



The REASON for

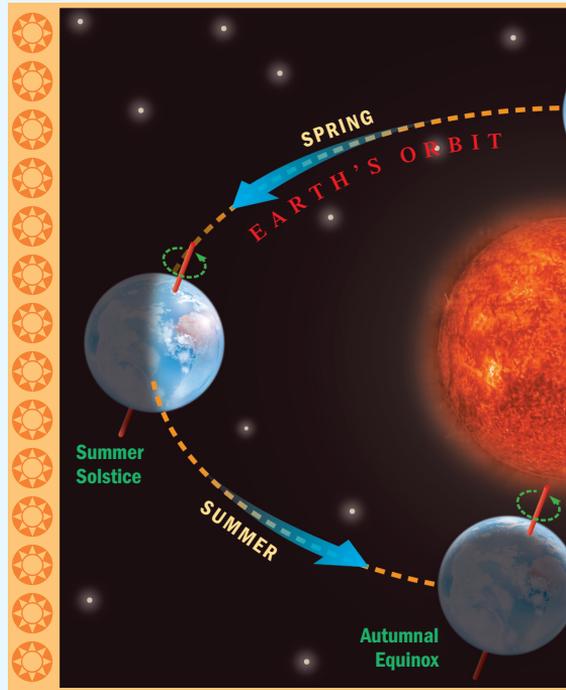
People puzzled over this for

In one year, Earth revolves completely around the Sun while rotating on an invisible axis, like a tilted, spinning top. At one end of the axis is the North Pole; at the other, the South Pole. The axis is tilted at a 23.5-degree angle away from the Sun during winter in the Northern Hemisphere; it's the opposite during summer. Seasons are determined by the direction of Earth's tilt in relation to the Sun and the angle of the Sun's light as it strikes Earth.

The equator is an imaginary line dividing Earth into the Northern and Southern Hemispheres. On two days each year, on or around March 21 and September 23, the Sun is directly above the equator. In the Northern Hemisphere, spring starts on the March date, which is called the **vernal**

equinox; fall begins on the September date, which is called the **autumnal equinox**.

Summer in the Northern Hemisphere begins on or around June 21, the **summer solstice**, when the Sun is directly above an imaginary line 23.5 degrees north of the



the SEASONS

centuries. Not anymore!



equator called the Tropic of Cancer. Winter begins on or around December 21, the **winter solstice**, when the Sun is above the Tropic of Capricorn, 23.5 degrees south of the equator.

The seasons are the opposite in the Southern Hemisphere.

The LONG and SHORT of It

 The summer solstice is one of the longest days of the year in the Northern Hemisphere—and the day when there is no sunlight at the South Pole.

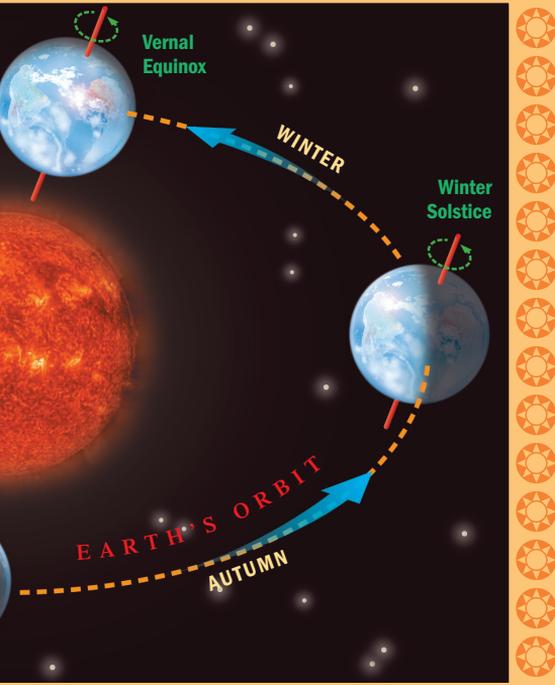
 The winter solstice is one of the shortest days of the year in the Northern Hemisphere—and the day when there is no sunlight at the North Pole.

 Daytime and nighttime on the equinoxes are not equal; this is a myth. However, within a few days of each

equinox, there is a day with nearly equal daytime and nighttime. (This depends on the latitude.)

You can find the exact time of day that the solstices and equinoxes occur at Almanac4kids.com/sky.

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PARTY TIME

For centuries, people have watched the sky for the changes of season and then celebrated with colorful rituals.



SPRING

In India, many people celebrate the festival of Navroze, or “New Day,” on the spring equinox. It is a day to clean and paint houses, wear new clothes, and hang jasmine flowers and roses on doors and windows.



SUMMER

In ancient times, women and girls in Sweden would bathe in a river in the belief that this would bring plenty of rain for the crops, while village people would dance around a decorated tree. Now, in late June, Swedes dance around a pole covered with greenery and flowers.



AUTUMN

The Chinese mark the end of summer with the Mid-Autumn Moon Festival, which occurs when the Moon is at its brightest. After dark, people stroll with brightly lit lanterns, admire the full Moon, and eat moon cakes, which are pastries with a whole egg yolk in the center symbolizing the Moon.





WINTER

Ancient Romans welcomed winter with the festival of Saturnalia, honoring Saturn, the god of agriculture. People decorated their houses with evergreen branches and lit lamps all night to ward off the darkness. Around the time of the solstice, in ancient Scandinavia, people hung mistletoe and evergreens in doorways for good luck and then gathered around bonfires to listen to singing poets. They believed that the fires would help the Sun shine more brightly.



It's About TIME



Every year on the summer solstice, thousands of people travel to Stonehenge, England, a place with huge stones that were arranged in a circle around 3000 B.C. The huge monument celebrates the relation between the Sun and the seasons.



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Here are some other ANCIENT SEASONAL MARKERS:



At what is now **CHICHÉN ITZÁ** (“CHEE-chen EET-sa”), **MEXICO**, Mayans built a huge pyramid around the year 1000. The play of the Sun’s light on it signals the beginning of the seasons. On the spring equinox, for example, the light pattern looks like a snake. Mayans called this day “the return of the Sun serpent.”



In today’s **CHACO CANYON, NEW MEXICO**, Anasazi Indians, who were expert sky watchers, carved spiral designs into rock to track the seasons and record the passage of time. This petroglyph is called the Sun Dagger because of the way the Sun’s wedge-shape beams strike it in midday during the solstices.



Around 3200 B.C., ancient people in **IRELAND** built a huge mound of dirt and surrounded it with stones. Today, the knoll is called **NEWGRANGE**. For five days over the winter solstice period, a beam of sunlight illuminates a small room inside the mound for 17 minutes at dawn. The room holds only 20 people at a time. Every year, thousands enter a lottery in hope of being one of the 100 people allowed to enter.



Travel in Time ✨ Take a moment to see these ancient sites and tell other kids how you mark the seasons at Almanac4kids.com/tellus.