Rotation and Revolution

- What is the difference between rotation and revolution.
- Explain how rotation and revolution affect days, years and seasons.

Astronomy – The study of the moon, stars and other objects in space

Axis – The imaginary line that passes through the Earth’s center and the north and south poles.
- 23.5° angle/tilt

What is Rotation?

• Earth’s rotation or Spinning on its axis (23.5 degrees)
• Causes day or night
• Time for one rotation is about 24 hours.
• Spins counterclockwise

What is Revolution?

Orbit: Earth’s path as it revolves around the sun.

• Revolves in an oval shape called an ellipse.
• A revolution or orbit is the time it takes for the earth to make one complete revolution around the sun.
• Time for one revolution = 365.25 days or one year.
• The speed of earth’s revolution is 68,000 miles per hour.
The Seasons:
- Caused by:
  1. Revolution of the Earth around the sun AND
  2. the unchanging tilt of the Earth’s axis

- North pole tilts towards the sun, the Northern Hemisphere is experiencing summer.
- South pole tilts towards the sun, the Northern Hemisphere is experiencing winter.

Shadows and Seasons
- Summer
  o Sun is more overhead and “Direct” which causes more of a direct (strong) path for radiation
  o Shadows are shorter.
- Winter
  o Sun is more slanted and “Indirect” which causes a less direct (weaker) path for radiation.
  o Shadows are longer.