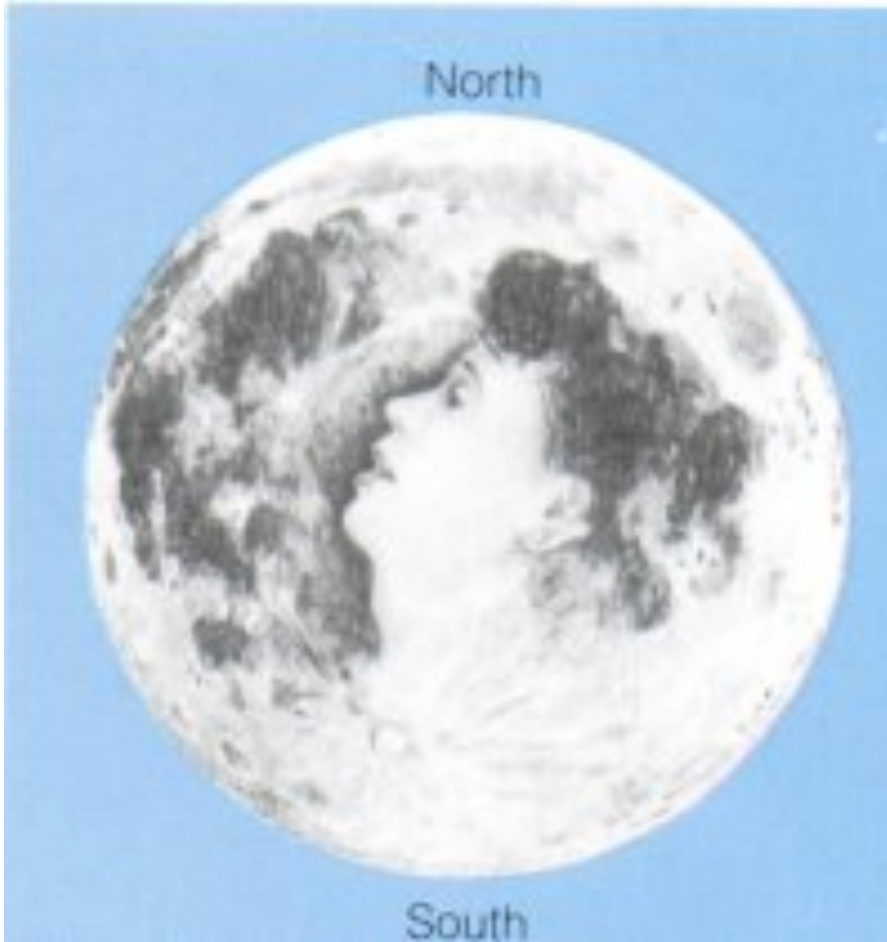


Giant Impact Theory (The Big Whack)
2) proposes a Mars-sized asteroid
collided with Earth 4.5 billion years
ago.





The “Man” on the Moon



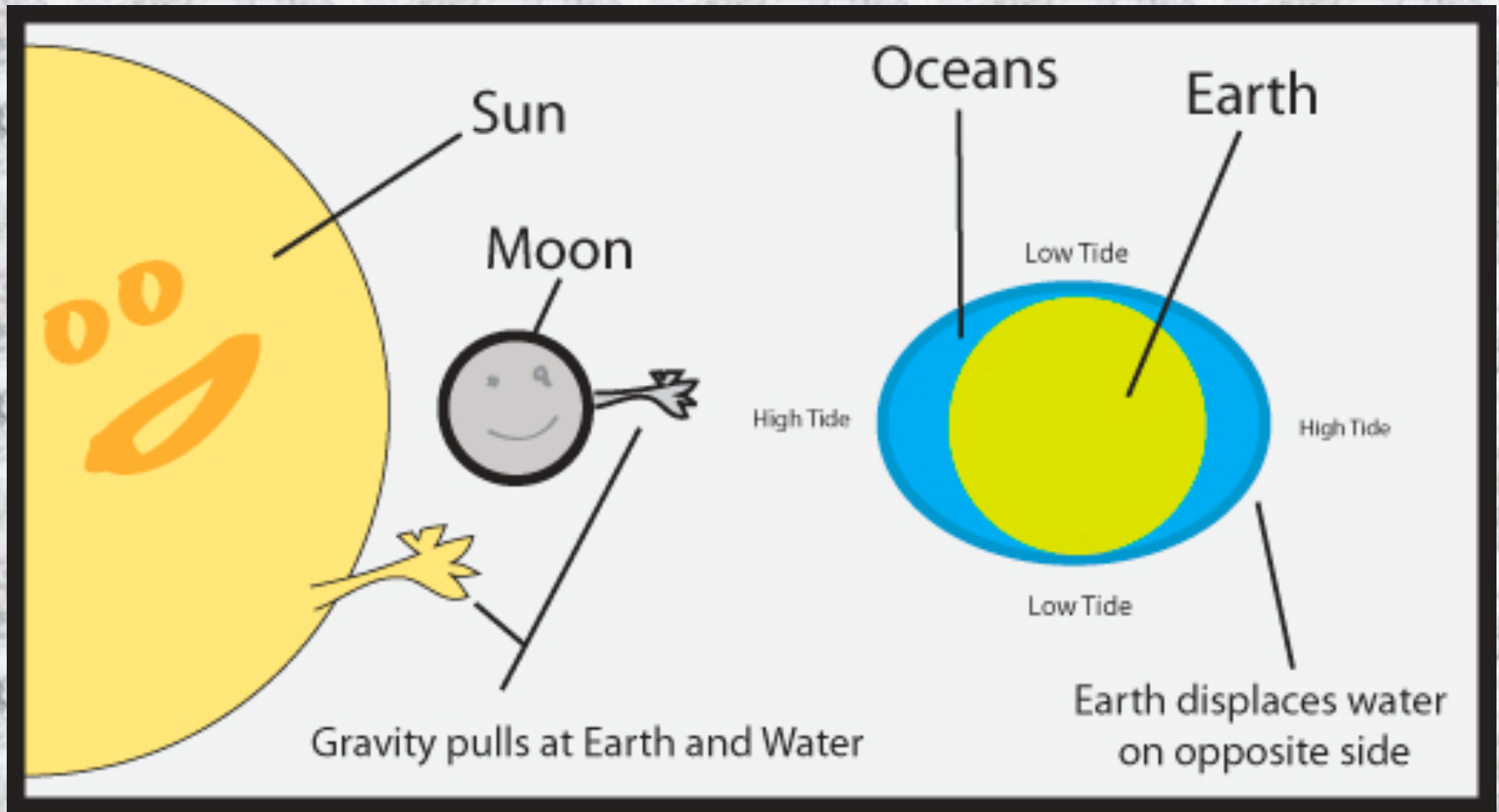
FACTS

- The moon does not have an iron core
- 3) It is $\frac{1}{4}$ the size of the Earth.



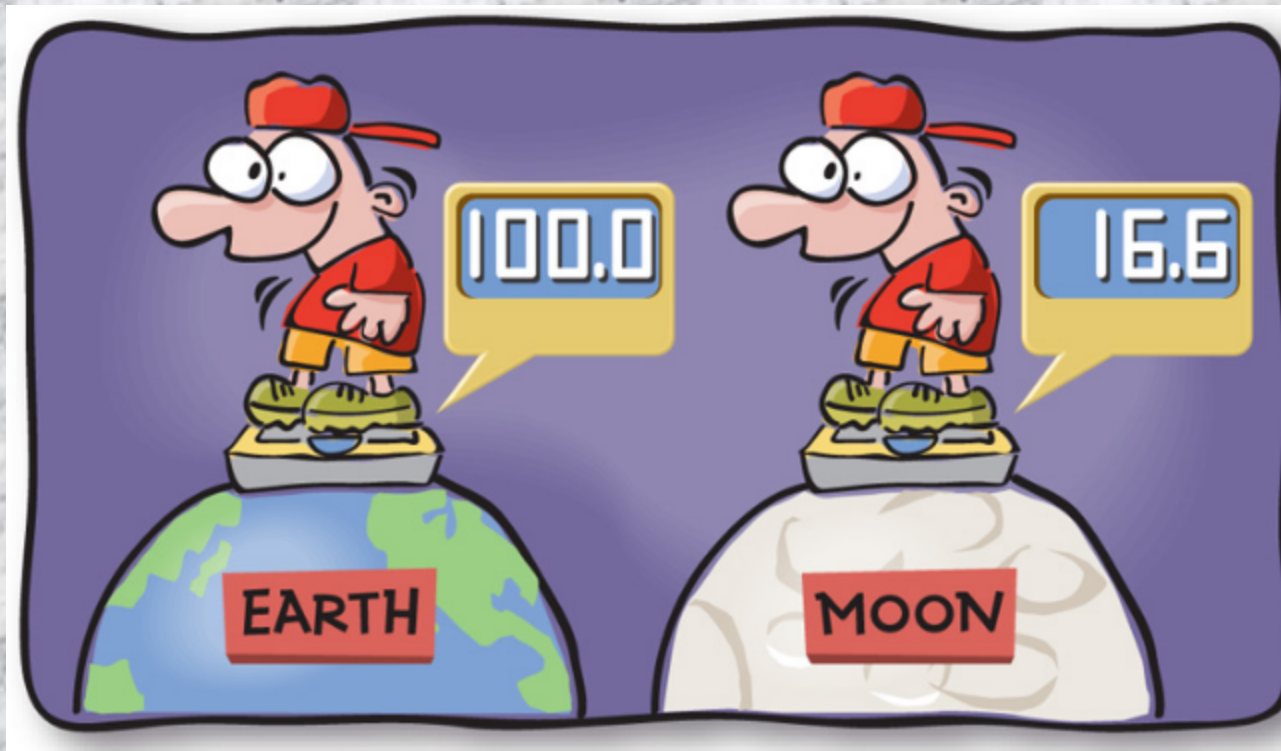
MOON FACTS

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

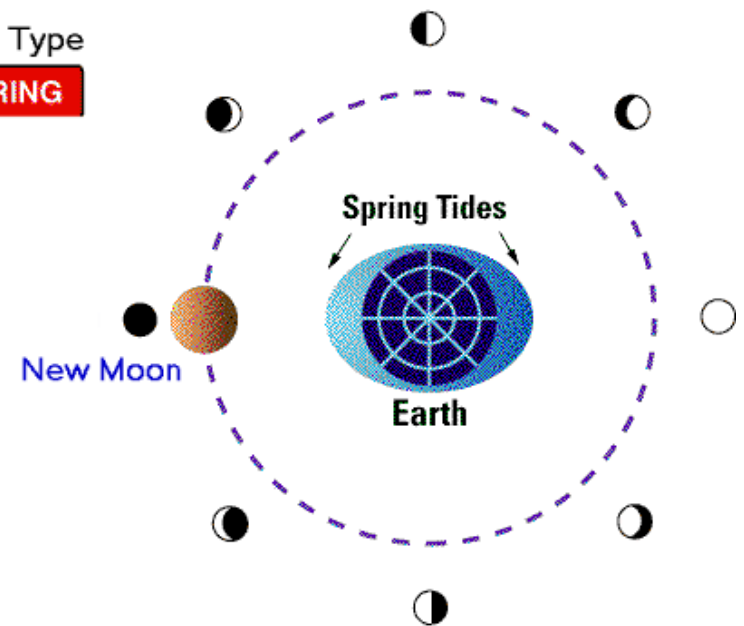
Difference between high tide and low tide
averages 55 feet every 6h 25m

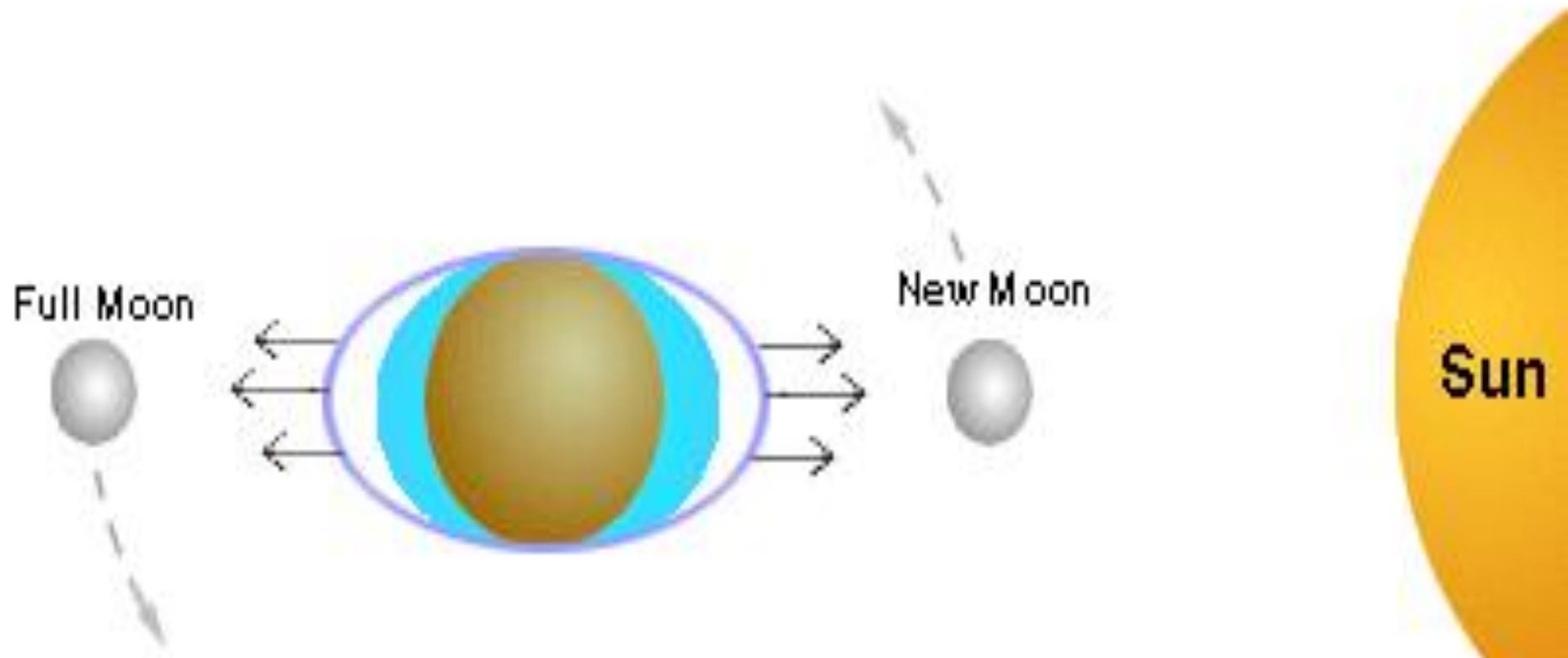




Tide Type

SPRING

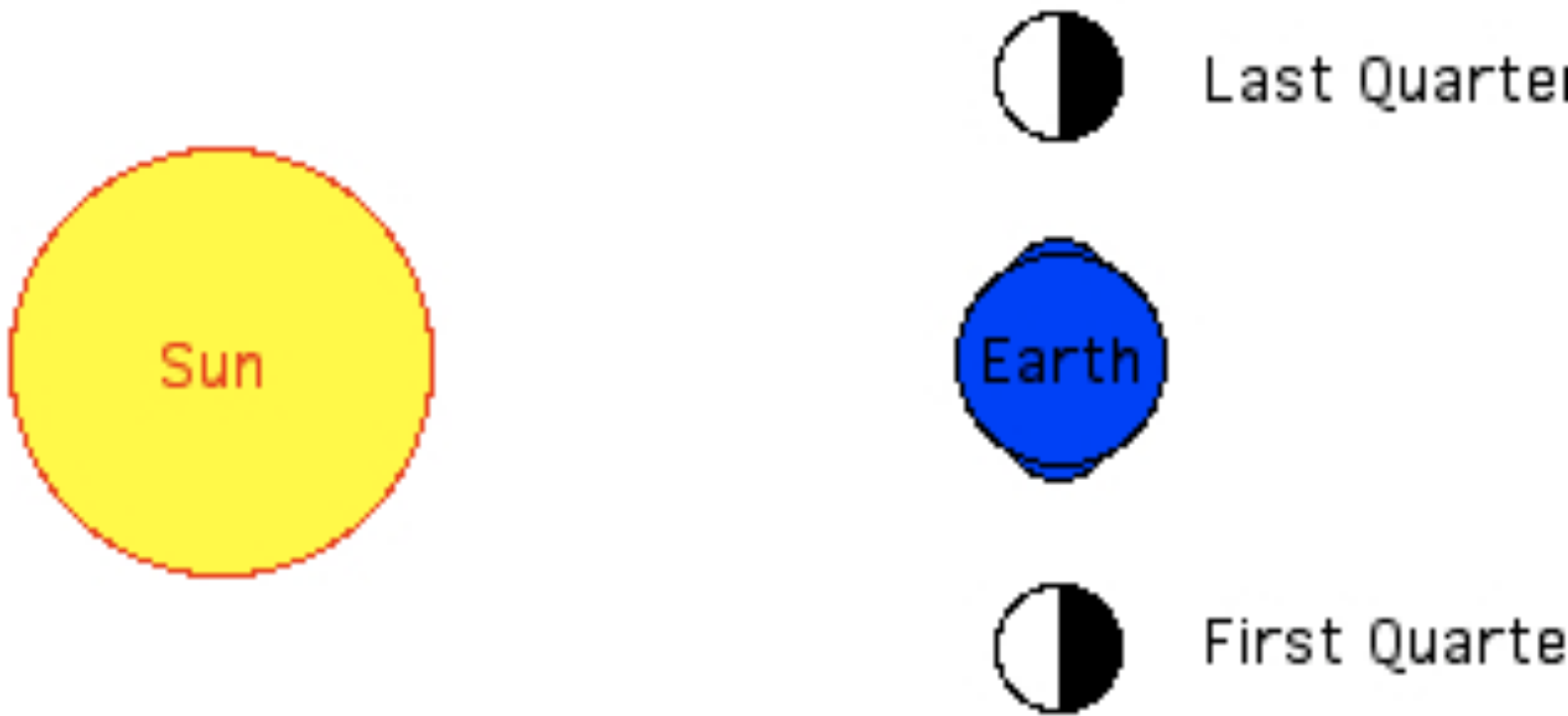




6) Spring Tide causes the highest HIGH tide and the LOWEST low tide

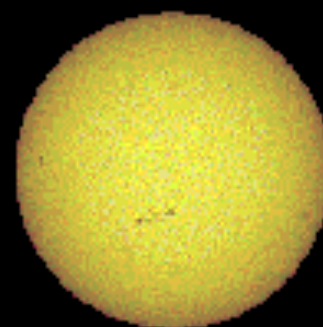
7) Spring Tide alignment - Earth Moon and Sun in a straight line

8) Occurs during new moon and full moon



9) Neap tide occurs during 1st Quarter and 3rd 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

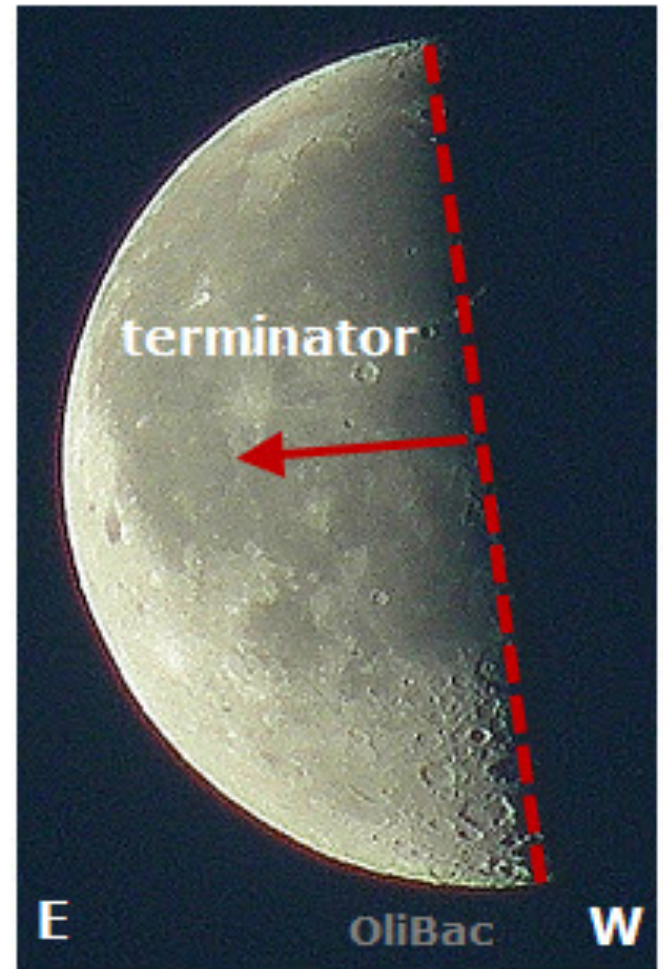
a) **HIGHLANDS-**
heavily cratered
and very old

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 ($+100^{\circ}\text{C}$)

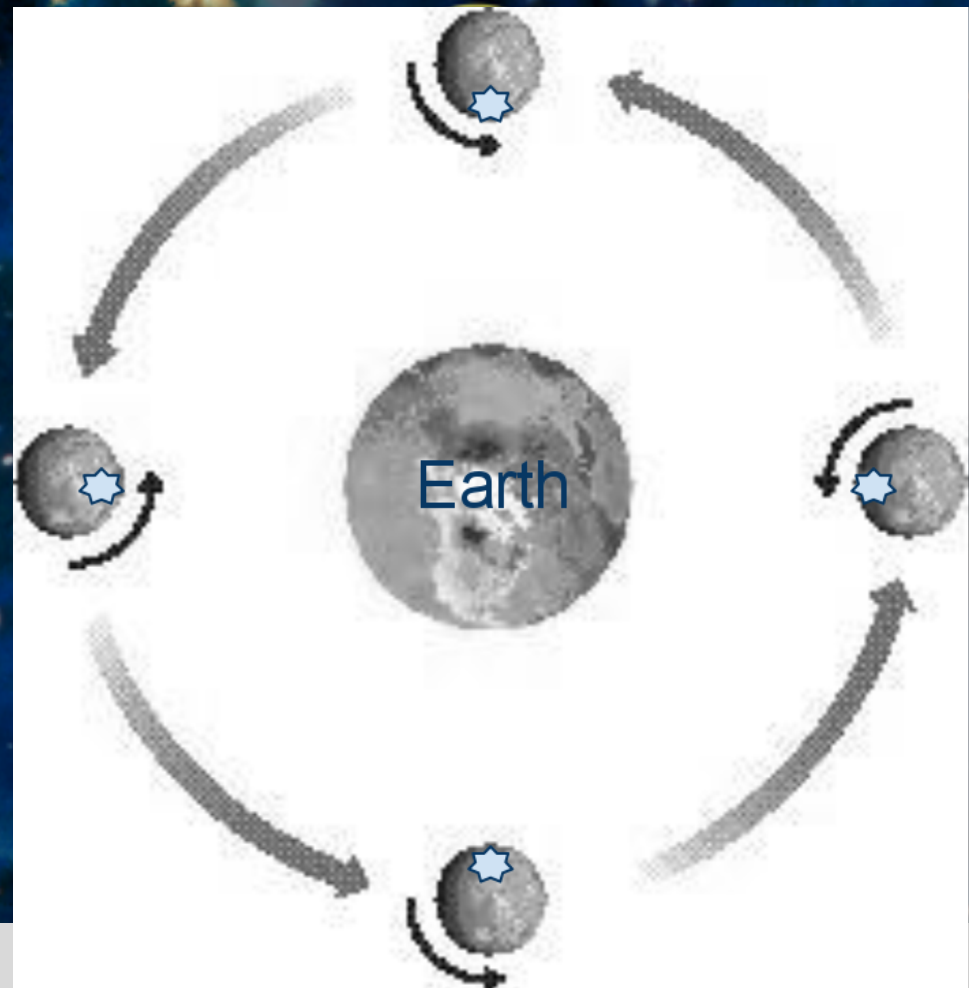
17) It has no magnetic field. Compasses don't work.



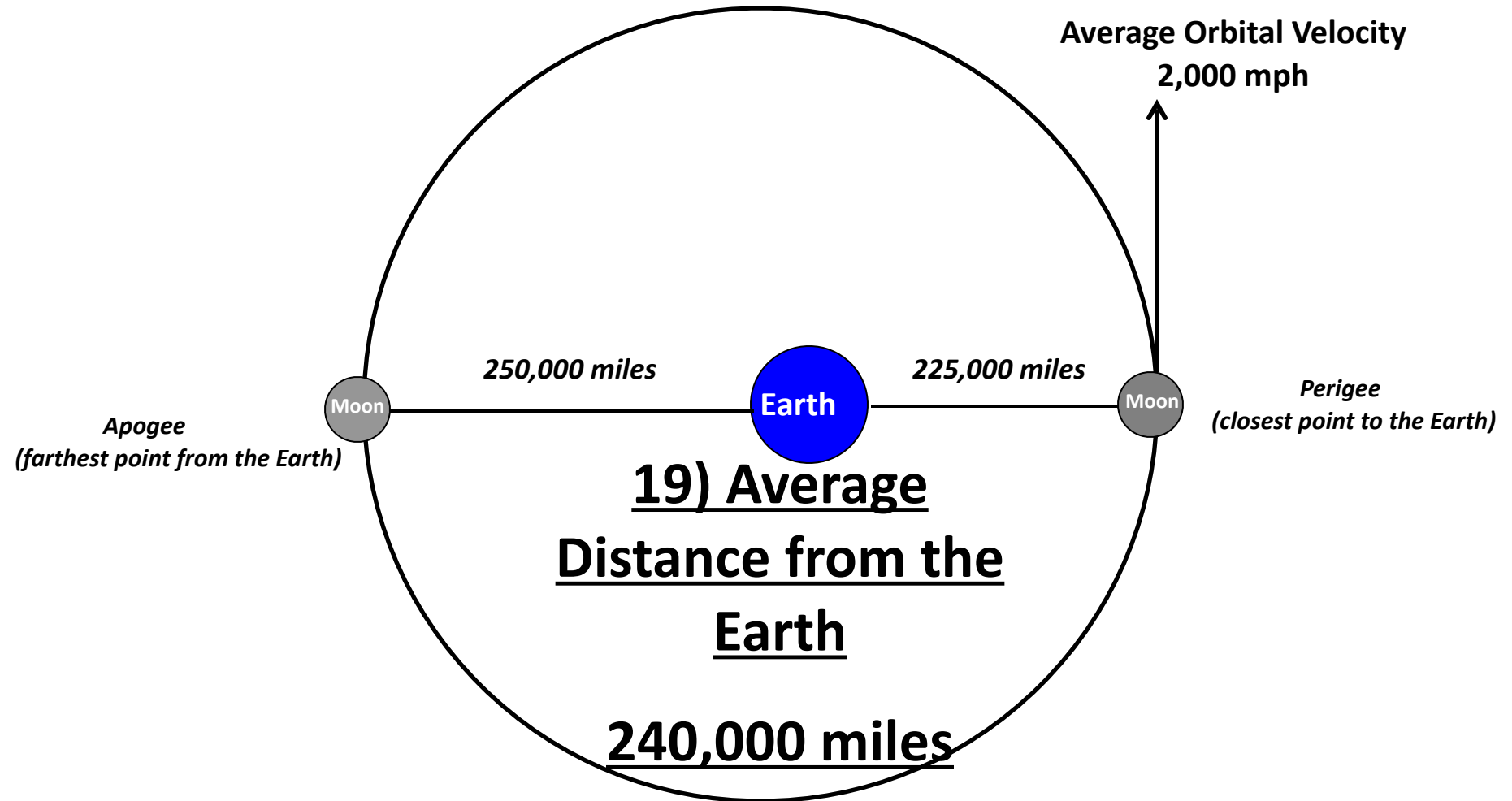
MOTIONS OF THE MOON

18) The moon
rotates once the
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)

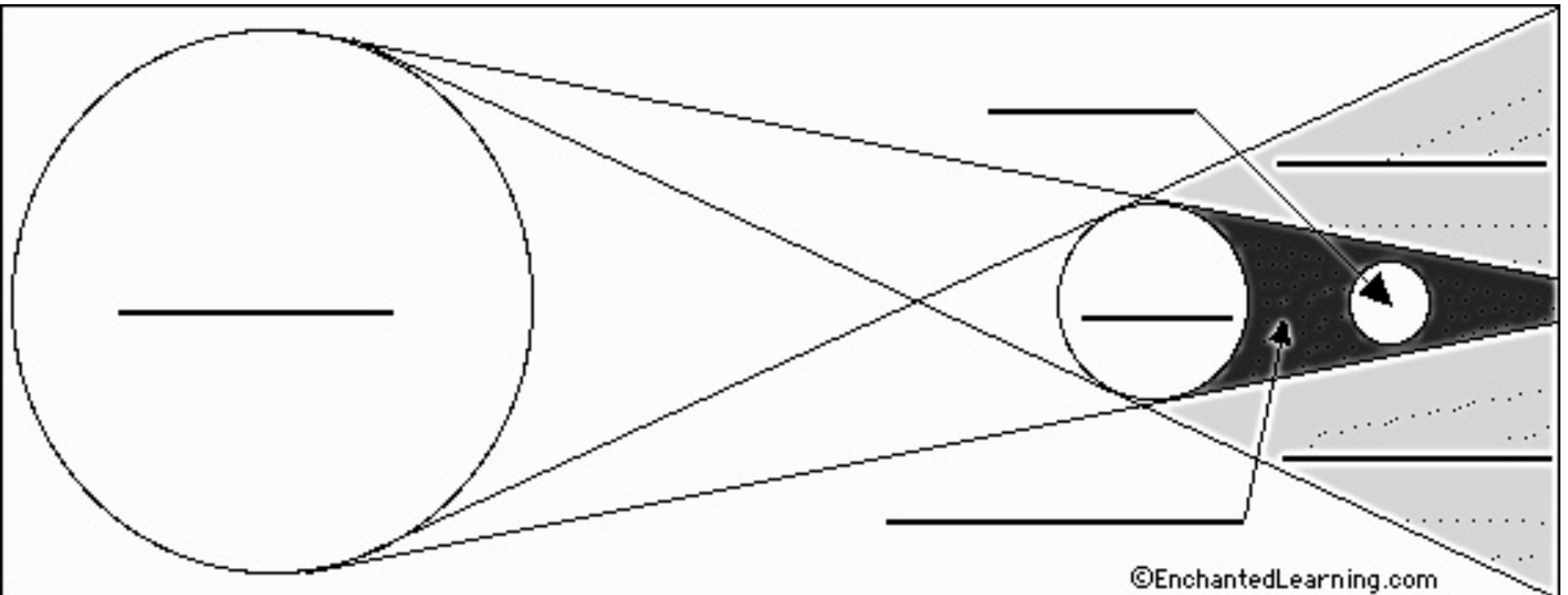


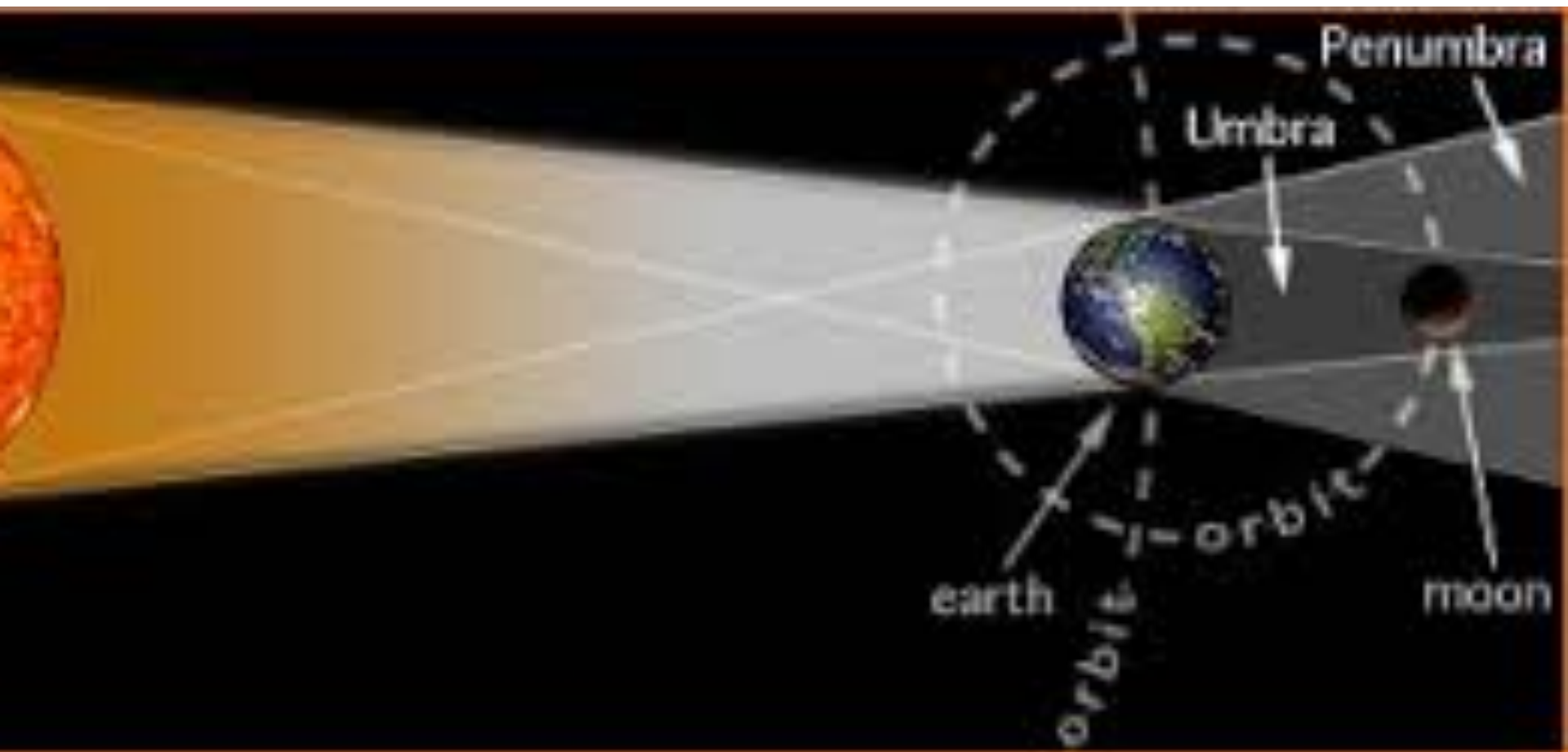
The Orbit of the Moon



Lunar Eclipse

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





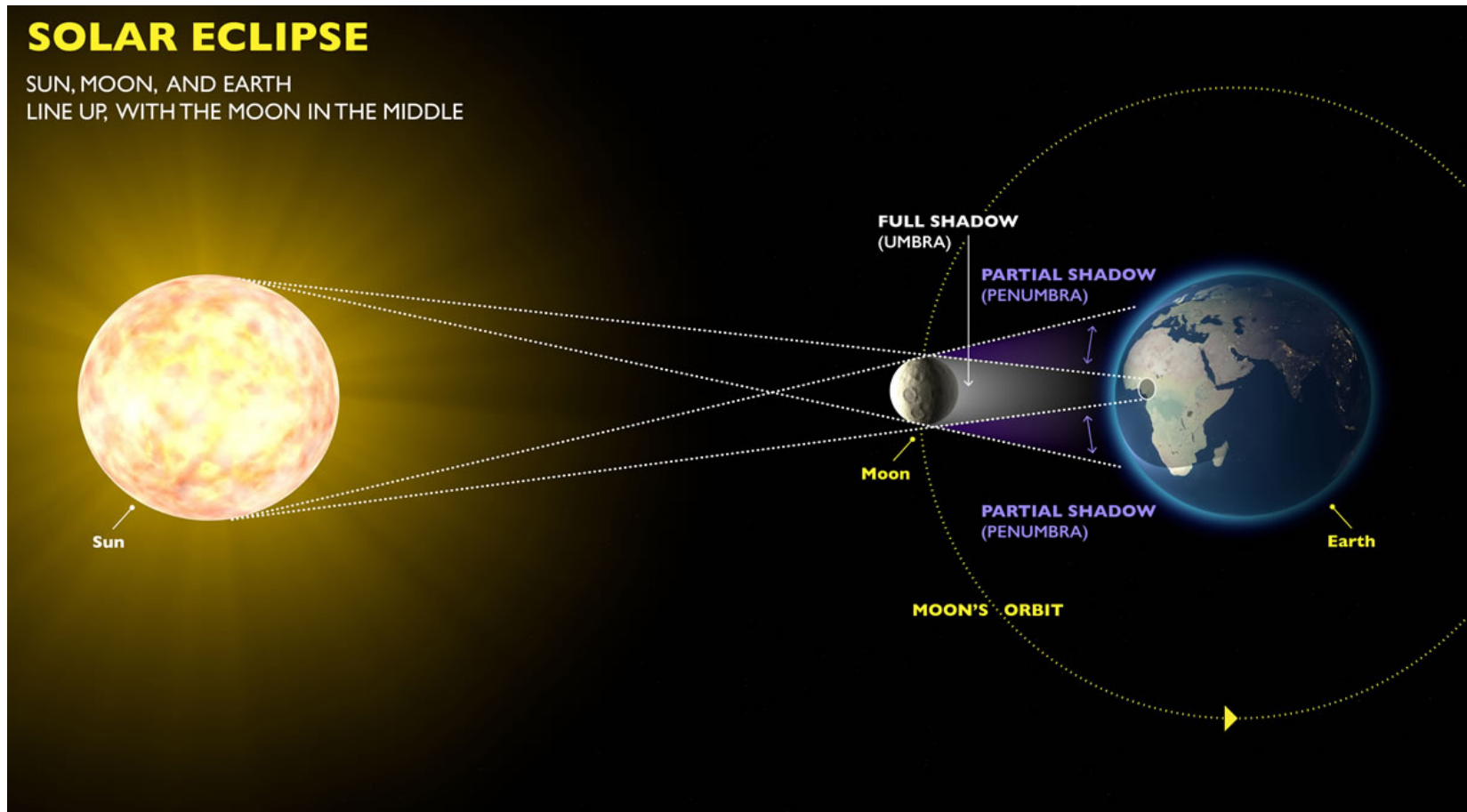


Total Lunar Eclipse - Bozeman, MT - 02/20/2008

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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

