



Summer Solstice 2024

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Why in News?

Recently, **21st June** has been marked as the day of the summer solstice in the **northern hemisphere** of the world.

- The [summer solstice](#) is celebrated as the beginning of summer, or midsummer when one of Earth's poles is at its maximum tilt towards the sun.

What is the Summer Solstice?

▪ Origin:

- Origin of Summer Solstice can be traced to around **200 BC** when **ancient Greek scholar Eratosthenes**, conducted an experiment to measure the Earth's circumference.
- He observed that **on the summer solstice, sunlight shone directly down a well in Aswan, Egypt**, indicating the sun was directly overhead.
- By calculating the difference in shadow lengths between Aswan and Alexandria cities and the distance between them, Eratosthenes was able to **provide an early and accurate estimate of the Earth's circumference**.

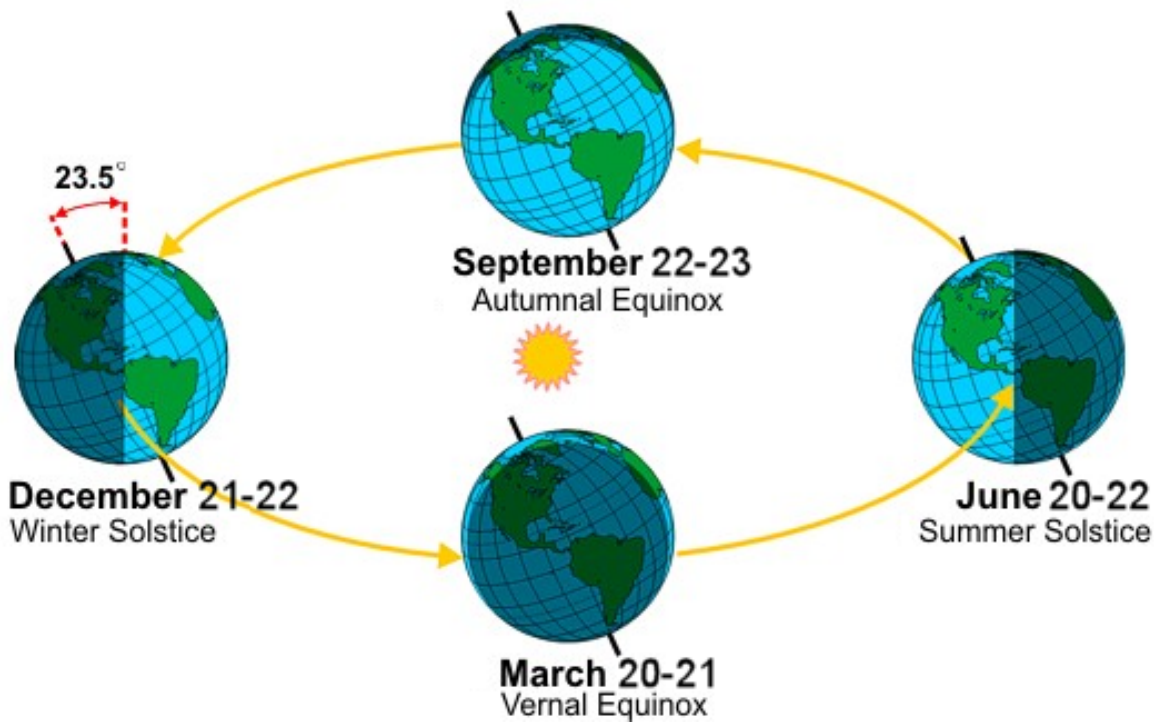
▪ About:

- The **summer solstice** marks the longest day of the year, when the **sun reaches its highest point in the sky**.
- During the solstice, the Earth's axis (around which the planet spins, completing one turn each day) is tilted in a way that the **North Pole is tipped towards the sun** and the South Pole is away from it.
- Typically, **this imaginary axis** passes right through the middle of the Earth from top to bottom and is **always tilted at 23.5 degrees with respect to the sun**.
- At the [Arctic Circle \(66°33' north latitude\)](#), the sun never sets during the solstice.
- The amount of light received by a specific area in the **Northern Hemisphere** during the summer solstice depends on the latitudinal location of the place.

▪ Effect:

- During this, countries in the **Northern Hemisphere** are nearest to the Sun and the Sun shines overhead on the [Tropic of Cancer \(23.5° North\)](#).
- The Earth rotates on its axis, causing the Northern Hemisphere **to receive more direct sunlight between March and September**.
 - The amount of **incoming energy the Earth receives** from the sun on this day is **30% higher at the North Pole than at the Equator**.

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▪ **Cultural Significance:**

- In many cultures, summer Solstice is a significant time of the year which marks festivals and rituals across the globe.

Note:

- **Summer solstice in the Southern Hemisphere** occurs on **22nd December** each year.

UPSC Civil Services Examination Previous Year Questions (PYQs)

Prelims:

Q. On 21st June, the Sun (2019)

- (a) does not set below the horizon at the Arctic Circle
- (b) does not set below the horizon at Antarctic Circle
- (c) shines vertically overhead at noon on the Equator
- (d) shines vertically overhead at the Tropic of Capricorn

Ans: (a)

