



Sun and Planets

As the Earth approaches perihelion, it moves closer to the Sun and the angular diameter of the latter increases from 32'21.5" on 1 November to 32'26" on 30 November.

Mercury reappears in the morning sky this month. In November the ecliptic is nearly perpendicular to the horizon at dawn at mid-northern latitudes. As a result, this morning appearance of Mercury will be favourable for sighting. It will be an easy object to spot in the second week of November. It reaches its maximum western elongation on 10 November at 11:33 hours IST.

Venus continues to rise over the eastern horizon just before dawn as the Morning Star.

Mars, Jupiter and Saturn are now well above the western horizon. Jupiter and Saturn set about three hours after sunset while Mars sets just before dawn.

Transitions of the Sun and Planets

(Disclaimer: we categorically mention here that we do not believe in astrology and believe that the only influence a planet has on us is to give us the viewing pleasure of its beauty. The sole purpose of giving the transition of planets and the Sun is to acquaint the reader with the Indian nomenclature of planets and constellations and also to show that the actual positions of the Sun and planets, which are based on modern computing, are very different from those given in astrology tables.)

List of Events in November 2020

Dt	Dy	Time	Event
01	Su	-----	Venus: 34.2° W
03	Tu	10:55	Aldebaran 4.6° S of Moon
03	Tu	13:34	Mercury stationary
04	We	08:09	Moon ascending node
05	Th	11:20	South Taurid shower: ZHR = 10
06	Fr	01:00	Moon north declination: 24.8° N
06	Fr	01:08	Pollux 3.8° N of Moon
08	Su	01:04	Moon-Beehive: 2.4° S
08	Su	19:16	Last quarter
09	Mo	18:56	Regulus 4.4° S of Moon
10	Tu	22:29	Mercury elongation: 19.1° W
12	Th	10:36	North Taurid shower: ZHR = 15
13	Fr	03:01	Moon-Venus: 3° S
14	Sa	03:23	Moon-Mercury: 4.5° S
14	Sa	17:18	Moon perigee: 357800 km
15	Su	10:37	New Moon
16	Mo	00:54	Mars stationary
16	Mo	18:54	Venus-Spica: 3.8° N
17	Tu	05:37	Moon descending node
17	Tu	16:54	Leonid shower: ZHR = 15
18	We	16:57	Moon South Dec.: 24.9° S
19	Th	14:24	Moon-Jupiter: 2.6° N
19	Th	20:27	Moon-Saturn: 3° N
22	Su	10:15	First quarter
26	Tu	05:29	Mars 4.5° N of Moon
27	Fr	05:59	Moon apogee: 405900 km
30	Mo	15:00	Full Moon
30	Mo	15:14	Penumbral lunar eclipse
30	Mo	17:02	Aldebaran 4.6° S of Moon

The Sun moves from Libra, the Scales (*Tula*) to Scorpius, the Scorpion (*Vrushchika*) on 23 November and then to Ophiuchus, the Serpent Bearer (*Bhujangadhari* or *Sarpdhar*) on 29 November.

Mercury moves from Virgo, the Virgin (*Kanya*) to Libra, the Scales (*Tula*) on 17 November.

Venus too is in Virgo and moves to Libra on 27 November.

Mars is in Pisces, the Fish (*Meena*) this month.

Both Jupiter and Saturn are in Sagittarius, the Archer (*Dhanu*).

March of the Moon

The month begins with the waning lunar phase. On 3 November the Moon is halfway between Aldebaran (*Rohini*) and Pleiades (*Kruttika*). It then passes through the Gateway of Heaven between 6 and 7 November. During the predawn hours on 9 and 10 November, it can be seen northwest and northeast of Regulus respectively.

The dawn sky on 13 and 14 November brings beautiful viewing pleasure. On 13 November the lunar crescent will be seen northeast of Venus. Spica will be to the southeast of both these objects. The next day the Moon passes just above 1.5° north of Mercury.

On 19 November a slightly larger lunar crescent can be seen south of Jupiter and Saturn.

On 23 November you have a chance to spot Neptune. The Moon passes just about 4° south of Neptune at 9 p.m. You should be able to get Neptune in the field of your binoculars.

On the evening of 25 November, the approximately 80% illuminated Moon can be seen southwest of Mars.

On 27 November the Moon passes just about 3° south of Uranus. Though it will be an easier object to locate, the 93% illuminated Moon will be quite bright to the eyes.

The Full Moon of 30 November 2020 rises with Aldebaran to its south. There will be a penumbral lunar eclipse but it is not visible from India.

Leonid Shower

The annual Leonid meteor shower is expected to be active from 6 to 30 November. The activity is predicted to peak on 19 November at 06:28 hours IST. The radiant will rise by local midnight and will be nearly overhead at sunrise. Viewing conditions are expected to be good since New Moon is on 15 November. The rate of meteors will be about 15-20 meteors in an hour. These are fast-moving meteors with speeds of about 70 km per second. To observe this shower we advise you keep your observing gear (like a torch covered with red cellophane, warm clothes, etc. ready by sundown. Eat some light food and sleep until 11 p.m.) To observe the shower at its best, look about 30° away from the radiant. For more information visit [Wish Upon a Shooting Star](https://skytonight.wordpress.com/wish-upon-a-shooting-star/). You may also copy-paste <https://skytonight.wordpress.com/wish-upon-a-shooting-star/> onto your web browser.

Moons of Jupiter (November)

The table below gives timings of eclipses, occultations, transits and shadow transits of the moons of Jupiter, suitable for Indian observers. The timings are given in Indian Standard Time (IST).

The output is given as per the following abbreviations and notations:

Columns: **1** = date; **2** = time; **3** = satellite number; **4** = event type; and **5** = phase.

Satellite numbers: **1** = Io; **2** = Europa; **3** = Ganymede; and **4** = Callisto

Event type: **Ec** = eclipse; **Oc** = occultation; **Tr** = transit; and **Sh** = shadow transit.

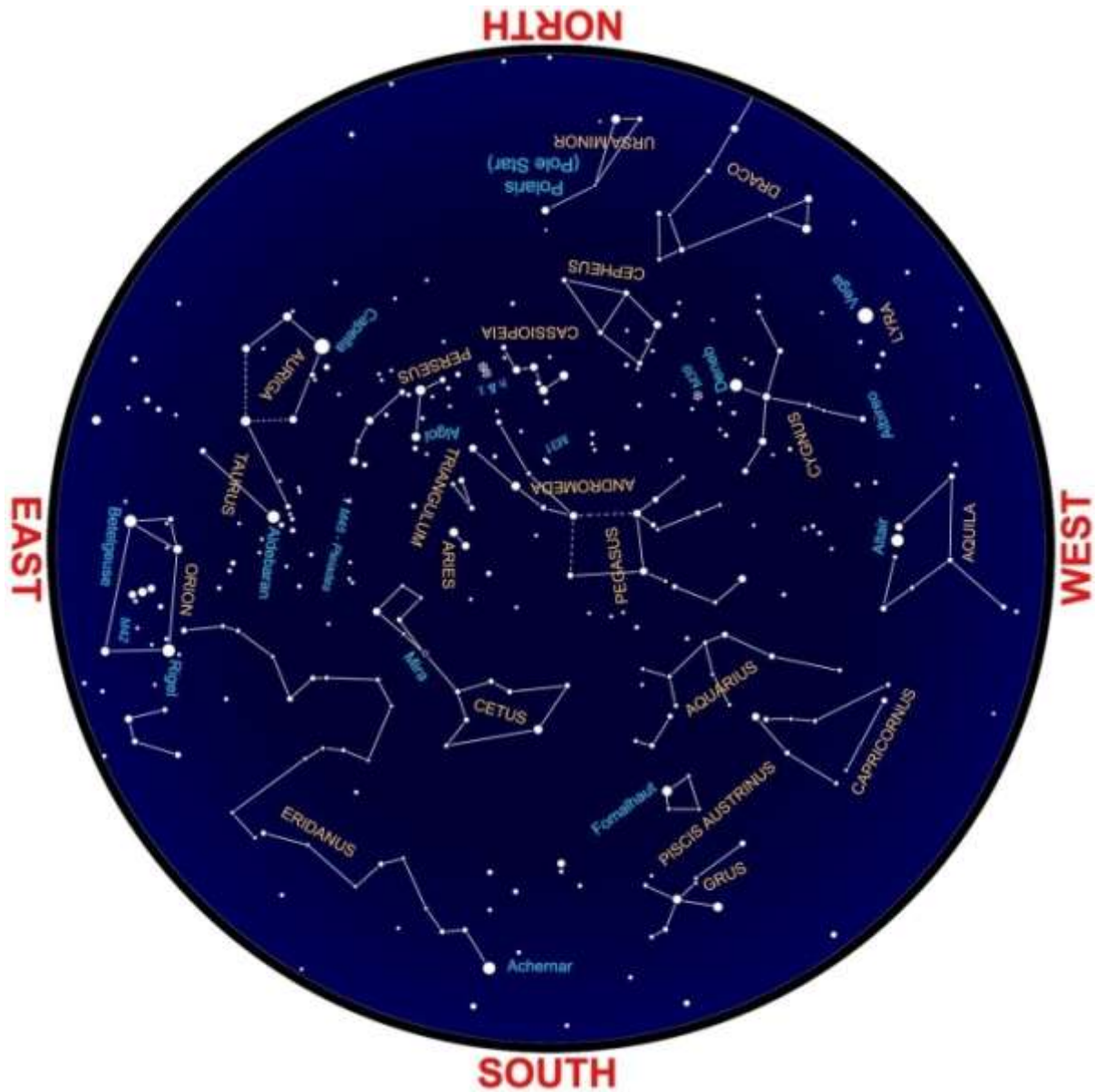
Phase: **D** = disappear; **R** = reappear; **I** = ingress; and **E** = egress.

Example: an event listed as **2 21:13:30 2 Ec R** means that on 2 November the satellite Europa is eclipsed by Jupiter at 21h 13m 30s IST.

Satellites of Jupiter in November 2020

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
2	21:13:30	2	<u>Ec</u>	R	18	18:27:36	2	<u>Tr</u>	E
3	18:51:24	4	<u>Sh</u>	I	18	20:42:06	2	<u>Sh</u>	E
3	21:09:30	1	<u>Oc</u>	D	19	19:38:00	1	<u>Oc</u>	D
4	18:31:48	1	<u>Tr</u>	I	19	21:49:30	3	<u>Oc</u>	D
4	19:44:00	1	<u>Sh</u>	I	20	19:15:42	1	<u>Tr</u>	E
4	20:47:48	1	<u>Tr</u>	E	20	20:19:36	1	<u>Sh</u>	E
4	22:00:24	1	<u>Sh</u>	E	23	19:40:36	3	<u>Sh</u>	E
5	19:10:54	1	<u>Ec</u>	R	25	18:24:36	2	<u>Tr</u>	I
5	21:41:48	3	<u>Ec</u>	R	25	20:27:48	2	<u>Sh</u>	I
9	18:37:18	2	<u>Oc</u>	D	25	21:15:30	2	<u>Tr</u>	E
11	18:41:18	4	<u>Oc</u>	D	27	18:59:18	1	<u>Tr</u>	I
11	20:30:24	1	<u>Tr</u>	I	27	19:58:00	1	<u>Sh</u>	I
11	21:39:06	1	<u>Sh</u>	I	27	21:15:42	1	<u>Tr</u>	E
12	20:57:54	3	<u>Oc</u>	R	28	18:59:00	4	<u>Oc</u>	R
12	21:06:30	1	<u>Ec</u>	R	28	19:26:30	1	<u>Ec</u>	R
12	22:10:48	3	<u>Ec</u>	D	30	19:46:06	3	<u>Tr</u>	E
13	18:24:24	1	<u>Sh</u>	E	30	20:10:00	3	<u>Sh</u>	I
16	21:21:18	2	<u>Oc</u>	D					

This sky map for November is drawn for mid-northern latitude to be used around 9:30 p.m. local time



For notes on stargazing [click here](#). Or visit <https://skytonight.wordpress.com/monthly-sky-notes-and-links/>

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