日食及月食

2013 年共有 2 次日食及 3 次月食：

5 月	10 日	日環食
4 月	26 日	月偏食
5 月	25 日	半影月食
10 月	19 日	半影月食
11 月	3 日	日全食

其中 2 次月食可以在香港見到，詳情如下：

4 月 26 日的月偏食

月出	4 月 25 日	18 時 20 分
半影食始	4 月 26 日	02 時 02 分
初虧	4 月 26 日	03 時 52 分
食甚	4 月 26 日	04 時 08 分
復圓	4 月 26 日	04 時 23 分
月落	4 月 26 日	05 時 59 分

10 月 19 日的半影月食

半影食始	10 月 19 日 05 時 48 分
月落	10 月 19 日 06 時 22 分

曙暮光

民用曙暮光指黃昏時從日落至太陽中心移到地平下 6 度的一段時段或晨早太陽中心由地平下 6 度上升至日出的時段。航海及天文曙暮光分別爲太陽中心在地平下 12 和 18 度至日出及日落至太陽中心在地平下 12 和 18 度的時段。

太陽在不同俯角的照明度無法準確描述，況且照明度同時受到其他因素，如月光及天氣狀況等的影響。大致來說，在民用曙暮光期間，如果沒有燈光照明，一般的戶外活動將較爲困難，但對於那些祇需認清物件輪廓的大規模操作來說，光線還是足夠的。這時候最光亮的行星及恒星（一等亮度）肉眼可以看見。天文曙暮光標記著除了月光和星光外，再沒有其他的自然光的黑夜的界限。航海曙暮光的照明度則在前兩者之間，在這段期間雖然再不易清楚辨認地平線，但物件的一般輪廓仍可見到。需要顧及事物細節的活動不能進行。所有較爲光亮的星星都可以見到。

ECLIPSES

There are four eclipses in 2013, two of the Sun and three of the Moon:

May 10	Annular eclipse of the Sun
April 26	Partial eclipse of the Moon
May 25	Penumbral eclipse of the Moon
October 19	Penumbral eclipse of the Moon
November 3	Total eclipse of the Sun

Of these five eclipses, two eclipses of the Moon will be visible in Hong Kong. Details are given below:

Partial eclipse of the Moon on April 26

Moonrise	1820	April 25
Moon enters penumbra	0202	April 26
Moon enters umbra	0352	April 26
Middle of eclipse	0408	April 26
Moon leaves umbra	0423	April 26
Moonset	0559	April 26

Penumbral eclipse of the Moon on October 19

Moon enters penumbra	0548	October 19
Moonset	0622	October 19

TWILIGHT

The duration of civil twilight is the interval in the evening from sunset until the time when the centre of the Sun is 6 degrees below the horizon or the corresponding interval in the morning from the time when the centre of the Sun is 6 degrees below horizon until sunrise. The durations of nautical and astronomical twilight are, respectively, the intervals between sunrise or sunset and the times at which the centre of the Sun is 12 and 18 degrees below the horizon.

It is difficult to give precise statements on the degree of illumination at varying angles of depression of the Sun, and in any case, such illumination is dependent upon other causes such as moonlight and weather conditions. It will be found, in general that civil twilight marks the time when ordinary outdoor operations are difficult without artificial light, although there will be still ample light to make possible large scale operations, requiring outline only. The brightest planets and stars (first magnitude) will be visible to the eye. The limits of astronomical twilight are times at which complete darkness save moonlight and starlight, begins in the evening and ends in the morning. Nautical twilight represents an intermediate state of illumination when the general outline will still be visible, although the horizon probably cannot be distinguished. All detailed operations are impossible and all brighter stars can be seen.