Earth experiences seasons because our planet tilts 23.5° with respect to its orbital plane. This statement just means the reason it's summer in the Northern Hemisphere is because Earth's North Pole tilts toward the Sun at that time.

At the same time, however, the South Pole tilts away from the Sun. That means winter is beginning for inhabitants of the Southern Hemisphere.

And, regarding distances, Earth is approximately 3 million miles (5 million km) closer to the Sun in early January than it is in early July. That works out to a bit more than a 3 percent swing from Earth's nearest approach to the Sun to its farthest. Although small, 3 percent is not insignificant. The different distances mean the Southern Hemisphere receives more solar energy during its summer than the Northern Hemisphere does in its summer.

Summer and winter occur on dates called the solstices, which mark the highest and lowest points the Sun reaches in our sky. In the Northern Hemisphere, the Sun stands 47° (our planet's 23.5° tilt times two) higher in the sky June 21 than it does December 21. So, around June 21 of each year, summer begins north of the equator, and winter begins south of that line. For this reason, it's incorrect to call June 21 the "summer" solstice. Summer begins on that date only in the Northern Hemisphere. Here at the magazine, we use the terms June solstice and December solstice to signify these dates.