

Winter Solstice and the celebrations associated with it

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In news

Winter Solstice made December 21 the shortest day of the year in the northern hemisphere and longest in longest in southern hemisphere (Summer Solstice)

What are Solstices?

- Solstices occur because Earth's axis of rotation is tilted about 23.4 degrees relative to Earth's orbit around the sun.
- This tilt drives earth's seasons, as the Northern and Southern Hemispheres get unequal amounts of sunlight over the course of a year.
- During March to September, the Northern Hemisphere is tilted more toward the sun, driving its spring and summer.
- During September to March, the Northern Hemisphere is tilted away, so it feels like autumn and winter. The Southern Hemisphere's seasons are reversed.
- On two moments each year—what are called solstices—Earth's axis is tilted most closely toward the sun. The hemisphere tilted most toward our home star sees its longest day, while the hemisphere tilted away from the sun sees its longest night.

Summer solstice in Northern Hemisphere

- During the Northern Hemisphere's summer solstice which usually falls around June 21/22 and the Southern Hemisphere gets its winter solstice.

- The Northern Hemisphere spends half the year tilted in the direction of the Sun, getting direct sunlight during long summer days

Winter solstice in Northern Hemisphere

- During the Northern Hemisphere's winter solstice which falls around December 21/22—the Southern Hemisphere gets its summer solstice.
- During the other half of the year, it tilts away from the Sun, and the days are shorter. Winter Solstice, December 21, is the day when the North Pole is most tilted away from the Sun.

What are the reasons for the difference in hours of daylight?

- Because earth's axis of rotation is tilted at an angle of 23.5° to its orbital plane.
- This tilt combined with factors such as Earth's spin and orbit leads to variations in the duration of sunlight that any location on the planet receives on different days of the year.

Its impact on seasons

- The tilt is also responsible for the different seasons that we see on Earth. The side facing the Sun experiences day, which changes to night as Earth continues to spin on its axis.
- The Earth's tilt helps define some familiar imaginary lines, which are also key to determining when a Solstice occurs. These are latitudes, which are a measure of a location's distance from the Equator.

Celebrations associated with the Winter Solstice

- **Jewish people:** They call the Winter Solstice 'Tekufat Tevet', which marks the start of winter.
- **Ancient Egyptians:** They celebrated the birth of Horus, the son of Isis (divine mother goddess) for 12 days

during mid-winter.

- **China:** In China the day is celebrated by families coming together for a special meal.

Other countries:

- In Iran and neighbouring Afghanistan, Uzbekistan, Tajikistan, Turkmenistan, Azerbaijan, and Armenia, the Winter Solstice is **celebrated as Yalda or Shab-e-Yalda**.
- The festival marks the last day of the Persian month of Azar, and is seen as the victory of light over darkness.
- It is also the birthday of the sun god Mithra, a pre-Islamic deity.
- Families celebrate Yalda late into the night with special foods such as ajeel nuts, pomegranates and watermelon, and recite works of the 14th century Sufi poet Hafiz Shirazi.

Celebrations in Southern Hemisphere

- **Peru:** In the Southern Hemisphere, where the Winter Solstice is in June, Peru celebrates the day with a festival called Inti Raymi, meaning “sun festival” in the Quechua language.
- **Spain:** Before Peru’s colonisation by Spain, the Inca civilisation honoured the sun god Inti by fasting for three days, and celebrated on the fourth day with feasts and sacrifices.
 - The festival was banned under Spanish rule, but was later revived in the 20th century and continues today, with mock sacrifices.

Other parts of Europe:

- In pre-Christian Europe, solstice was celebrated as the start of winter. People slaughtered their farm animals so they would not have to feed them.
- Wine created during the summer months was also ready for

consumption.

- Hence, the solstice turned into an occasion for a feast, often a community one, before snow covered most of the land and people were forced to spend their time indoors.
- The Yule festival, which used to be celebrated in pre-Christian Scandinavian lands for 12 days, later became associated with Christmas as Yule-tide.

Vedic tradition:

- In Vedic tradition, the northern movement of the Earth on the celestial sphere is implicitly acknowledged in the **Surya Siddhanta**, which outlines the **Uttarayana (the period between Makar Sankranti and Karka Sankranti)**. Hence, Winter Solstice is the first day of Uttarayana

Structures associated with Winter Solstice

- The Winter Solstice also influenced culture to the extent that ancient people built several architectural structures aligned to the phenomenon.
- Some of these structures include the Stonehenge and Glastonbury (England), Chichen Itza (Mexico), Goseck Circle (Germany), and Temple of Karnak (Egypt).