

# The issue of Solar year and the Lunar year

The concept of the year is intriguing, as human societies have long recognized two complementary systems of time: the **solar year** and the **lunar year**. Each is based on observable celestial phenomena and serves a distinct purpose in organizing human life. Islam, in its comprehensive and balanced guidance, acknowledges both systems and assigns each its appropriate role.

The **solar year** is defined by the Earth's complete revolution around the Sun. This cycle determines the seasons—summer, winter, spring, and autumn—and plays a crucial role in agriculture, climate patterns, travel, and economic planning. Historically, early civilizations used the **Julian calendar**, which gradually accumulated an error of approximately ten days. This led to the adoption of the **Gregorian calendar**, refining the solar year to about **365.25 days**. Despite this correction, the exact starting point of the year remains largely conventional. Although the winter solstice (around December 21) marks the shortest day, dates such as December 31 do not represent a precise natural boundary, reflecting human approximation rather than divine designation.

Islam recognizes the **practical necessity of solar calculations** for worldly affairs. Seasonal changes govern agriculture, trade, and travel, all of which depend on solar-based cycles. The Qur'an explicitly refers to seasonal commercial journeys:

**“For the accustomed security of the Quraysh – Their accustomed security [in] the caravan of winter and summer.”** (*Surah Quraysh, 106:1–2*)

This verse highlights how economic activity was organized around seasons determined by the Sun. Likewise, agricultural practices depend on seasonal cycles, and the obligation of **Zakat on crops** is directly linked to the time of harvest. Allah ﷻ commands:

**“And give its due on the day of harvest.”** (*Surah Al-An'am, 6:141*)

These examples clearly demonstrate that solar-based seasonal calculations are essential for sustaining livelihoods and fulfilling social and economic responsibilities in Islam.

Alongside the solar system, Islam establishes the **lunar calendar** as the authoritative framework for determining months and major acts of worship. Allah ﷻ states:

**“Indeed, the number of months with Allah is twelve [lunar] months in the register of Allah [from] the day He created the heavens and the earth.”** (*Surah At-Tawbah, 9:36*)

The lunar year consists of approximately **354 days**, making it about 11 days shorter than the solar year. Consequently, Islamic months rotate through the seasons. Prior to Islam, some Arabs manipulated the calendar by postponing or omitting months (*nasī'*), causing confusion and injustice. Islam abolished this practice and restored the calendar to its divinely ordained order. The establishment of the **Hijri calendar** ensured that lunar months were fixed according to Allah's decree, free from human interference.

One of the most remarkable features of the lunar system is the movement of **Ramadan**. Each year, Ramadan begins about 11 days earlier than the previous year, completing a full cycle through all seasons roughly every 33 years. This ensures that Muslims experience fasting during long and short days, heat and cold, ease and hardship—cultivating patience, equality, and spiritual resilience.

The Prophet Muhammad ﷺ precisely explained the nature of the lunar month:

**“The month is twenty-nine days, so do not fast until you see it, and do not break your fast until you see it; but if it is obscured, then complete the count of thirty.”** (*Sahih al-Bukhari, Hadith no. 1913; Sahih Muslim, Hadith no. 1080*)

This Prophetic statement is scientifically accurate. Modern astronomy confirms that the lunar cycle averages **29.53 days**, making it impossible for every month to be of equal length. Thus, revelation and empirical observation are in complete harmony.

Despite the lunar basis of months, **daily worship in Islam is governed by the Sun**. Prayer times and fasting hours are determined by solar positions—dawn, midday, afternoon, sunset, and night. Allah ﷻ says:

**“And He it is who created the night and the day and the sun and the moon; all [heavenly bodies] in an orbit are swimming.”** (*Surah Al-Anbiya, 21:33*)

Therefore, Muslims naturally follow **both lunar and solar calculations** in their daily lives. The lunar calendar governs sacred time—months, Ramadan, Hajj, and Zakat calculations—while the solar cycle governs daily worship timings, seasons, agriculture, and travel.

In conclusion, Islam presents a harmonious and holistic understanding of time. The Sun and the Moon are not competing systems but complementary signs of Allah's wisdom, guiding humanity in balancing spiritual devotion with worldly responsibility and reflecting upon the precise order embedded within creation.

*Note: Refer to scientific calculations for accurate astronomical values.*