Sound of Science
(理聲)

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Science Society
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The 24 solar terms (二十四節氣)

Major solar terms:	**Minor solar term:**
vernal equinox 春分	bright and clear 清明
corn rain 穀雨	summer commences 立夏
corn forms 小滿	corn on ear 芒種
summer solstice 夏至	moderate heat 小暑
great heat 大暑	autumn commences 立秋
end of heat 處暑	white dew 白露
autumnal equinox 秋分	cold dew 寒露
frost 霜降	winter commences 立冬
light snow 小雪	heavy snow 大雪
winter solstice 冬至	moderate cold 小寒
severe cold 大寒	spring commences 立春
spring showers 雨水	insects waken 驚蟄

The 24 solar terms, a gross name of the system that comprises 12 major solar terms and 12 minor solar terms, are based on the sun's position in the zodiac. It was created by farmers in ancient China to guide the agricultural affairs and farming activities. They reflect the changes in climate, natural phenomena, agricultural production, and other aspects of human life.

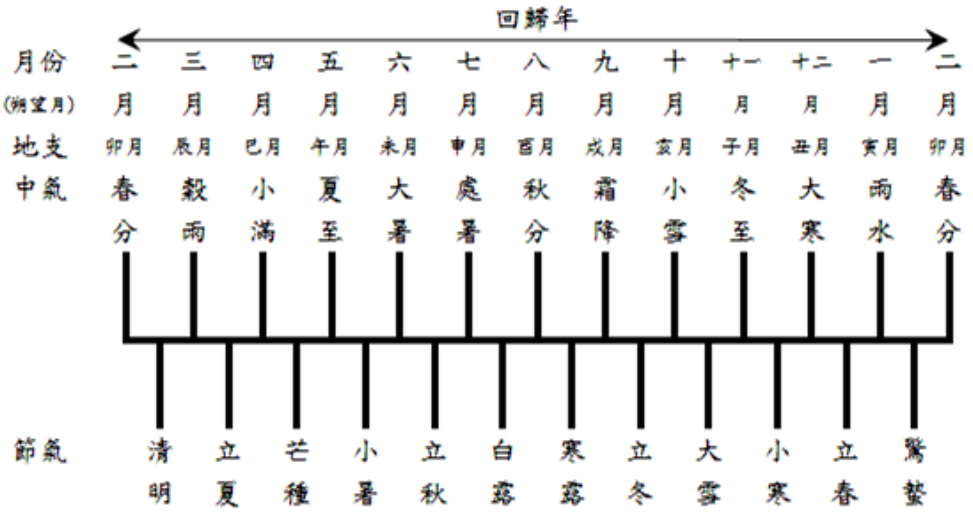
From the Earth's perspective, the Sun moves through a year across the stars or celestial sphere along a path known as the ecliptic, which is measured in 360 degrees longitude. The 24 solar terms divide the ecliptic into 24 equal segments, with 15 degrees of the Sun's longitude between the terms. At "vernal equinox", the Sun's longitude is 0 degree; at "bright and clear", the Sun's longitude is 15 degrees; and so forth

Major solar term	Vernal Equinox		Corn Rain		Corn Forms		Summer Solstice	
Minor solar term		Bright and Clear		Summer Commences		Corn on Ear		Moderate Heat
Sun's longitude	0°	15°	30°	45°	60°	75°	90°	105°

Major solar term	Great Heat		End of Heat		Autumnal Equinox		Frost	
Minor solar term		Autumn Commences		White Dew		Cold Dew		Winter Commences
Sun's longitude	120°	135°	150°	165°	180°	195°	210°	225°

Major solar term	Light Snow		Winter Solstice		Severe Cold		Spring Showers	
Minor solar term		Heavy Snow		Moderate Cold		Spring Commences		Insects Waken
Sun's longitude	240°	255°	270°	285°	300°	315°	330°	345°

At "vernal equinox" and "autumnal equinox", the periods of daylight and the night are equal in length. The period of daylight is the longest at "summer solstice" and the shortest at "winter solstice" (northern hemisphere). These were the earliest solar terms determined in ancient time. Then it came the four solar terms "spring commences", "summer commences", "autumn commences" and "winter commences".



However, the great heat period is becoming longer and longer because of the climate change.

The Earth's climate has been changing due to variation in sunlight, Earth's orbital changes, volcanic activity but their effects have been overshadowed by that of the increasing atmospheric concentration of greenhouse gases since the Industrial Revolution. The recent human-induced climate change has become a major challenge of our time.

The rate of increase in average temperature became faster in the latter half of the 20th century, reaching 0.17°C per decade during 1989-2018. There were more extreme weather events recently.

From now on, let’s protect the Earth by doing the following actions

Use less heat, hot water, air-conditioning and paper

Adopt a low-carbon and pro-green lifestyle

Use energy-efficient products

COMIC CORNER

RELAXING TIME

	6		3	5	4		9	
9		5	8			6		3
	4						8	
6			4				1	
8	7	2		9			6	
				3	6	8		9
3		1	7		2			
		6				9	3	
4			9		3	1		6

9	2	1	3	8	6	7	5	4
7	3	6	1	4	5	9	8	2
8	5	4	2	9	7	1	6	3
6	7	8	9	3	2	4	1	5
4	9	3	5	6	1	2	7	8
5	1	2	8	7	4	6	3	9
1	8	5	6	2	9	3	4	7
3	4	6	7	1	8	5	2	9
2	6	7	4	5	3	8	9	1

Science Society 2018-2019

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