

Winter Solstice

By IASToppers | 2023-12-23 15:20:00



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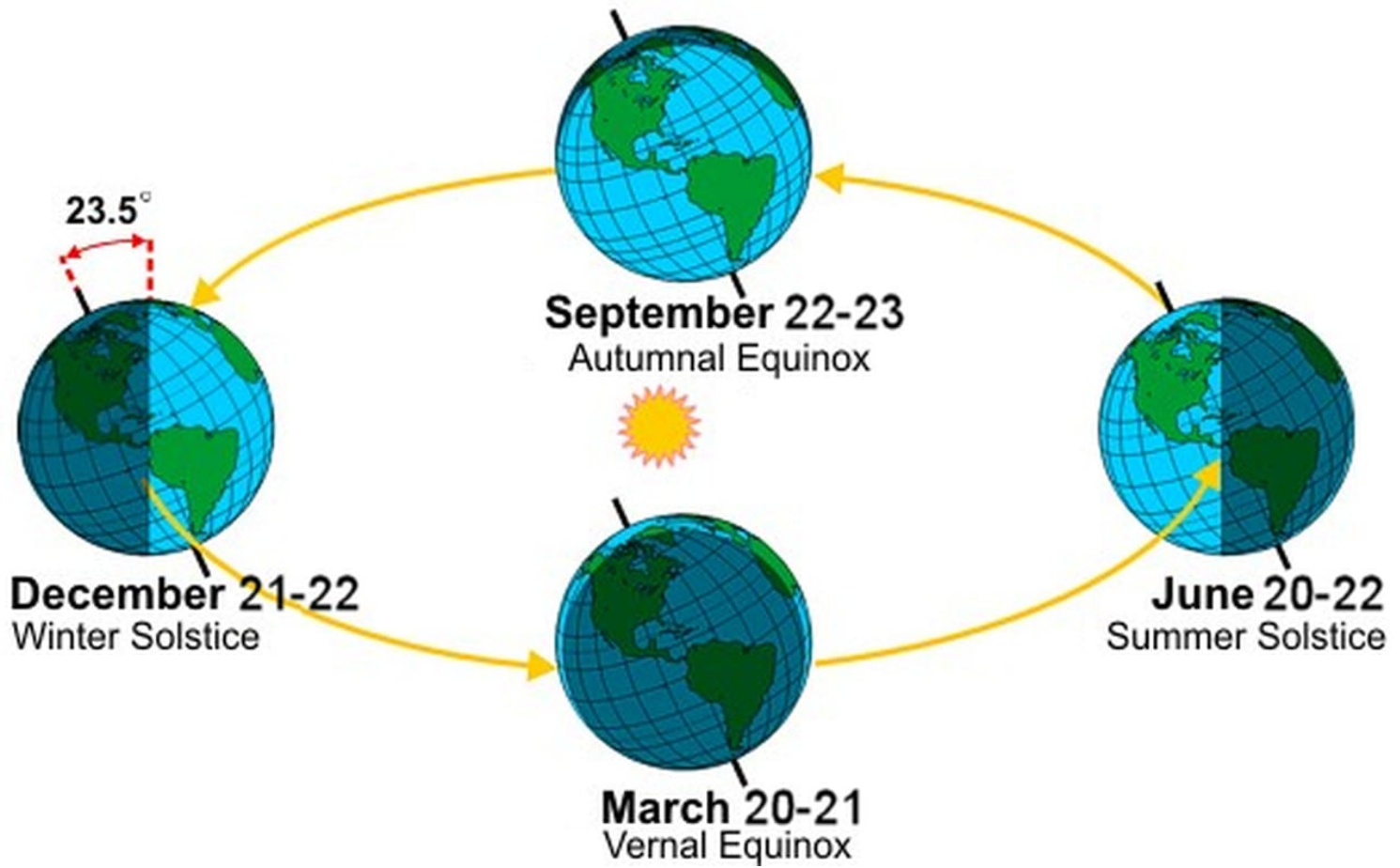
In the **northern hemisphere**, the **winter solstice** signifies the official beginning of winter, while in the **southern hemisphere**, it signals the start of **summer**.



[Ref- Hindustan Times]

What is Solistice?

- The term "**solstice**" comes from the Latin word "**solstitium**," meaning "the sun stands still."
- Solstices **occur twice a year**, in **June and December** when the Sun's apparent path is farthest north or south from **Earth's Equator**.
- In the Northern Hemisphere the **summer solstice** occurs on **June 20 or 21** and the **winter solstice** on **December 21 or 22**, marking the change in seasons.
- The **earth's tilt away or near the sun** is at a maximum, creating a **standstill effect**, hence the term solstice is used.



[Ref- MLive]

About Winter Solstice:

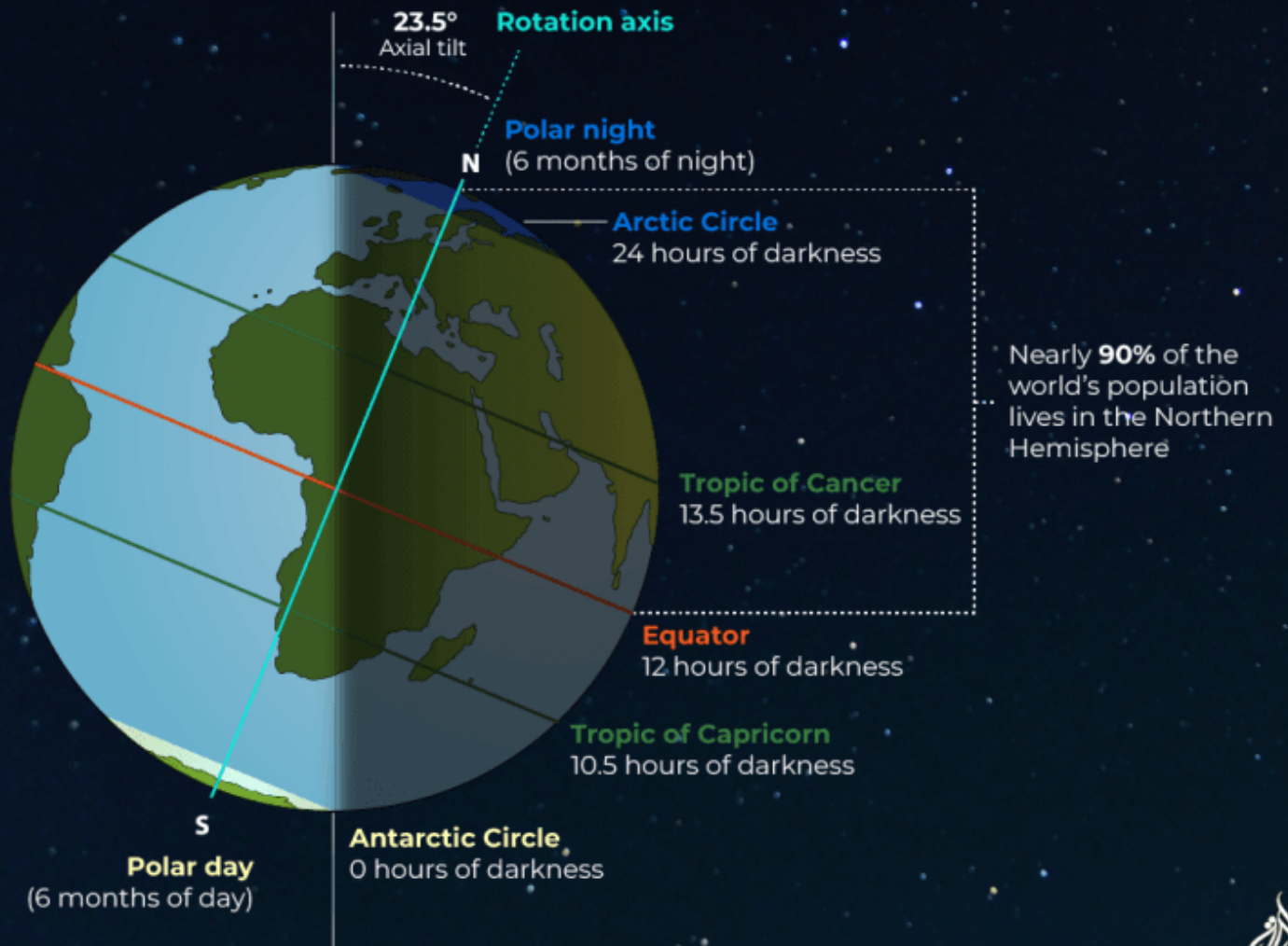
- The **winter solstice** occurs when the **Earth's pole is either pointing towards or away from the Sun**, resulting in the lowest point of the Sun's arc in the sky.
- This leads to significantly **lower temperatures** in the **Northern Hemisphere**, while those in the Southern Hemisphere enjoy summertime due to the **South Pole facing the Sun**.
- The **Earth's axial tilt, at 23.4 degrees** marks a seasonal shift, highlighting the **cyclical pattern of the seasons** and the influence of our planet's orbit on life.
- The winter solstice marks the day when the **sun's path in the sky is furthest south**, creating the day with the **least amount of sunlight and the longest night**.
- According to **NASA**, it takes place on the **evening of December 21 or 22**, signaling the beginning of winter in the northern hemisphere.
- During the winter solstice, the **sun is directly over the Tropic of Capricorn**, bringing colder temperatures and less light.
- Days progressively get shorter until this point, and then gradually lengthen until the **summer solstice**, the longest day of the year.
- **Economic significance:** It guides farming activities, such as mating of animals, sowing of crops, yields, and monitoring of winter reserves of food.
- **Cultural significance:** Fascination with the sun's movement formed iconic monuments like **Stonehenge in England** and **Newgrange in Ireland**, where people still practise ancient traditions.

SPACE

Winter solstice

The winter solstice is an astronomical event that marks the shortest day and longest night of the year and the start of winter in the Northern Hemisphere.

DECEMBER 21



Source: Space.com | December 21, 2023

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[Ref- Al Jazeera]

Other Key Facts:

- **Equinox** is a phenomenon that **occurs twice in a year** when the **Sun is exactly above the Equator** and day and night are of equal length.
- It is either of the two points in the sky where the **ecliptic** (Sun's annual pathway) and the **celestial equator intersect**.
- The **vernal equinox** marks the beginning of spring in the Northern Hemisphere and occurs on

March 21, when the Sun moves north across the celestial equator.

- The **autumnal equinox** falls about **September 23**, as the Sun crosses the celestial equator going south.