

# How to Tell the Seasons

Once you have mastered orienting your watch to face north, you are ready to predict and observe the four solar events: the autumnal equinox, the winter solstice, the vernal equinox, and the much-heralded summer solstice, when the sun rises directly over the Stonehenge Heel Stone.

As you know, the Earth spins on its axis at a 23 1/2 degree tilt from the upright position. When the North Pole leans toward the sun, that causes more hours of sunlight in the Northern Hemisphere and results in summer. When the North Pole leans away from the sun, that causes more hours of darkness and results in Winter. The word Solstice is from Latin and means "the sun stands still." At the time of the Summer Solstice, the sun reaches its highest point in the sky at noon. It also rises at its most northerly point on the eastern horizon. For about a week, the sun seems to rise over this same spot, before it begins its journey south again. The point of the rising sun thus appears to "stand still." The opposite happens at the time of the Winter Solstice. The noon sun is at its lowest point in the sky, while the sunrise is at its most southerly point on the eastern horizon.

Midway through these events are the equinoxes. The term equinox is also from Latin and means "equal night." This name was given to these days because on these days there is exactly 12 hours of sunlight and 12 hours of darkness. The sun will rise directly east and set directly west on both the spring and fall equinoxes.

For easiest observation, place your watch in a window facing east. Next, using the technique described above, orient it to face north.

- On the first day of spring (the vernal equinox), and the first day of fall (the autumnal equinox) the sun will rise directly east and set directly west.
- On the first day of summer (the summer solstice), the sun will rise directly over the Heel Stone.
- On the first day of winter (the winter solstice), the sun will set directly opposite the Heel Stone.

Usually, the winter solstice falls on December 21; the vernal equinox is on March 21; the summer solstice is on June 21; and the autumnal equinox is on September 21. These days may vary up to a day, because our human-made (and somewhat inexact astronomically-speaking) calendars don't always coincide with the rhythms of the natural world. Remember these movements of the sun have been occurring regularly for over five billion years, long before humans were even on the scene, and pay no attention to our time-keeping conventions!

In our lives today, we seldom pay attention to these movements of the sun. But in olden days they were very important and took on both a practical and mystical meaning.

Life in those days was governed by the sun and moon. Since there were no lights, people got up with the rising of the sun and went to bed with the setting of the sun. There were no clocks or calendars to determine the time, days of the week, months, seasons, or years. The movements of the sun and moon were used to determine all these. Also there were no cities, books, televisions and other distractions of modern life that draw attention away from these astronomical events.

Now that you are the proud owner of The Stonehenge Watch we have confidence that you will share the fascination and reverence for Stonehenge that the makers of the Stonehenge Watch feel.

We also encourage you to further your interest not only in Stonehenge, but also in archaeoastronomy and other intellectual achievements of early peoples. Finally, we hope this booklet and The Stonehenge Watch help you get in tune with the cyclical rhythms of the wondrous natural world about you.