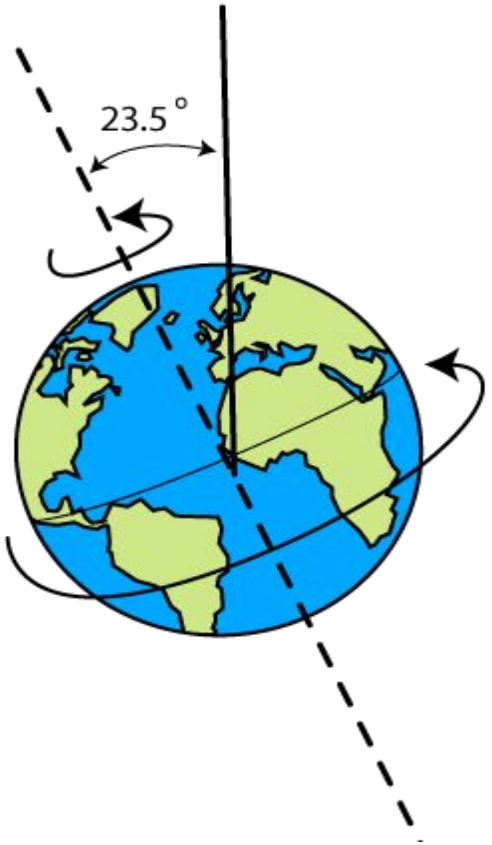
Earth & Sun Notes

Is the Earth straight up/down?

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



http://www.bbc.co.uk/science/space/solarsystem/images/earth_tilt.jpg

Day & Night

How does the earth move?

- **<u>Rotation –</u>**

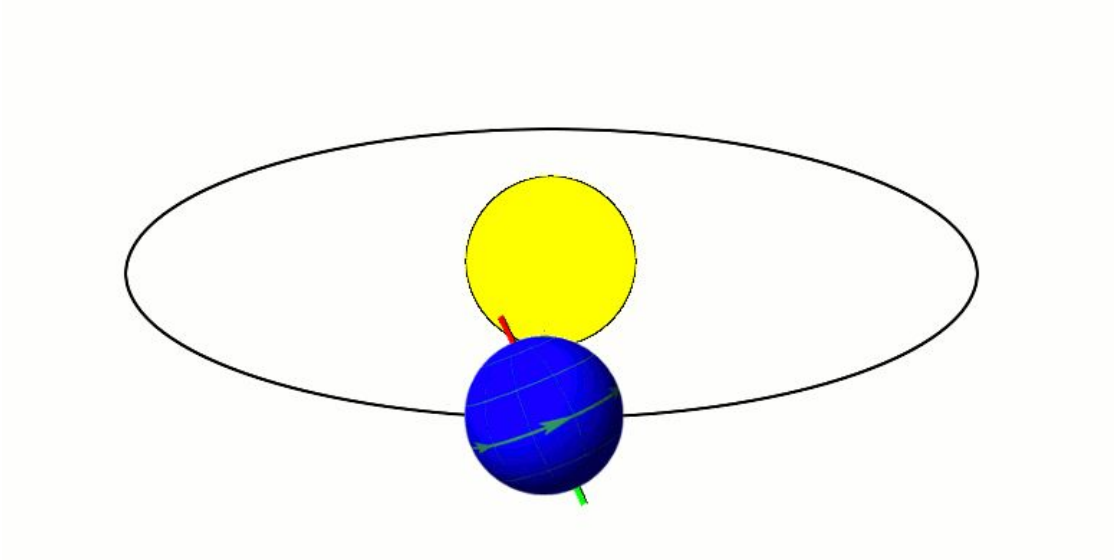
one complete turn on earth's axis.

  - Takes approximately 24 hrs. to make one turn. (1 day)

How does the earth move?

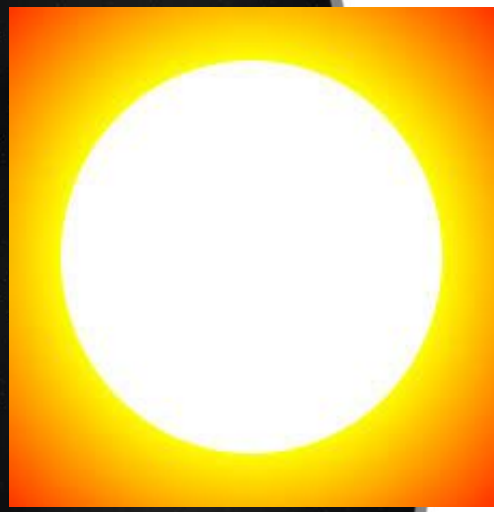
Revolution – one complete orbit of the earth around the sun.

- Takes approximately 365 ¼ 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.
- NIGHTIME = your half of the earth is turned away from the sun.

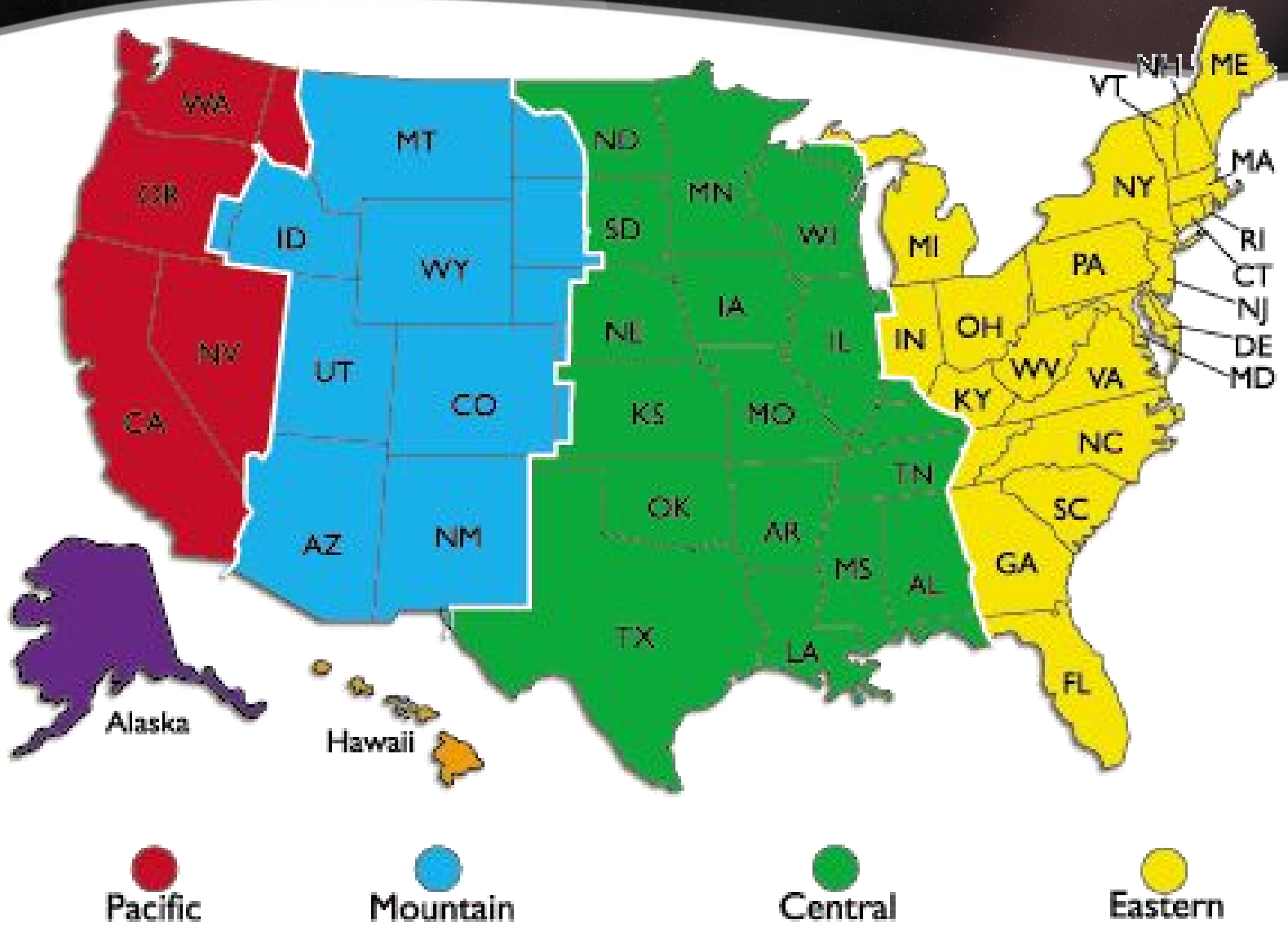


Time Zones

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



Think, Pair, Share:

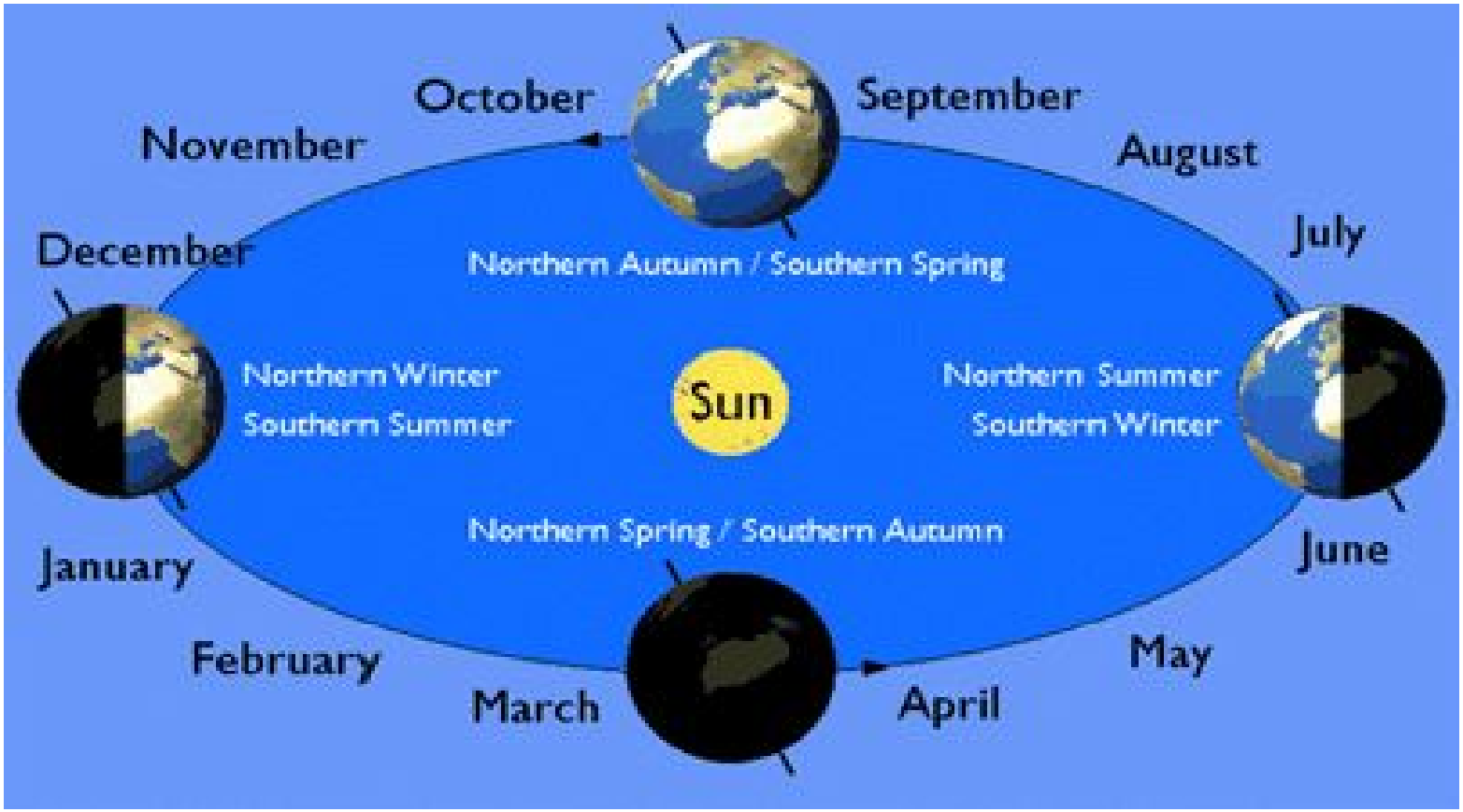
- How would you explain a sunset?
- How much of the earth experiences daylight at any given time?
- Why do some places on earth receive 6 months of daylight and then 6 months of nightime?

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

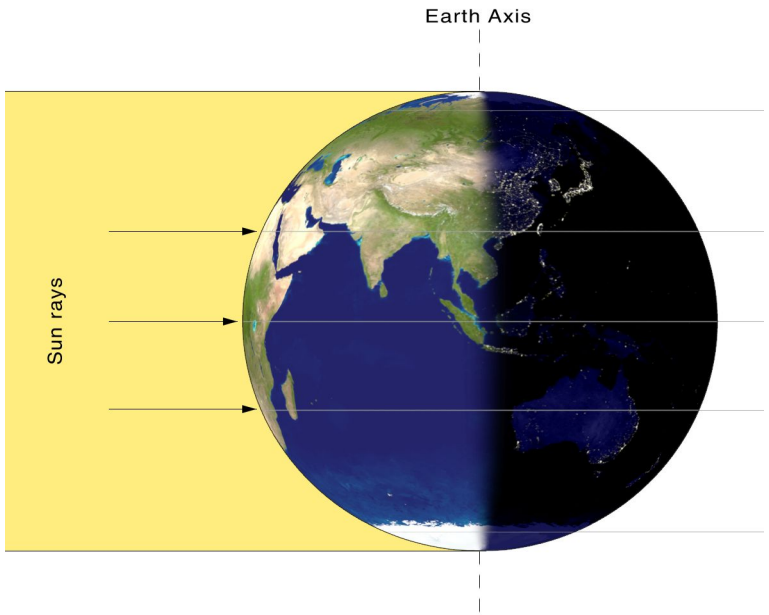
Why are there seasons?



Seasons Animation

Equinox

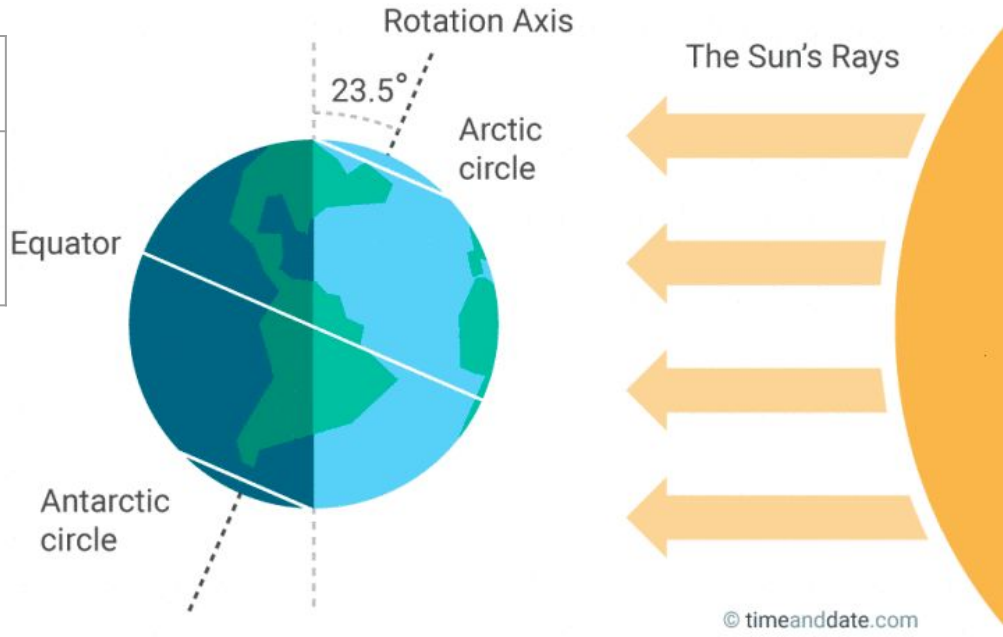
- “Think Equal”
- Sunlight hits the earth most directly at the equator as the earth orbits around the sun
  - Northern & Southern Hemisphere’s get the same amount of sunlight
- Day & night each lasts 12 hrs
- Occurs during spring & fall
  - March & Sept.



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?