

# Seasons

## WHY ARE THERE SEASONS?

There's a common misconception that seasons change based on Earth's distance from the Sun. The distance has little to do with it - when it's winter in the United States, it's summer in Australia. The Earth spins not straight up and down like a top, but on a 23.5 degree tilt. In December, the North Pole is pointed away from the Sun, meaning the Sun doesn't get as high in the sky and has less time to heat the ground, which heats the air. But the South Pole is pointed towards the Sun, meaning the Southern Hemisphere is getting more sun and more heat, making it summer. Six months later, in June, the North Pole is pointed towards the Sun, giving the Northern Hemisphere a summer and the Southern Hemisphere a winter.

June 21 Summer Winter  
December 21 Winter Summer

W N S E

Summer sun path  
Winter sun path

Northern Hemisphere:

**Summer Solstice:** June 21 or 22<sup>nd</sup>. Sun is directly hitting Tropic of Cancer. This is the day with the longest amount of daylight, and the shortest night.

**Winter Solstice:** December 21 or 22<sup>nd</sup>. Sun is hitting Tropic of Capricorn directly. This is the day with the shortest amount of daylight and the longest night of the year.

**Vernal (Spring) Equinox:** March 21/22<sup>nd</sup>

**Autumnal (Fall) Equinox:** Sept. 21/22<sup>nd</sup>

Equinox mean equal, so on both of these days we have equal day and equal night. The sun is directly hitting the equator.

The Southern hemisphere experiences the opposite seasons as the Northern hemisphere.

