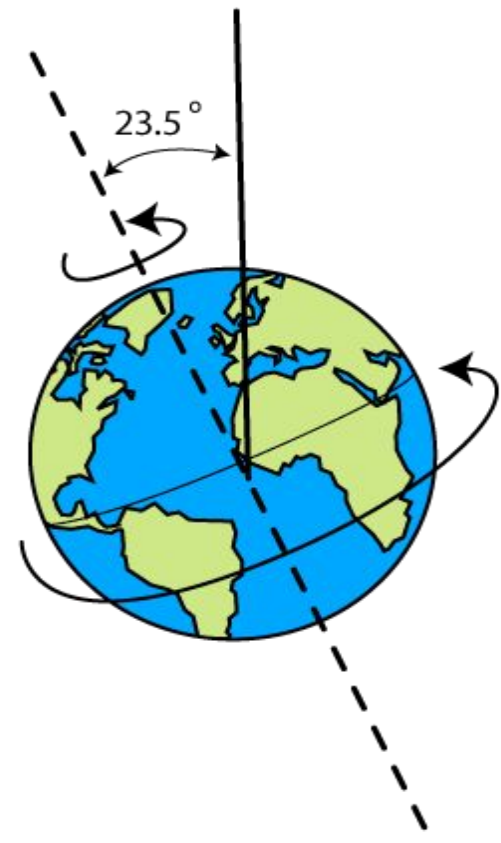


A space-themed background featuring a large, dark, textured sphere on the left, likely representing Earth, and a smaller, dark sphere on the right, likely representing the Moon. The background is a deep black with a subtle reddish-pink glow and scattered white specks representing stars.

Earth & Sun Notes

Is the Earth straight up/down?

- NO!
- The earth is tilted on its axis **23.5** degrees.



A dark space background featuring a large, dark planet on the left and a smaller, dark planet in the upper right. The background is filled with numerous small, white stars. The text "Day & Night" is centered in a large, white, serif font.

Day & Night

How does the earth move?

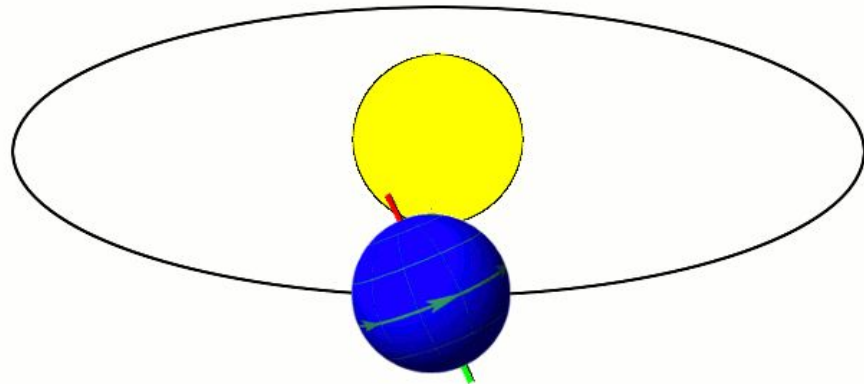
- **Rotation** –
one complete turn on earth's axis.
 - Takes approximately 24 hrs. to make one turn. (1 day)



How does the earth move?

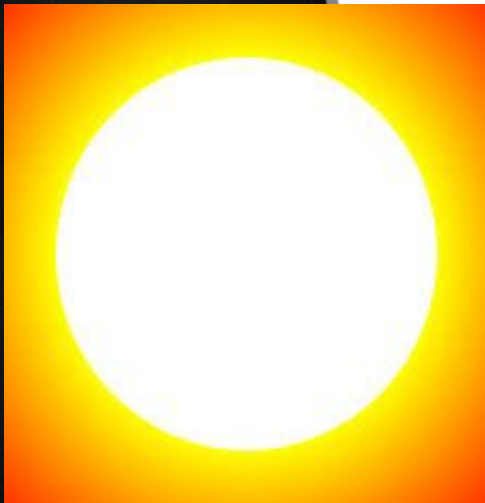
Revolution – one complete orbit of the earth around the sun.

- Takes approximately 365 $\frac{1}{4}$ days. (1 year)
 - So why do we have leap year?



What causes day & night?

- As earth rotates on its axis, it turns towards and away from the sun.
- DAY TIME = your half of the earth is facing the sun.
- NIGHTTIME = your half of the earth is turned away from the sun.



A dark space background featuring a large, dark planet on the left side and a smaller, dark planet in the upper right corner. The background is filled with numerous small, white stars. The text "Time Zones" is centered in a large, white, serif font.

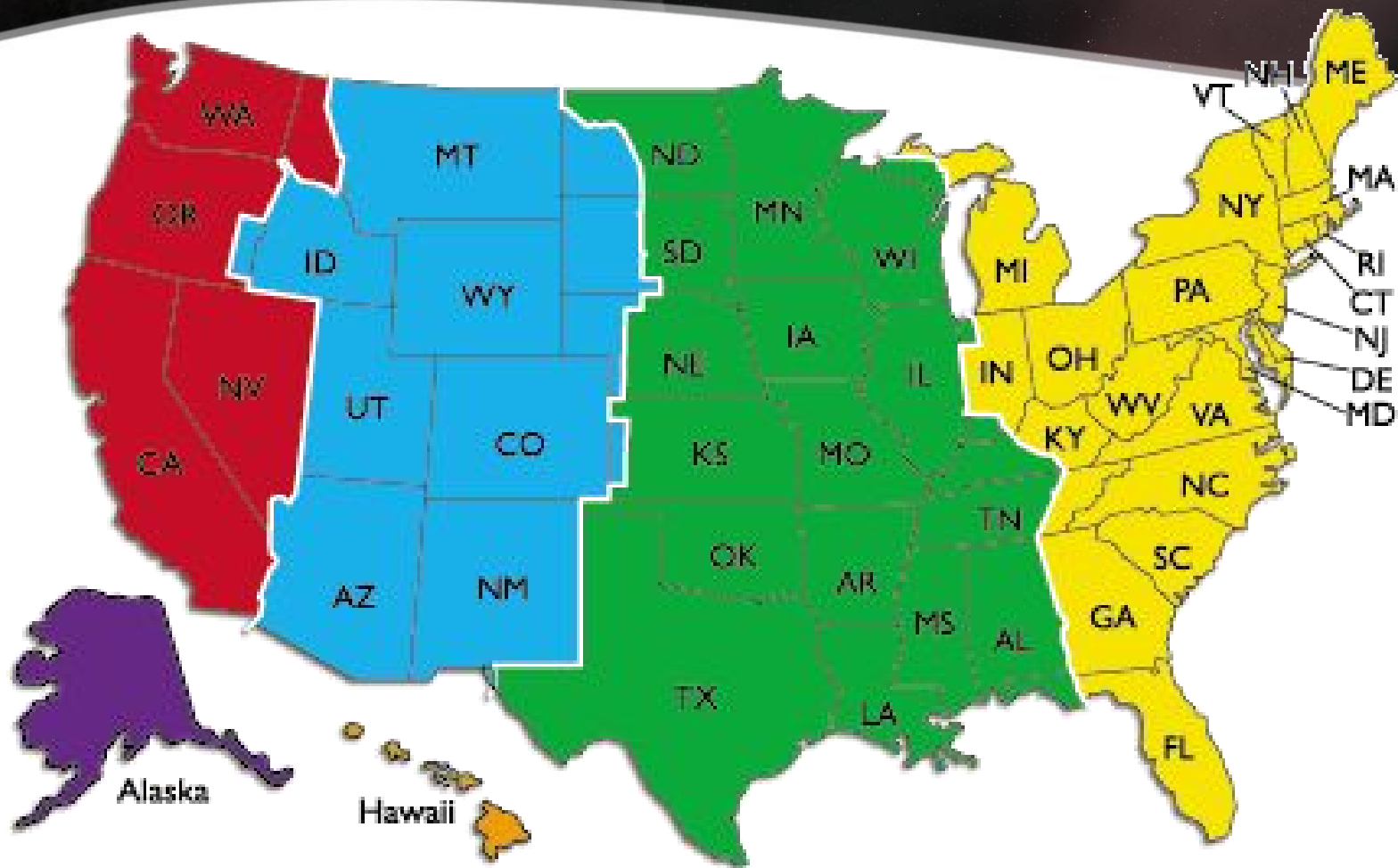
Time Zones

Why are there time zones?



- As earth moves, different parts of the earth receive sunlight at different times.
- This is why there are different time zones around the world.
- In the US, the east coast turns towards the sun first.

U.S. Time Zones Map




Pacific


Mountain


Central


Eastern

Think, Pair, Share:



- How would you explain a sunset?
- How much of the earth experiences daylight at any given time?
- Why do some places on earth receive 6 months of daylight and then 6 months of nighttime?

A dark space background featuring a large, dark planet on the left side and a smaller, dark planet in the upper right. The background is filled with numerous small, white stars. The word "Seasons" is written in a large, white, serif font across the center of the image.

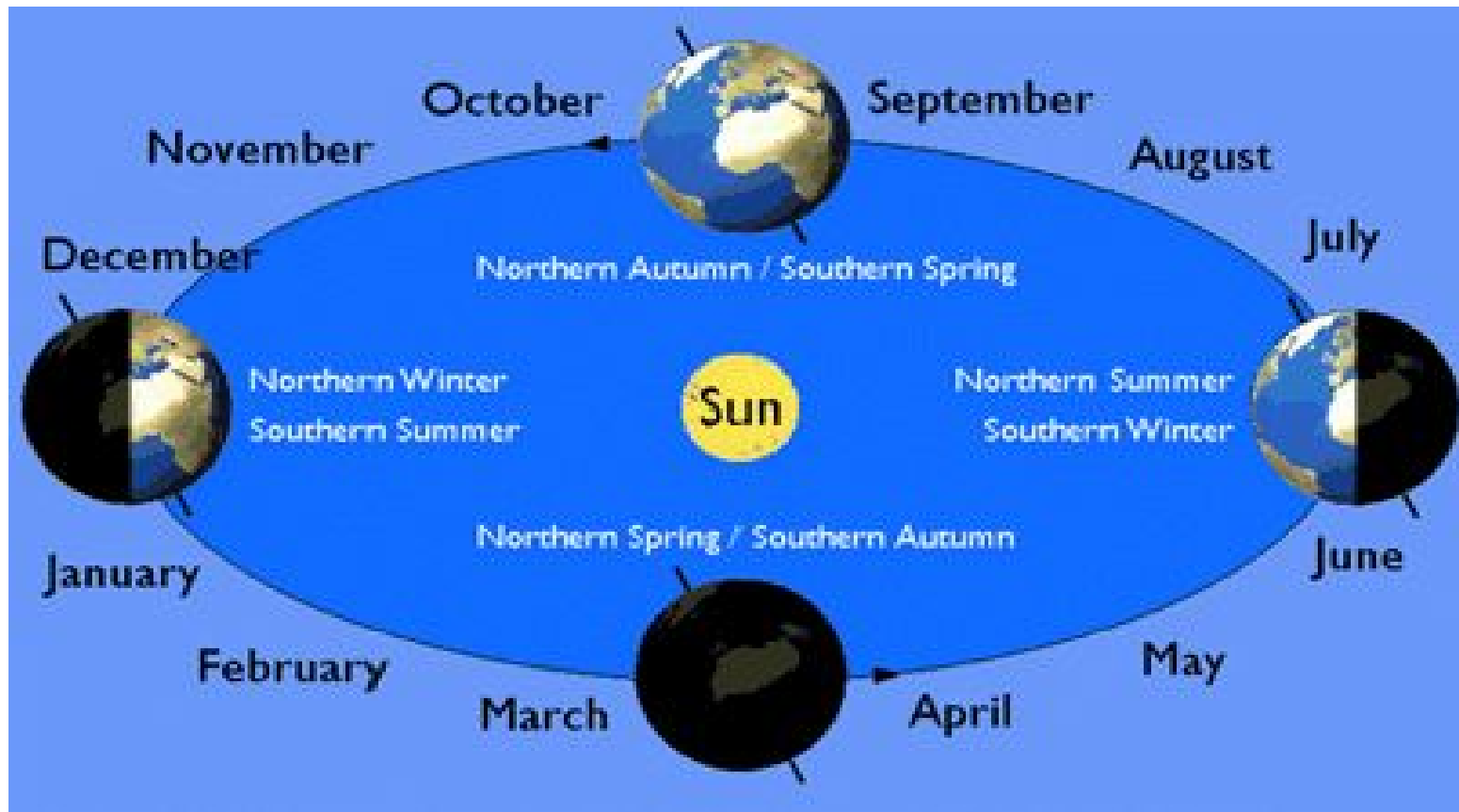
Seasons

Why are there seasons?



- It takes Earth 1 year to orbit around the sun.
- As Earth orbits, it's tilted at different angles towards or away from the sun.
- Summer is warm because the Sun's rays hit the Earth at a more direct angle during summer

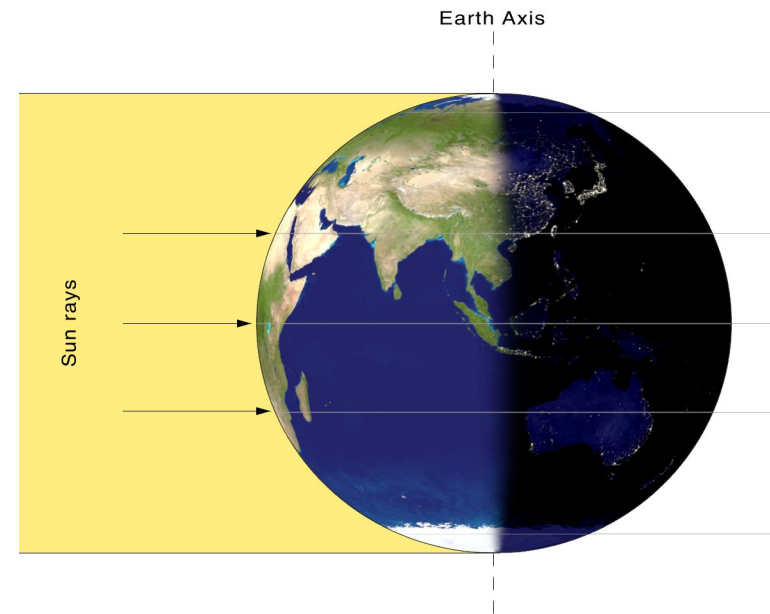
Why are there seasons?



[Seasons Animation](#)

Equinox

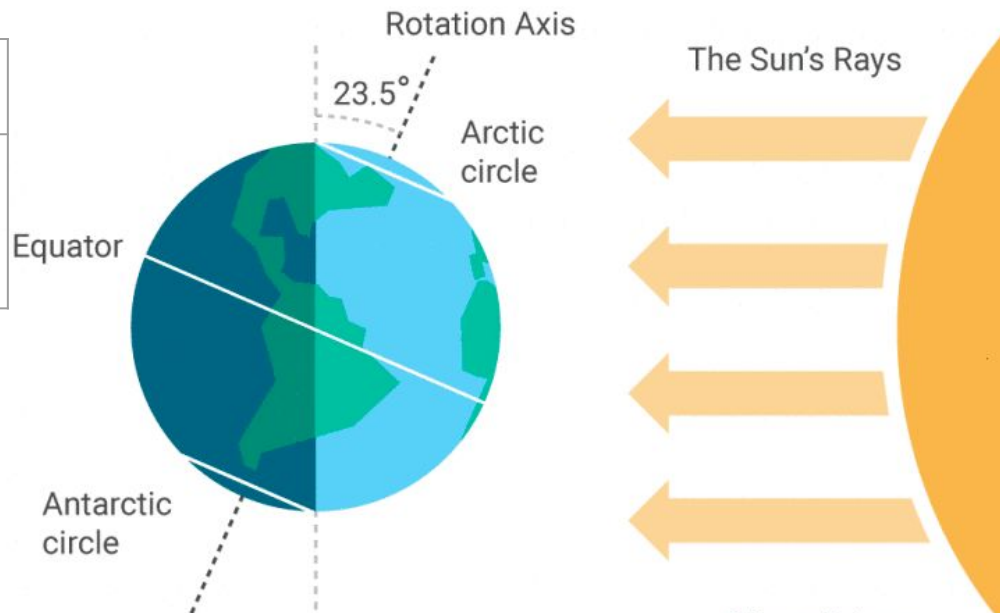
- “Think Equal”
- Sunlight hits the earth most directly at the equator as the earth orbits around the sun
 - Northern & Southern Hemisphere’s get the same amount of sunlight
- Day & night each lasts 12 hrs
- Occurs during spring & fall
 - March & Sept.



Solstice

- When the tilt of the Earth's axis is directly towards or away from the Sun
- Occurs during winter & summer
 - Dec. & June

Winter Solstice	Summer Solstice
-shortest day of the year -1st day of winter	-longest day of the year -1st day of summer



Think, Pair, Share:



- How is it possible for us to be out on break and go to the beach and students in Australia to be out on break and go skiing?
- What is a solstice? When do they occur?
- What is an equinox? When do they occur?