Sky this Month

October 2026

By David Mills

MOON

NEW MOON

New Moon

- The New Moon is on October 10th, at 11:50 a.m.
- This month's New Moon is called the New Hunter's Moon
- The moon is due south of the sun.

Moon

Type: **moon**
Magnitude: **-3.06**
Absolute Magnitude: 0.21
Mean Opposition Magnitude: -12.74
RA/Dec (J2000.0): 12h57m28.54s/-10°59'13.2"
RA/Dec (on date): 12h58m53.03s/-11°07'57.7"
HA/Dec: 22h57m20.14s/-11°07'57.7"
Az./Alt.: +161°37'59.0"/+32°46'16.3"
Gal. long./lat.: +305°19'53.2"/+51°51'23.8"
Supergal. long./lat.: +127°11'52.0"/-2°22'34.4"
Ecl. long./lat. (J2000.0): +197°28'18.7"/-4°28'15.6"
Ecl. long./lat. (on date): +197°50'51.8"/-4°28'23.0"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 11h56m12.7s
Apparent Sidereal Time: 11h56m13.2s
Rise: 7h27m
Transit: 12h56m
Set: 18h15m
Parallactic Angle: -13°17'11.4"
IAU Constellation: Vir
Zodiac: ♎ 17°50'
Hourly motion: +0°24'20" towards 127.5°
Hourly motion: dα=+0°19'32" dδ=-0°14'59"
Elongation: 4°29'46.4"
Elong. in Ecl.Long.: E0°28'43"
Phase angle: +175°29'31.9"
Illuminated: 0.2%
Distance from Sun: 0.996 AU (149.003 M km)
Distance: 0.002568 AU (384145.509 km)
Light time: 0h00m01.3s
Orbital velocity: 1.019 km/s
Heliocentric velocity: 28.812 km/s
Sidereal period: 27.32 days (0.075 a)
Synodic period: 29.53 days (0.081 a)
Apparent diameter: +0°31'05.76"
Diameter: 3474.8 km
Sidereal day: 655h43m11.6s
Mean solar day: 708h44m02.9s
Equatorial rotation velocity: 4.624 m/s
Moon age: 0.0 days old (New Moon)
Position angle of bright limb: +16°34'47"
Position Angle of axis: +21°43'02"
Libration: +7°01'44" towards +135°52'10" (NW!!!)
Libration: +4°53'39"/+5°02'42"
Subsolar point: -175°03'15"/-1°12'06"
Colongitude: +265°03'15"
Albedo: 0.12
Solar Az./Alt.: +158°50'40"/+36°38'23"

Sun
Moon
Spica
Mercury
Venus

Date and Time

Date and Time | Julian Day

2026 – 10 – 10 | 11 : 52 : 24

Full-screen mode [F11]

Earth, Peterborough, 188 m | FOV 30.8° | 17.86 FPS | 2026-10-10 11:52:24 UTC-04:00

New Moon

- The planets Mercury and Venus are southeast of the sun.
- Jupiter and Mars are west of the sun. Both rise in the morning sky.
- Saturn is now opposite the sun. Closest approach to Earth Oct. 4th.


Moon
Type: moon
Magnitude: -3.06
Absolute Magnitude: 0.21
Mean Opposition Magnitude: -12.74
RA/Dec (J2000.0): 12h57m35.48s/-11°00'33.2"
RA/Dec (on date): 12h58m59.98s/-11°09'17.6"
HA/Dec: 23h02m35.59s/-11°09'17.6"
Az./Alt.: +163°08'13.2"/+33°02'03.2"
Gal. long./lat.: +305°22'33.7"/+51°50'00.0"
Supergal. long./lat.: +127°13'36.5"/-2°21'17.3"
Ecl. long./lat. (J2000.0): +197°30'24.3"/-4°28'49.9"
Ecl. long./lat. (on date): +197°52'57.4"/-4°28'57.2"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 12h01m35.1s
Apparent Sidereal Time: 12h01m35.6s
Rise: 7h27m
Transit: 12h56m
Set: 18h15m
Parallactic Angle: -12°12'56.0"
IAU Constellation: Vir
Zodiac: ♎ 17°52'
Hourly motion: +0°24'14" towards 127.5°
Hourly motion: dα=+0°19'28" dδ=-0°14'55"
Elongation: 4°30'32.7"
Elong. in Ecl.Long.: E0°30'35"
Phase angle: +175°28'45.5"
Illuminated: 0.2%
Distance from Sun: 0.996 AU (149.003 M km)
Distance: 0.002568 AU (384135.254 km)
Light time: 0h00m01.3s
Orbital velocity: 1.019 km/s
Heliocentric velocity: 28.812 km/s
Sidereal period: 27.32 days (0.075 a)
Synodic period: 29.53 days (0.081 a)
Apparent diameter: +0°31'05.81"
Diameter: 3474.8 km
Sidereal day: 655h43m11.6s
Mean solar day: 708h44m02.9s
Equatorial rotation velocity: 4.624 m/s
Moon age: 0.0 days old (New Moon)
Position angle of bright limb: +16°11'41"
Position Angle of axis: +21°42'49"
Libration: +7°01'52" towards +135°53'38" (NW!!!)
Libration: +4°53'37"/+5°02'56"
Subsolar point: -175°05'59"/-1°12'07"
Colongitude: +265°05'59"
Albedo: 0.12
Solar Az./Alt.: +160°27'13"/+36°58'19"
Sun
Moon
Spica
Mercury
Venus
SE
S
Date and Time
Date and Time
Julian Day
2026 – 10 – 10
11 : 57 : 46
Earth, Peterborough, 188 m
FOV 60°
60.04 FPS
2026-10-10 11:57:46 UTC-04:00

FULL MOON

Full Moon

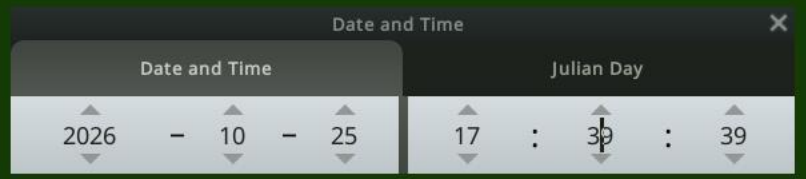
- The full Moon is on October 26th, at 12:11 a.m.
- Moonrise on October 25th, is at 5:35 p.m. in the eastern twilight sky
- This month's full moon is the Harvest Moon.

Moon

Type: **moon**
Magnitude: **-12.84** (reduced to **-8.32** by **35.60** Airmasses)
Absolute Magnitude: 0.21
Mean Opposition Magnitude: -12.74
RA/Dec (J2000.0): 1h42m10.17s/+14°21'05.9"
RA/Dec (on date): 1h43m37.00s/+14°29'16.2"
HA/Dec: 17h01m24.90s/+14°51'41.0" (apparent)
Az./Alt.: +69°15'08.5"/+0°14'30.7" (apparent)
Gal. long./lat.: +141°00'39.0"/-46°43'53.6"
Supergal. long./lat.: +313°34'30.1"/-7°05'21.5"
Ecl. long./lat. (J2000.0): +28°51'56.4"/+3°30'43.3"
Ecl. long./lat. (on date): +29°14'31.5"/+3°30'54.2"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 18h43m32.6s
Apparent Sidereal Time: 18h43m33.1s
Rise: 17h36m
Transit: 0h01m
Set: 7h05m
Parallactic Angle: -43°49'25.2"
IAU Constellation: Psc
Zodiac: ♓ 29°14'



Hourly motion: +0°39'32" towards 65.5°
Hourly motion: dα=+0°36'57" dδ=+0°16'50"
Elongation: 175°12'51.7"
Elong. in Ecl.Long.: E176°44'49"
Phase angle: +4°46'25.7"
Illuminated: 99.8%
Distance from Sun: 0.997 AU (149.110 M km)
Distance: 0.002472 AU (369832.467 km)
Light time: 0h00m01.2s
Orbital velocity: 1.067 km/s
Heliocentric velocity: 31.020 km/s
Sidereal period: 27.32 days (0.075 a)
Synodic period: 29.53 days (0.081 a)
Apparent diameter: +0°32'17.97"
Diameter: 3474.8 km
Sidereal day: 655h43m11.6s
Mean solar day: 708h44m02.9s
Equatorial rotation velocity: 4.624 m/s
Moon age: 14.5 days old (Waxing Gibbous)
Position angle of bright limb: -63°51'49"
Position Angle of axis: +339°34'20"
Libration: +7°17'00" towards +322°18'60" (SE!!!)
Libration: -4°27'08"/-5°45'51"
Subsolar point: -0°45'55"/-1°23'45"
Colongitude: +90°45'55"
Albedo: 0.12
Solar Az./Alt.: +247°36'04"/+4°55'57"



MERCURY

Mercury

- On October 1st, Mercury is deep in the solar glare at sunset.

- Barely visible.

Mercury

Type: **planet**
Magnitude: **-0.09** (reduced to **3.11** by **24.48** Airmasses)
Absolute Magnitude: -0.60
RA/Dec (J2000.0): 13h55m05.37s/-13°46'34.0"
RA/Dec (on date): 13h56m32.31s/-13°54'29.9"
HA/Dec: 4h58m03.72s/-13°38'15.2" (apparent)
Az./Alt.: +249°30'39.6"/+1°12'14.9" (apparent)
Gal. long./lat.: +325°35'31.7"/+46°16'34.3"
Supergal. long./lat.: +134°02'22.2"/+10°14'29.9"
Ecl. long./lat. (J2000.0): +211°35'41.3"/-1°51'49.7"
Ecl. long./lat. (on date): +211°58'14.3"/-1°52'01.5"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 18h55m39.4s
Apparent Sidereal Time: 18h55m39.9s
Rise: 9h18m
Transit: 14h27m
Set: 19h34m
Parallactic Angle: +43°37'10.2"
IAU Constellation: Vir
Zodiac: ♍ 1°58'
Hourly motion: +0°03'16" towards 114.8°
Hourly motion: dα=+0°03'02" dδ=-0°01'24"
Elongation: 23°14'17.1"
Elong. in Ecl.Long.: E23°10'02"
Phase angle: +58°23'52.3"
Illuminated: 76.2%
Distance from Sun: 0.464 AU (69.374 M km)
Distance: 1.163 AU (173.960 M km)
Light time: 0h09m40.3s
Orbital velocity: 39.169 km/s
Sidereal period: 87.97 days (0.241 a)
Synodic period: 115.88 days (0.317 a)
Apparent diameter: +0°00'05.79"
Equatorial diameter: 4881.1 km
Sidereal day: 1407h30m27.0s
Mean solar day: 4222h26m51.1s
Equatorial rotation velocity: 3.026 m/s
Position Angle of axis: +27°05'48"
Center point: L_e=+163°44'41" ϕ_e: +3°51'18"
Subsolar point: L_s=+105°25'48" ϕ_s: -0°01'48"
Albedo: 0.06
Solar Az./Alt.: +271°34'13"/-6°36'34"
Lunar Az./Alt.: +24°58'23"/-14°35'56"



Date and Time

Date and Time | Julian Day

2026 - 10 - 1 | 19 : 26 : 6

Mercury

- On October 1st, Mercury sets at 7:34 p.m. in the western twilight sky.

- Mercury is lost in the solar glare again all month. By mid-month Mercury is setting at 7:15 p.m.

Mercury

Type: **planet**
Magnitude: **-0.09** (reduced to **4.78** by **38.90** Airmasses)
Absolute Magnitude: -0.60
RA/Dec (J2000.0): 13h55m06.97s/-13°46'45.1"
RA/Dec (on date): 13h56m33.91s/-13°54'41.0"
HA/Dec: 5h05m24.73s/-13°30'51.8" (apparent)
Az./Alt.: +250°53'04.9"/+0°03'20.3" (apparent)
Gal. long./lat.: +325°35'57.4"/+46°16'15.7"
Supergal. long./lat.: +134°02'40.6"/+10°14'48.2"
Ecl. long./lat. (J2000.0): +211°36'06.9"/-1°51'52.0"
Ecl. long./lat. (on date): +211°58'39.9"/-1°52'03.8"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 19h03m33.2s
Apparent Sidereal Time: 19h03m33.7s
Rise: 9h18m
Transit: 14h27m
Set: 19h34m
Parallactic Angle: +44°03'57.5"
IAU Constellation: Vir
Zodiac: ♍ 1°58'
Hourly motion: +0°03'16" towards 114.8°
Hourly motion: dα=+0°03'02" dδ=-0°01'24"
Elongation: 23°14'23.5"
Elong. in Ecl.Long.: E23°10'08"
Phase angle: +58°24'21.4"
Illuminated: 76.2%
Distance from Sun: 0.464 AU (69.373 M km)
Distance: 1.163 AU (173.950 M km)
Light time: 0h09m40.2s
Orbital velocity: 39.170 km/s
Sidereal period: 87.97 days (0.241 a)
Synodic period: 115.88 days (0.317 a)
Apparent diameter: +0°00'05.79"
Equatorial diameter: 4881.1 km
Sidereal day: 1407h30m27.0s
Mean solar day: 4222h26m51.1s
Equatorial rotation velocity: 3.026 m/s
Position Angle of axis: +27°05'44"
Center point: L_e=+163°46'16" ϕ_e: +3°51'17"
Subsolar point: L_s=+105°26'53" ϕ_s: -0°01'48"
Albedo: 0.06
Solar Az./Alt.: +272°57'05"/-8°01'10"
Lunar Az./Alt.: +26°34'38"/-14°00'34"



Date and Time

Date and Time | Julian Day

2026 – 10 – 1 | 19 : 33 : 58

Earth, Peterborough, 188 m | FOV 8.12° | 29.67 FPS | 2026-10-01 19:33:58 UTC-04:00

VENUS

Venus

- On October 1st, Venus is low on the southwestern horizon at sunset.

- Venus now sets shortly after sunset.

Venus - Evening Star

Type: **planet**
Magnitude: **-4.76** (reduced to **-2.06** by **20.51** Airmasses)
Absolute Magnitude: -5.18
Color Index (B-V): **0.91**
RA/Dec (J2000.0): 14h12m58.53s/-20°57'04.5"
RA/Dec (on date): 14h14m28.74s/-21°04'39.2"
HA/Dec: 4h21m14.36s/-20°50'13.0" (apparent)
Az./Alt.: +238°09'51.0"/+1°46'28.2" (apparent)
Gal. long./lat.: +327°19'21.2"/+38°01'41.6"
Supergal. long./lat.: +142°24'28.1"/+11°43'12.1"
Ecl. long./lat. (J2000.0): +218°04'42.6"/-7°08'50.5"
Ecl. long./lat. (on date): +218°27'14.3"/-7°09'04.1"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 18h36m35.6s
Apparent Sidereal Time: 18h36m36.1s
Rise: 10h11m
Transit: 14h46m
Set: 19h20m
Parallactic Angle: +40°35'05.8"
IAU Constellation: Vir
Zodiac: ♍ 8°27'
Hourly motion: +0°00'13" towards 175.3°
Hourly motion: dα=+0°00'01" dδ=-0°00'13"
Elongation: 30°26'11.1"
Elong. in Ecl.Long.: E29°39'49"
Phase angle: +135°45'34.4"
Illuminated: 14.2%
Distance from Sun: 0.727 AU (108.739 M km)
Distance: 0.342 AU (51.216 M km)
Light time: 0h02m50.8s
Orbital velocity: 34.850 km/s
Sidereal period: 224.70 days (0.615 a)
Synodic period: 583.92 days (1.599 a)
Apparent diameter: +0°00'48.75"
Equatorial diameter: 12103.6 km
Sidereal day: 5832h26m37.0s
Mean solar day: 2802h00m22.2s
Equatorial rotation velocity: 1.811 m/s
Position Angle of axis: +19°40'14"
Center point: L_0=+309°01'37" ϕ_0: +8°22'05"
Subsolar point: L_0=+85°58'32" ϕ_0: +2°20'41"
Albedo: 0.77
Solar Az./Alt.: +268°15'12"/-2°46'06"
Lunar Az./Alt.: +21°01'55"/-15°52'43"

Mercury

Venus

Date and Time

Date and Time | Julian Day

2026 - 10 - 1 | 19 : 7 : 5

Earth, Peterborough, 188 m | FOV 11.3° | 17.86 FPS | 2026-10-01 19:07:05 UTC-04:00

Venus

- On October 1st, Venus sets at 7:19 p.m. in the southwestern sky.

Venus - Evening Star

Type: **planet**
Magnitude: **-4.76** (reduced to **-0.12** by **36.73** Airmasses)
Absolute Magnitude: -5.18
Color Index (B-V): **0.91**
RA/Dec (J2000.0): 14h12m58.55s/-20°57'07.0"
RA/Dec (on date): 14h14m28.75s/-21°04'41.6"
HA/Dec: 4h32m24.47s/-20°40'56.7" (apparent)
Az./Alt.: +240°14'00.4"/+0°10'28.4" (apparent)
Gal. long./lat.: +327°19'20.2"/+38°01'39.3"
Supergal. long./lat.: +142°24'30.5"/+11°43'11.4"
Ecl. long./lat. (J2000.0): +218°04'43.7"/-7°08'52.8"
Ecl. long./lat. (on date): +218°27'15.4"/-7°09'06.4"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 18h48m23.2s
Apparent Sidereal Time: 18h48m23.7s
Rise: 10h11m
Transit: 14h46m
Set: 19h20m
Parallactic Angle: +41°36'35.9"
IAU Constellation: Vir
Zodiac: ♍ 8°27'
Hourly motion: +0°00'13" towards 174.4°
Hourly motion: dα=+0°00'01" dδ=-0°00'13"
Elongation: 30°25'44.6"
Elong. in Ecl.Long.: E29°39'21"

Mercury

Venus

Phase angle: +135°46'18.3"
Illuminated: 14.2%
Distance from Sun: 0.727 AU (108.739 M km)
Distance: 0.342 AU (51.210 M km)
Light time: 0h02m50.8s
Orbital velocity: 34.850 km/s
Sidereal period: 224.70 days (0.615 a)
Synodic period: 583.92 days (1.599 a)
Apparent diameter: +0°00'48.75"
Equatorial diameter: 12103.6 km
Sidereal day: 5832h26m37.0s
Mean solar day: 2802h00m22.2s
Equatorial rotation velocity: 1.811 m/s
Position Angle of axis: +19°40'14"
Center point: L_s=+309°02'22" ϕ_s: +8°22'07"
Subsolar point: L_s=+86°00'03" ϕ_s: +2°20'40"
Albedo: 0.77
Solar Az./Alt.: +270°18'12"/-5°18'40"
Lunar Az./Alt.: +23°28'53"/-15°06'39"

Date and Time

Date and Time | Julian Day

2026 – 10 – 1 | 19 : 18 : 51

Earth, Peterborough, 188 m | FOV 11.3° | 17.87 FPS | 2026-10-01 19:18:51 UTC-04:00

Venus

- On October 4th, Venus sets at 7 p.m. no longer visible.

- Venus reappears in the morning sky at the end of October. Venus rises with the sun. Lost in the solar glare.

Venus - Morning Star

Type: **planet**
Magnitude: **-4.13** (reduced to **-0.85** by **25.09** Airmasses)
Absolute Magnitude: -5.18
Color Index (B-V): **0.91**
RA/Dec (J2000.0): 13h31m08.61s/-15°09'14.1"
RA/Dec (on date): 13h32m35.30s/-15°17'35.0"
HA/Dec: 19h07m30.20s/-15°00'51.7" (apparent)
Az./Alt.: +112°24'53.4"/+1°07'51.6" (apparent)
Gal. long./lat.: +316°57'18.8"/+46°38'01.9"
Supergal. long./lat.: +133°31'05.2"/+4°18'22.3"
Ecl. long./lat. (J2000.0): +206°40'06.3"/-5°13'46.0"
Ecl. long./lat. (on date): +207°02'41.9"/-5°13'56.1"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 8h38m59.8s
Apparent Sidereal Time: 8h39m00.3s
Rise: 7h09m
Transit: 12h10m
Set: 17h11m
Parallactic Angle: -43°14'09.4"
IAU Constellation: Vir
Zodiac: ♎ 27°2'
Hourly motion: +0°01'27" towards 312.5°
Hourly motion: dα=-0°01'06" dδ=+0°01'00"
Elongation: 11°16'56.1"
Elong. in Ecl.Long.: W10°00'38"
Phase angle: +164°25'13.8"
Illuminated: 1.8%
Distance from Sun: 0.723 AU (108 220 M km)
Distance: 0.277 AU (41 448 M km)
Light time: 0h03m18.3s
Orbital velocity: 35.017 km/s
Sidereal period: 224.70 days (0.61 a)
Synodic period: 583.92 days (1.60 a)
Apparent diameter: +0°01'00.23"
Equatorial diameter: 12103.6 km
Sidereal day: 5832h26m37.0s
Mean solar day: 2802h00m22.2s
Equatorial rotation velocity: 1.811 m/s
Position Angle of axis: +21°28'16"
Center point: L_s=+339°48'16" ϕ_s: +6°27'45"
Subsolar point: L_s=+173°37'44" ϕ_s: +0°47'00"
Albedo: 0.77
Solar Az./Alt.: +103°26'21"/-6°06'26"
Lunar Az./Alt.: +248°51'37"/+57°44'27"



Date and Time

Date and Time | Julian Day

2026 - 10 - 30 | 7 : 17 : 6

Earth, Peterborough, 188 m | FOV 43° | 17.86 FPS | 2026-10-30 07:17:06 UTC-04:00

MARS

Mars

- On October 1st, Mars rises at 1:20 a.m. in the northeastern sky.

- Mars is still stationary in its orbit.

Mars

Type: **planet**
Magnitude: **1.04** (reduced to **6.00** by **39.86** Airmasses)
Absolute Magnitude: -1.52
Mean Opposition Magnitude: -2.01
Color Index (B-V): **1.45**
RA/Dec (J2000.0): 8h15m42.27s/+20°49'39.3"
RA/Dec (on date): 8h17m16.44s/+20°44'43.5"
HA/Dec: 16h31m14.17s/+21°10'02.1" (apparent)
Az./Alt.: +59°42'25.5"/+0°00'24.2" (apparent)
Gal. long./lat.: +202°19'49.9"/+27°27'36.8"
Supergal. long./lat.: +55°31'08.8"/-48°26'32.4"
Ecl. long./lat. (J2000.0): +121°26'55.2"/+1°00'56.5"
Ecl. long./lat. (on date): +121°49'28.9"/+1°01'13.6"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 0h46m54.4s
Apparent Sidereal Time: 0h46m54.9s
Rise: 1h20m
Transit: 8h50m
Set: 16h20m
Parallactic Angle: -41°30'16.5"
IAU Constellation: Cnc
Zodiac: ♌ 1°49'
Hourly motion: +0°01'28" towards 100.3°
Hourly motion: dα=+0°01'32" dδ=-0°00'17"
Elongation: 66°14'35.3"
Elong. in Ecl.Long.: W66°14'20"
Phase angle: +36°00'59.2"
Illuminated: 90.4%
Distance from Sun: 1.559 AU (233.154 M km)
Distance: 1.664 AU (248.931 M km)
Light time: 0h13m50.3s
Orbital velocity: 23.583 km/s
Sidereal period: 686.97 days (1.881 a)
Synodic period: 779.95 days (2.135 a)
Apparent diameter: +0°00'05.63"
Equatorial diameter: 6792.4 km
Sidereal day: 24h37m22.7s
Mean solar day: 24h39m35.2s
Equatorial rotation velocity: 240.729 m/s
Position Angle of axis: +351°35'24"
Center point: L_s=+117°28'56" ϕ_s: +15°20'33"
Subsolar point: L_s=+150°34'04" ϕ_s: +0°11'14"
Albedo: 0.15
Solar Az./Alt.: +6°33'04"/-48°43'21"
Lunar Az./Alt.: +94°49'01"/+43°49'07"



Date and Time

Date and Time | Julian Day

2026 – 10 – 1 | 1 : 20 : 19

Mars

- On October 1st, Mars is high in the southeastern sky at sunrise.



Mars

Type: **planet**
Magnitude: **1.06** (reduced to **1.23** by **1.28** Airmasses)
Absolute Magnitude: -1.52
Mean Opposition Magnitude: -2.01
Color Index (B-V): **1.45**
RA/Dec (J2000.0): 8h16m12.94s/+20°48'15.8"
RA/Dec (on date): 8h17m47.09s/+20°43'19.0"
HA/Dec: 21h31m59.80s/+20°43'53.7" (apparent)
Az./Alt.: +115°29'12.5"/+51°25'30.3" (apparent)
Gal. long./lat.: +202°24'08.7"/+27°33'50.0"
Supergal. long./lat.: +55°41'32.6"/-48°24'08.9"
Ecl. long./lat. (J2000.0): +121°34'13.2"/+1°01'10.8"
Ecl. long./lat. (on date): +121°56'46.9"/+1°01'27.8"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 5h49m44.0s
Apparent Sidereal Time: 5h49m44.5s
Rise: 1h20m
Transit: 8h50m
Set: 16h20m
Parallactic Angle: -43°41'28.4"
IAU Constellation: Cnc
Zodiac: ♌ 1°56'
Hourly motion: +0°01'27" towards 100.6°
Hourly motion: dα=+0°01'31" dδ=-0°00'17"
Elongation: 66°19'44.7"
Elong. in Ecl.Long.: W66°19'30"
Phase angle: +36°02'00.7"
Illuminated: 90.4%
Distance from Sun: 1.559 AU (233.193 M km)
Distance: 1.663 AU (248.711 M km)
Light time: 0h13m49.6s
Orbital velocity: 23.579 km/s
Sidereal period: 686.97 days (1.881 a)
Synodic period: 779.95 days (2.135 a)
Apparent diameter: +0°00'05.63"
Equatorial diameter: 6792.4 km
Sidereal day: 24h37m22.7s
Mean solar day: 24h39m35.2s
Equatorial rotation velocity: 240.729 m/s
Position Angle of axis: +351°40'01"
Center point: L_s=+190°57'10" ϕ_s: +15°23'01"
Subsolar point: L_s=+224°03'46" ϕ_s: +0°13'54"
Albedo: 0.15
Solar Az./Alt.: +85°13'37"/-9°33'25"
Lunar Az./Alt.: +229°11'57"/+66°04'48"

Date and Time

Date and Time | Julian Day

2026 – 10 – 1 | 6 : 22 : 19

Mars

- On October 5th, Mars and last quarter moon rise together in a tight conjunction. Angle of separation is 30 minutes.

- Mars rises at 1:22 a.m. in the eastern morning sky.

Mars

Type: **planet**
Magnitude: **1.02** (reduced to **5.09** by **31.64** Airmasses)
Absolute Magnitude: -1.52
Mean Opposition Magnitude: -2.01
Color Index (B-V): **1.45**
RA/Dec (J2000.0): 8h25m23.57s/+20°21'56.8"
RA/Dec (on date): 8h26m57.21s/+20°16'42.0"
HA/Dec: 16h37m04.46s/+20°37'40.3" (apparent)
Az./Alt.: +61°05'00.3"/+0°30'45.4" (apparent)
Gal. long./lat.: +203°43'34.3"/+29°25'18.5"
Supergal. long./lat.: +58°46'06.0"/-47°38'42.0"
Ecl. long./lat. (J2000.0): +123°45'42.5"/+1°05'07.0"
Ecl. long./lat. (on date): +124°08'17.1"/+1°05'23.6"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 1h02m40.6s
Apparent Sidereal Time: 1h02m41.2s
Rise: 1h16m
Transit: 8h44m
Set: 16h11m
Parallactic Angle: -42°01'08.4"
IAU Constellation: Cnc
Zodiac: ♋ 4°8'
Hourly motion: +0°01'26" towards 101.0°
Hourly motion: dα=+0°01'30" dδ=-0°00'18"
Elongation: 67°51'59.0"
Elong. in Ecl.Long.: W67°51'43"
Phase angle: +36°20'26.3"
Illuminated: 90.3%
Distance from Sun: 1.563 AU (233.888 M km)
Distance: 1.636 AU (244.773 M km)
Light time: 0h13m36.5s
Orbital velocity: 23.508 km/s
Sidereal period: 686.97 days (1.881 a)
Synodic period: 779.95 days (2.135 a)
Apparent diameter: +0°00'05.72"
Equatorial diameter: 6792.4 km
Sidereal day: 24h37m22.7s
Mean solar day: 24h39m35.2s
Equatorial rotation velocity: 240.729 m/s
Position Angle of axis: +353°03'10"
Center point: L_s=+78°46'55" ϕ_s: +16°06'29"
Subsolar point: L_s=+112°20'10" ϕ_s: +1°02'01"
Albedo: 0.15
Solar Az./Alt.: +7°14'07"/-50°14'07"
Lunar Az./Alt.: +60°22'06"/+0°29'33"



Date and Time

Date and Time | Julian Day

2026 – 10 – 5 | 1 : 20 : 19

Earth, Peterborough, 188 m | FOV 5.82° | 17.84 FPS | 2026-10-05 01:20:19 UTC-04:00

Mars

- On October 10th, Mars and M44 rise together. Mars is just outside the northwestern edge of M44

- Both rise together at 1:17 a.m. in the eastern morning sky.

Mars

Type: **planet**
Magnitude: **1.04** (reduced to **2.24** by **9.28** Airmasses)
Absolute Magnitude: -1.52
Mean Opposition Magnitude: -2.01
Color Index (B-V): **1.45**
RA/Dec (J2000.0): 8h37m16.29s/+19°45'22.6"
RA/Dec (on date): 8h38m49.19s/+19°39'45.5"
HA/Dec: 17h13m05.81s/+19°46'00.4" (apparent)
Az./Alt.: +67°49'19.8"/+5°42'00.2" (apparent)
Gal. long./lat.: +205°31'06.9"/+31°49'29.2"
Supergal. long./lat.: +62°37'54.6"/-46°32'00.6"
Ecl. long./lat. (J2000.0): +126°36'58.4"/+1°10'29.5"
Ecl. long./lat. (on date): +126°59'33.2"/+1°10'45.5"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 1h51m28.2s
Apparent Sidereal Time: 1h51m28.7s
Rise: 1h11m
Transit: 8h36m
Set: 16h01m
Parallactic Angle: -44°46'04.8"
IAU Constellation: Cnc
Zodiac: ♌ 6°59'
Hourly motion: +0°01'25" towards 101.9°
Hourly motion: dα=+0°01'28" dδ=-0°00'18"
Elongation: 69°58'00.4"
Elong. in Ecl.Long.: W69°57'44"
Phase angle: +36°42'58.0"
Illuminated: 90.1%
Distance from Sun: 1.570 AU (234.795 M km)
Distance: 1.600 AU (239.397 M km)
Light time: 0h13m18.5s
Orbital velocity: 23.414 km/s
Sidereal period: 686.97 days (1.881 a)
Synodic period: 779.95 days (2.135 a)
Apparent diameter: +0°00'05.85"
Equatorial diameter: 6792.4 km
Sidereal day: 24h37m22.7s
Mean solar day: 24h39m35.2s
Equatorial rotation velocity: 240.729 m/s
Position Angle of axis: +354°52'17"
Center point: L_s=+37°29'00" ϕ_s: +17°00'49"
Subsolar point: L_s=+71°37'07" ϕ_s: +2°05'12"
Albedo: 0.15
Solar Az./Alt.: +19°29'48"/-50°52'13"
Lunar Az./Alt.: +29°06'53"/-50°53'12"



Date and Time

Date and Time | Julian Day

2026 – 10 – 10 | 1 : 49 : 19

Earth, Peterborough, 188 m | FOV 9.59° | 17.86 FPS | 2026-10-10 01:49:19 UTC-04:00

Mars

- On October 11th, Mars and M44 rise together. Mars is in the top corner of the Beehive Cluster – M44

- Both rise together at 1:13 a.m. in the eastern morning sky.

Mars

Type: **planet**
Magnitude: **1.04** (reduced to **2.52** by **11.39** Airmasses)
Absolute Magnitude: -1.52
Mean Opposition Magnitude: -2.01
Color Index (B-V): **1.45**
RA/Dec (J2000.0): 8h39m35.06s/+19°37'55.7"
RA/Dec (on date): 8h41m07.81s/+19°32'14.4"
HA/Dec: 17h05m47.76s/+19°39'56.4" (apparent)
Az./Alt.: +66°39'47.9"/+4°25'24.2" (apparent)
Gal. long./lat.: +205°52'44.4"/+32°17'31.9"
Supergal. long./lat.: +63°22'04.2"/-46°18'01.8"
Ecl. long./lat. (J2000.0): +127°10'27.8"/+1°11'34.3"
Ecl. long./lat. (on date): +127°33'02.7"/+1°11'50.2"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 1h46m23.3s
Apparent Sidereal Time: 1h46m23.7s
Rise: 1h10m
Transit: 8h35m
Set: 15h58m
Parallactic Angle: -44°15'16.1"
IAU Constellation: Cnc
Zodiac: ♋ 7°33'
Hourly motion: +0°01'24" towards 102.1°
Hourly motion: dα=+0°01'27" dδ=-0°00'19"
Elongation: 70°23'27.8"
Elong. in Ecl.Long.: W70°23'11"
Phase angle: +36°47'09.0"
Illuminated: 90.0%
Distance from Sun: 1.571 AU (234.972 M km)
Distance: 1.593 AU (238.313 M km)
Light time: 0h13m14.9s
Orbital velocity: 23.396 km/s
Sidereal period: 686.97 days (1.881 a)
Synodic period: 779.95 days (2.135 a)
Apparent diameter: +0°00'05.88"
Equatorial diameter: 6792.4 km
Sidereal day: 24h37m22.7s
Mean solar day: 24h39m35.2s
Equatorial rotation velocity: 240.729 m/s
Position Angle of axis: +355°13'43"
Center point: L_s=+25°37'35" ϕ_s: +17°11'07"
Subsolar point: L_s=+59°52'30" ϕ_s: +2°17'38"
Albedo: 0.15
Solar Az./Alt.: +16°14'46"/-51°42'59"
Lunar Az./Alt.: +9°49'26"/-59°24'30"



Date and Time

Date and Time | Julian Day

2026 – 10 – 11 | 1 : 40 : 19

Earth, Peterborough, 188 m | FOV 8.12° | 17.86 FPS | 2026-10-11 01:40:19 UTC-04:00

Mars

- On October 12th, Mars is just below M44 now moving away from the cluster.
- Both rise together at 1:09 a.m. in the eastern morning sky.
- Mars and Jupiter begin moving closer together. They reach closest approach on November 18th.



Mars

Type: **planet**
Magnitude: **1.03** (reduced to **2.17** by **8.80** Airmasses)
Absolute Magnitude: -1.52
Mean Opposition Magnitude: -2.01
Color Index (B-V): **1.45**
RA/Dec (J2000.0): 8h41m54.80s/+19°30'19.6"
RA/Dec (on date): 8h43m27.40s/+19°24'34.0"
HA/Dec: 17h16m28.58s/+19°30'28.3" (apparent)
Az./Alt.: +68°34'21.9"/+6°04'40.7" (apparent)
Gal. long./lat.: +206°14'45.2"/+32°45'45.6"
Supergal. long./lat.: +64°06'12.5"/-46°03'37.7"
Ecl. long./lat. (J2000.0): +127°44'14.2"/+1°12'40.6"
Ecl. long./lat. (on date): +128°06'49.2"/+1°12'56.2"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 1h59m30.5s
Apparent Sidereal Time: 1h59m31.0s
Rise: 1h09m
Transit: 8h33m
Set: 15h56m
Parallactic Angle: -44°58'29.8"
IAU Constellation: Cnc
Zodiac: ♋ 8°6'
Hourly motion: +0°01'24" towards 102.2°
Hourly motion: dα=+0°01'27" dδ=-0°00'19"
Elongation: 70°49'25.8"
Elong. in Ecl.Long.: W70°49'09"
Phase angle: +36°51'17.3"
Illuminated: 90.0%
Distance from Sun: 1.572 AU (235.152 M km)
Distance: 1.586 AU (237.208 M km)
Light time: 0h13m11.2s
Orbital velocity: 23.378 km/s
Sidereal period: 686.97 days (1.881 a)
Synodic period: 779.95 days (2.135 a)
Apparent diameter: +0°00'05.91"
Equatorial diameter: 6792.4 km
Sidereal day: 24h37m22.7s
Mean solar day: 24h39m35.2s
Equatorial rotation velocity: 240.729 m/s
Position Angle of axis: +355°35'21"
Center point: L_s=+18°11'14" ϕ_s: +17°21'24"
Subsolar point: L_s=+52°32'60" ϕ_s: +2°30'11"
Albedo: 0.15
Solar Az./Alt.: +20°02'50"/-51°33'40"
Lunar Az./Alt.: +351°45'08"/-64°27'59"

Date and Time

Date and Time | Julian Day

2026 – 10 – 12 | 1 : 49 : 28

Earth, Peterborough, 188 m | FOV 3.53° | 17.91 FPS | 2026-10-12 01:49:28 UTC-04:00

Mars

- On October 31st, Mars rises after midnight at 12:48 a.m.
- Mars is now slowly moving eastward.

Mars

Type: **planet**
Magnitude: **0.82** (reduced to **5.67** by **38.64** Airmasses)
Absolute Magnitude: -1.52
Mean Opposition Magnitude: -2.01
Color Index (B-V): **1.45**
RA/Dec (J2000.0): 9h23m10.48s/+16°59'16.3"
RA/Dec (on date): 9h24m40.52s/+16°52'20.8"
HA/Dec: 16h49m45.43s/+17°16'30.4" (apparent)
Az./Alt.: +65°33'33.7"/+0°04'09.0" (apparent)
Gal. long./lat.: +213°32'39.0"/+41°01'54.3"
Supergal. long./lat.: +76°11'08.2"/-40°58'41.7"
Ecl. long./lat. (J2000.0): +137°50'46.5"/+1°34'51.6"
Ecl. long./lat. (on date): +138°13'24.4"/+1°35'04.3"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 2h12m51.3s
Apparent Sidereal Time: 2h12m51.8s
Rise: 0h48m
Transit: 7h59m
Set: 15h11m
Parallactic Angle: -43°01'36.1"
IAU Constellation: Leo
Zodiac: ♌ 18°13'
Hourly motion: +0°01'16" towards 104.8°
Hourly motion: dα=+0°01'17" dδ=-0°00'20"
Elongation: 79°33'49.8"
Elong. in Ecl.Long.: W79°33'35"
Phase angle: +37°47'35.3"
Illuminated: 89.5%
Distance from Sun: 1.593 AU (238.380 M km)
Distance: 1.439 AU (215.281 M km)
Light time: 0h11m58.1s
Orbital velocity: 23.049 km/s
Sidereal period: 686.97 days (1.881 a)
Synodic period: 779.95 days (2.135 a)
Apparent diameter: +0°00'06.51"
Equatorial diameter: 6792.4 km
Sidereal day: 24h37m22.7s
Mean solar day: 24h39m35.2s
Equatorial rotation velocity: 240.729 m/s
Position Angle of axis: +2°06'57"
Center point: L_s=+179°53'29" ϕ_s: +20°05'20"
Subsolar point: L_s=+216°11'25" ϕ_s: +6°20'54"
Albedo: 0.15
Solar Az./Alt.: +355°45'02"/-59°44'49"
Lunar Az./Alt.: +80°32'21"/+27°26'18"



Date and Time

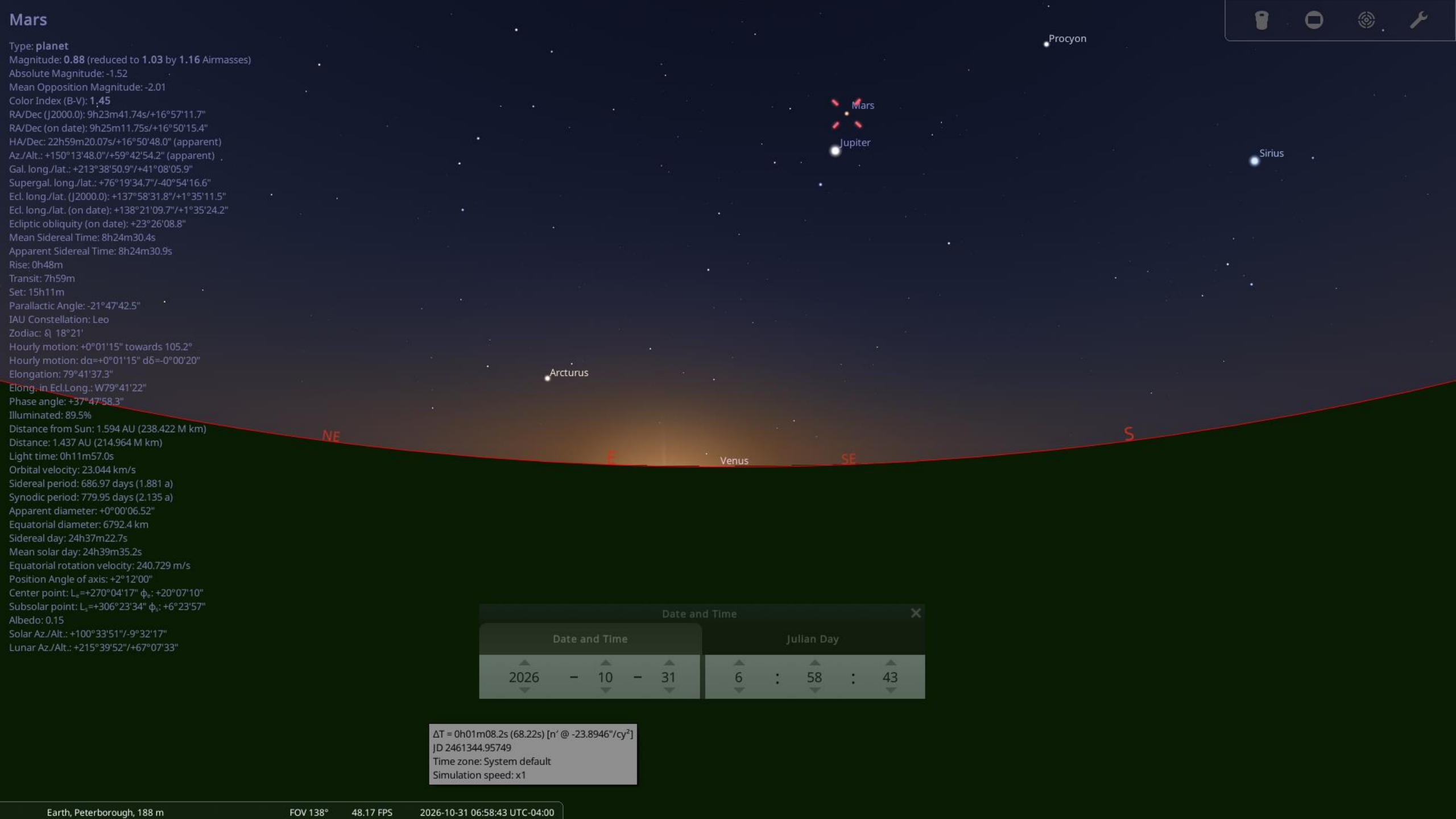
Date and Time | Julian Day

2026 – 10 – 31 | 0 : 48 : 4

Earth, Peterborough, 188 m | FOV 3.53° | 15.41 FPS | 2026-10-31 00:48:05 UTC-04:00

Mars

- On October 31st, Mars is well place high in the southeastern sky at sunrise.


Mars
Type: planet
Magnitude: 0.88 (reduced to 1.03 by 1.16 Airmasses)
Absolute Magnitude: -1.52
Mean Opposition Magnitude: -2.01
Color Index (B-V): 1.45
RA/Dec (J2000.0): 9h23m41.74s/+16°57'11.7"
RA/Dec (on date): 9h25m11.75s/+16°50'15.4"
HA/Dec: 22h59m20.07s/+16°50'48.0" (apparent)
Az./Alt.: +150°13'48.0"/+59°42'54.2" (apparent)
Gal. long./lat.: +213°38'50.9"/+41°08'05.9"
Supergal. long./lat.: +76°19'34.7"/-40°54'16.6"
Ecl. long./lat. (J2000.0): +137°58'31.8"/+1°35'11.5"
Ecl. long./lat. (on date): +138°21'09.7"/+1°35'24.2"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 8h24m30.4s
Apparent Sidereal Time: 8h24m30.9s
Rise: 0h48m
Transit: 7h59m
Set: 15h11m
Parallactic Angle: -21°47'42.5"
IAU Constellation: Leo
Zodiac: ♌ 18°21'
Hourly motion: +0°01'15" towards 105.2°
Hourly motion: dα=+0°01'15" dδ=-0°00'20"
Elongation: 79°41'37.3"
Elong. in Ecl.Long.: W79°41'22"
Phase angle: +37°47'58.3"
Illuminated: 89.5%
Distance from Sun: 1.594 AU (238.422 M km)
Distance: 1.437 AU (214.964 M km)
Light time: 0h11m57.0s
Orbital velocity: 23.044 km/s
Sidereal period: 686.97 days (1.881 a)
Synodic period: 779.95 days (2.135 a)
Apparent diameter: +0°00'06.52"
Equatorial diameter: 6792.4 km
Sidereal day: 24h37m22.7s
Mean solar day: 24h39m35.2s
Equatorial rotation velocity: 240.729 m/s
Position Angle of axis: +2°12'00"
Center point: L0=+270°04'17" ϕ0: +20°07'10"
Subsolar point: L0=+306°23'34" ϕ0: +6°23'57"
Albedo: 0.15
Solar Az./Alt.: +100°33'51"/-9°32'17"
Lunar Az./Alt.: +215°39'52"/+67°07'33"
Procyon
Mars
Jupiter
Sirius
Arcturus
NE
E
Venus
SE
S
Date and Time
Date and Time
Julian Day
2026 - 10 - 31
6 : 58 : 43
ΔT = 0h01m08.2s (68.22s) [n' @ -23.8946"/cy²]
JD 2461344.95749
Time zone: System default
Simulation speed: x1
Earth, Peterborough, 188 m
FOV 138°
48.17 FPS
2026-10-31 06:58:43 UTC-04:00

JUPITER

Jupiter

- On October 1st, Jupiter rises at 2:59 a.m. in the early morning eastern sky.

Jupiter

Type: **planet**
Magnitude: **-1.87** (reduced to **1.72** by **27.61** Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): **0.96**
RA/Dec (J2000.0): 9h27m33.29s/+15°36'28.1"
RA/Dec (on date): 9h29m02.32s/+15°29'27.7"
HA/Dec: 17h01m06.15s/+15°47'32.9" (apparent)
Az./Alt.: +68°33'12.0"/+0°51'41.6" (apparent)
Gal. long./lat.: +215°46'14.7"/+41°29'15.3"
Supergal. long./lat.: +78°29'00.0"/-41°01'37.9"
Ecl. long./lat. (J2000.0): +139°16'27.4"/+0°35'44.8"
Ecl. long./lat. (on date): +139°39'01.0"/+0°35'57.4"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 2h28m56.0s
Apparent Sidereal Time: 2h28m56.5s
Rise: 2h56m
Transit: 10h01m
Set: 17h06m
Parallactic Angle: -43°48'35.1"
IAU Constellation: Leo
Zodiac: ♌ 19°39'
Hourly motion: +0°00'27" towards 106.7°
Hourly motion: dα=+0°00'27" dδ=-0°00'08"
Elongation: 48°29'11.2"
Elong. in Ecl.Long.: W48°29'01"
Phase angle: +8°07'17.8"
Illuminated: 99.5%
Distance from Sun: 5.307 AU (793.923 M km)
Distance: 5.917 AU (885.239 M km)
Light time: 0h49m12.8s
Orbital velocity: 12.805 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'33.32"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +20°26'03"
Center point: L_{IIe}=+291°03'27" ϕ_e: +0°06'33"
Subsolar point: L_{IIs}=+299°10'33" ϕ_s: +0°19'53"
Albedo: 0.51
Solar Az./Alt.: +41°15'30"/-41°16'09"
Lunar Az./Alt.: +118°25'43"/+60°51'05"

Procyon

Jupiter

E

Date and Time

Date and Time | Julian Day

2026 – 10 – 1 | 3 : 2 : 4

Earth, Peterborough, 188 m | FOV 31.8° | 17.86 FPS | 2026-10-01 03:02:04 UTC-04:00

Jupiter

- On October 1st, Jupiter is high in the southeastern sky at sunrise.


Jupiter
Type: planet
Magnitude: -1.87 (reduced to -1.66 by 1.63 Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): 0.96
RA/Dec (J2000.0): 9h27m39.52s/+15°36'00.1"
RA/Dec (on date): 9h29m08.55s/+15°28'59.5"
HA/Dec: 20h32m21.47s/+15°29'53.9" (apparent)
Az./Alt.: +106°27'00.9"/+37°44'22.5" (apparent)
Gal. long./lat.: +215°47'35.5"/+41°30'27.6"
Supergal. long./lat.: +78°30'42.7"/-41°00'44.2"
Ecl. long./lat. (J2000.0): +139°18'01.7"/+0°35'46.4"
Ecl. long./lat. (on date): +139°40'35.3"/+0°35'59.0"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 6h01m25.7s
Apparent Sidereal Time: 6h01m26.2s
Rise: 2h56m
Transit: 10h01m
Set: 17h06m
Parallactic Angle: -45°25'19.1"
IAU Constellation: Leo
Zodiac: ♌ 19°40'
Hourly motion: +0°00'27" towards 106.9°
Hourly motion: dα=+0°00'26" dδ=-0°00'08"
Elongation: 48°36'20.5"
Elong. in Ecl.Long.: W48°36'10"
Phase angle: +8°08'09.8"
Illuminated: 99.5%
Distance from Sun: 5.307 AU (793.930 M km)
Distance: 5.916 AU (884.978 M km)
Light time: 0h49m12.0s
Orbital velocity: 12.805 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'33.33"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +20°26'28"
Center point: L_{IIe}=+59°06'42" ϕ_e: +0°06'28"
Subsolar point: L_{IIs}=+67°14'40" ϕ_s: +0°19'50"
Albedo: 0.51
Solar Az./Alt.: +87°17'12"/-7°28'36"
Lunar Az./Alt.: +233°55'49"/+64°30'01"
Mars
Sirius
Jupiter
NE
E
SE
Date and Time
Date and Time
Julian Day
2026 - 10 - 1
6 : 33 : 59
Earth, Peterborough, 188 m
FOV 121°
17.51 FPS
2026-10-01 06:33:59 UTC-04:00

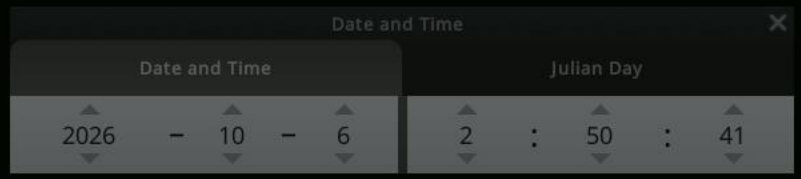
Jupiter – Lunar Occultation

- On October 6th, Jupiter and a waning crescent Moon rise together in a close conjunction.
- Both the Moon and Jupiter rise together at 2:50 a.m.
- 90 minutes later the moon occults Jupiter head on.

Jupiter

Type: **planet**
Magnitude: **-1.89** (reduced to **1.11** by **22.86** Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): **0.96**
RA/Dec (J2000.0): 9h31m00.76s/+15°20'44.0"
RA/Dec (on date): 9h32m29.63s/+15°13'38.3"
HA/Dec: 17h05m45.67s/+15°28'46.5" (apparent)
Az./Alt.: +69°34'41.0"/+1°24'53.4" (apparent)
Gal. long./lat.: +216°31'40.9"/+42°09'15.1"
Supergal. long./lat.: +79°25'43.4"/-40°31'36.7"
Ecl. long./lat. (J2000.0): +140°08'51.4"/+0°36'33.0"
Ecl. long./lat. (on date): +140°31'26.1"/+0°36'45.4"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 2h37m14.0s
Apparent Sidereal Time: 2h37m14.5s
Rise: 2h41m
Transit: 9h45m
Set: 16h49m
Parallactic Angle: -44°06'11.9"
IAU Constellation: Leo
Zodiac: ♌ 20°31'
Hourly motion: +0°00'26" towards 106.9°
Hourly motion: dα=+0°00'25" dδ=-0°00'08"
Elongation: 52°31'37.2"
Elong. in Ecl.Long.: W52°31'28"
Phase angle: +8°35'48.6"
Illuminated: 99.4%
Distance from Sun: 5.309 AU (794.165 M km)
Distance: 5.857 AU (876.245 M km)
Light time: 0h48m42.8s
Orbital velocity: 12.801 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'33.66"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +20°39'51"
Center point: L_{IIe}=+314°57'32" ϕ_e: +0°03'49"
Subsolar point: L_{IIs}=+323°33'07" ϕ_s: +0°18'35"
Albedo: 0.51
Solar Az./Alt.: +39°31'25"/-44°06'53"
Lunar Az./Alt.: +70°11'55"/+2°18'19"





Jupiter – Lunar Occultation

- On October 6th, at 4:19 a.m. the crescent Moon makes first contact with Jupiter's moons.

Jupiter

Type: **planet**
Magnitude: **-1.89** (reduced to **-1.43** by **3.54** Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): **0.96**
RA/Dec (J2000.0): 9h31m03.23s/+15°20'32.9"
RA/Dec (on date): 9h32m32.09s/+15°13'27.1"
HA/Dec: 18h32m31.64s/+15°15'42.1" (apparent)
Az./Alt.: +84°25'59.8"/+16°21'00.9" (apparent)
Gal. long./lat.: +216°32'13.5"/+42°09'43.6"
Supergal. long./lat.: +79°26'23.5"/-40°31'15.0"
Ecl. long./lat. (J2000.0): +140°09'28.8"/+0°36'33.7"
Ecl. long./lat. (on date): +140°32'03.5"/+0°36'46.1"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 4h04m53.0s
Apparent Sidereal Time: 4h04m53.5s
Rise: 2h41m
Transit: 9h45m
Set: 16h49m
Parallactic Angle: -47°35'29.3"
IAU Constellation: Leo
Zodiac: ♌ 20°32'
Hourly motion: +0°00'26" towards 106.9°
Hourly motion: dα=+0°00'25" dδ=-0°00'08"
Elongation: 52°34'37.0"
Elong. in Ecl.Long.: W52°34'28"
Phase angle: +8°36'08.6"
Illuminated: 99.4%
Distance from Sun: 5.309 AU (794.168 M km)
Distance: 5.857 AU (876.130 M km)
Light time: 0h48m42.5s
Orbital velocity: 12.801 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'33.66"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +20°40'01"
Center point: L_{IIe}=+7°46'47" ϕ_e: +0°03'47"
Subsolar point: L_{IIs}=+16°22'41" ϕ_s: +0°18'34"
Albedo: 0.51
Solar Az./Alt.: +62°37'07"/-31°56'41"
Lunar Az./Alt.: +84°40'35"/+16°36'07"



Date and Time

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Jupiter – Lunar Occultation

- On October 6th, at 4:23 a.m. the crescent Moon makes first contact with the planet Jupiter.

Jupiter

Type: **planet**
Magnitude: **-1.89** (reduced to **-1.46** by **3.35** Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): **0.96**
RA/Dec (J2000.0): 9h31m03.38s/+15°20'32.2"
RA/Dec (on date): 9h32m32.25s/+15°13'26.4"
HA/Dec: 18h37m56.14s/+15°15'33.5" (apparent)
Az./Alt.: +85°21'12.2"/+17°18'44.9" (apparent)
Gal. long./lat.: +216°32'15.5"/+42°09'45.4"
Supergal. long./lat.: +79°26'26.0"/-40°31'13.7"
Ecl. long./lat. (J2000.0): +140°09'31.1"/+0°36'33.7"
Ecl. long./lat. (on date): +140°32'05.8"/+0°36'46.1"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 4h10m18.2s
Apparent Sidereal Time: 4h10m18.7s
Rise: 2h41m
Transit: 9h45m
Set: 16h49m
Parallactic Angle: -47°40'51.4"
IAU Constellation: Leo
Zodiac: ♌ 20°32'
Hourly motion: +0°00'26" towards 106.9°
Hourly motion: dα=+0°00'25" dδ=-0°00'08"
Elongation: 52°34'48.1"
Elong. in Ecl.Long.: W52°34'39"
Phase angle: +8°36'09.8"
Illuminated: 99.4%
Distance from Sun: 5.309 AU (794.168 M km)
Distance: 5.857 AU (876.123 M km)
Light time: 0h48m42.4s
Orbital velocity: 12.801 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'33.66"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +20°40'01"
Center point: L_{IIe}=+11°02'45" ϕ_x: +0°03'47"
Subsolar point: L_{IIs}=+19°38'41" ϕ_x: +0°18'34"
Albedo: 0.51
Solar Az./Alt.: +63°49'51"/-31°04'56"
Lunar Az./Alt.: +85°34'43"/+17°31'14"



Date and Time

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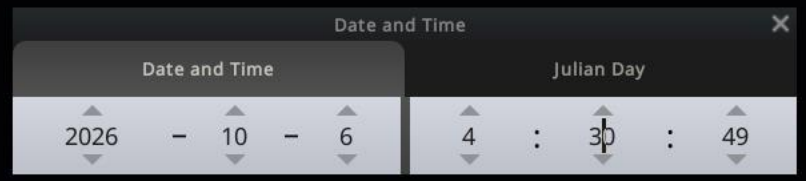
2026 – 10 – 6 | 4 : 23 : 30

Jupiter – Lunar Occultation

- On October 6th, at 4:30 a.m. the crescent Moon completely occults Jupiter.

Jupiter

Type: **planet**
Magnitude: **-1.89** (reduced to **-1.49** by **3.13** Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): **0.96**
RA/Dec (J2000.0): 9h31m03.59s/+15°20'31.2"
RA/Dec (on date): 9h32m32.45s/+15°13'25.4"
HA/Dec: 18h45m15.14s/+15°15'23.2" (apparent)
Az./Alt.: +86°36'12.3"/+18°36'59.0" (apparent)
Gal. long./lat.: +216°32'18.2"/+42°09'47.7"
Supergal. long./lat.: +79°26'29.3"/-40°31'11.9"
Ecl. long./lat. (J2000.0): +140°09'34.2"/+0°36'33.8"
Ecl. long./lat. (on date): +140°32'08.9"/+0°36'46.2"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 4h17m38.1s
Apparent Sidereal Time: 4h17m38.6s
Rise: 2h41m
Transit: 9h45m
Set: 16h49m
Parallactic Angle: -47°46'36.3"
IAU Constellation: Leo
Zodiac: ♌ 20°32'
Hourly motion: +0°00'26" towards 106.9°
Hourly motion: dα=+0°00'25" dδ=-0°00'08"
Elongation: 52°35'03.2"
Elong. in Ecl.Long.: W52°34'54"
Phase angle: +8°36'11.5"
Illuminated: 99.4%
Distance from Sun: 5.309 AU (794.168 M km)
Distance: 5.856 AU (876.114 M km)
Light time: 0h48m42.4s
Orbital velocity: 12.801 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'33.66"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +20°40'02"
Center point: L_{IIe}=+15°27'50" ϕ_e: +0°03'46"
Subsolar point: L_{IIs}=+24°03'48" ϕ_s: +0°18'34"
Albedo: 0.51
Solar Az./Alt.: +65°26'22"/-29°54'05"
Lunar Az./Alt.: +86°48'17"/+18°45'57"



Jupiter – Lunar Occultation

- On October 6th, at 5:18 a.m. Jupiter begins to reappear from behind the moon.

Jupiter

Type: **planet**
Magnitude: **-1.89** (reduced to **-1.61** by **2.19** Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): **0.96**
RA/Dec (J2000.0): 9h31m04.93s/+15°20'25.1"
RA/Dec (on date): 9h32m33.80s/+15°13'19.3"
HA/Dec: 19h33m15.12s/+15°14'37.5" (apparent)
Az./Alt.: +95°03'47.2"/+27°11'15.1" (apparent)
Gal. long./lat.: +216°32'36.1"/+42°10'03.3"
Supergal. long./lat.: +79°26'51.2"/-40°31'00.1"
Ecl. long./lat. (J2000.0): +140°09'54.7"/+0°36'34.1"
Ecl. long./lat. (on date): +140°32'29.4"/+0°36'46.6"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 5h05m42.5s
Apparent Sidereal Time: 5h05m43.0s
Rise: 2h41m
Transit: 9h45m
Set: 16h49m
Parallactic Angle: -47°38'14.8"
IAU Constellation: Leo
Zodiac: ♌ 20°32'
Hourly motion: +0°00'26" towards 107.0°
Hourly motion: dα=+0°00'25" dδ=-0°00'08"
Elongation: 52°36'41.6"
Elong. in Ecl.Long.: W52°36'32"
Phase angle: +8°36'22.3"
Illuminated: 99.4%
Distance from Sun: 5.309 AU (794.170 M km)
Distance: 5.856 AU (876.051 M km)
Light time: 0h48m42.2s
Orbital velocity: 12.801 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'33.67"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +20°40'08"
Center point: L_{IIe}=+44°26'03" ϕ_e: +0°03'45"
Subsolar point: L_{IIs}=+53°02'12" ϕ_s: +0°18'33"
Albedo: 0.51
Solar Az./Alt.: +75°14'17"/-21°50'11"
Lunar Az./Alt.: +95°06'57"/+26°57'35"



Date and Time

Date and Time | Julian Day

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Earth, Peterborough, 188 m | FOV 1.13° | 28.63 FPS | 2026-10-06 05:18:45 UTC-04:00

Jupiter – Lunar Occultation

- On October 6th, at 5:27 a.m. 4th contact. Jupiter fully emerged from behind the moon.

- The Occultation ends.

Jupiter

Type: **planet**
Magnitude: **-1.89** (reduced to **-1.62** by **2.07** Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): **0.96**
RA/Dec (J2000.0): 9h31m05.19s/+15°20'24.0"
RA/Dec (on date): 9h32m34.05s/+15°13'18.1"
HA/Dec: 19h42m26.96s/+15°14'31.5" (apparent)
Az./Alt.: +96°45'38.4"/+28°49'23.5" (apparent)
Gal. long./lat.: +216°32'39.5"/+42°10'06.3"
Supergal. long./lat.: +79°26'55.4"/-40°30'57.8"
Ecl. long./lat. (J2000.0): +140°09'58.6"/+0°36'34.2"
Ecl. long./lat. (on date): +140°32'33.3"/+0°36'46.6"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 5h14m55.0s
Apparent Sidereal Time: 5h14m55.5s
Rise: 2h41m
Transit: 9h45m
Set: 16h49m
Parallactic Angle: -47°26'41.4"
IAU Constellation: Leo
Zodiac: ♌ 20°32'
Hourly motion: +0°00'26" towards 107.0°
Hourly motion: dα=+0°00'25" dδ=-0°00'08"
Elongation: 52°37'00.4"
Elong. in Ecl.Long.: W52°36'51"
Phase angle: +8°36'24.4"
Illuminated: 99.4%
Distance from Sun: 5.309 AU (794.170 M km)
Distance: 5.856 AU (876.039 M km)
Light time: 0h48m42.2s
Orbital velocity: 12.801 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'33.67"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +20°40'09"
Center point: L_{IIe}=+49°59'00" ϕ_e: +0°03'45"
Subsolar point: L_{IIs}=+58°35'11" ϕ_s: +0°18'33"
Albedo: 0.51
Solar Az./Alt.: +76°59'44"/-20°14'34"
Lunar Az./Alt.: +96°47'03"/+28°31'31"



Date and Time

Date and Time | Julian Day

2026 – 10 – 6 | 5 : 27 : 56

Jupiter – Lunar Occultation

- On October 31st, Jupiter rises at 1:23 a.m. in the early morning eastern sky.

Jupiter

Type: **planet**
Magnitude: **-2.00** (reduced to **2.71** by **37.36** Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): **0.96**
RA/Dec (J2000.0): 9h45m37.53s/+14°12'57.9"
RA/Dec (on date): 9h47m05.64s/+14°05'30.5"
HA/Dec: 17h02m26.72s/+14°28'44.3" (apparent)
Az./Alt.: +69°41'49.2"/+0°08'19.6" (apparent)
Gal. long./lat.: +219°54'26.9"/+44°56'21.9"
Supergal. long./lat.: +83°16'19.7"/-38°18'15.1"
Ecl. long./lat. (J2000.0): +143°51'19.7"/+0°41'08.0"
Ecl. long./lat. (on date): +144°13'57.3"/+0°41'19.0"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 2h47m59.8s
Apparent Sidereal Time: 2h48m00.3s
Rise: 1h22m
Transit: 8h21m
Set: 15h20m
Parallactic Angle: -43°53'14.7"
IAU Constellation: Leo
Zodiac: ♌ 24°13'
Hourly motion: +0°00'19" towards 107.1°
Hourly motion: dα=+0°00'18" dδ=-0°00'06"
Elongation: 73°34'35.1"
Elong. in Ecl.Long.: W73°34'30"
Phase angle: +10°19'10.0"
Illuminated: 99.2%
Distance from Sun: 5.317 AU (795.361 M km)
Distance: 5.511 AU (824.493 M km)
Light time: 0h45m50.2s
Orbital velocity: 12.781 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'35.77"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +21°35'08"
Center point: L_{IIe}=+56°49'39" ϕ_x: -0°09'06"
Subsolar point: L_{IIs}=+67°08'26" ϕ_x: +0°12'06"
Albedo: 0.51
Solar Az./Alt.: +12°31'30"/-59°18'01"
Lunar Az./Alt.: +86°02'57"/+33°24'56"



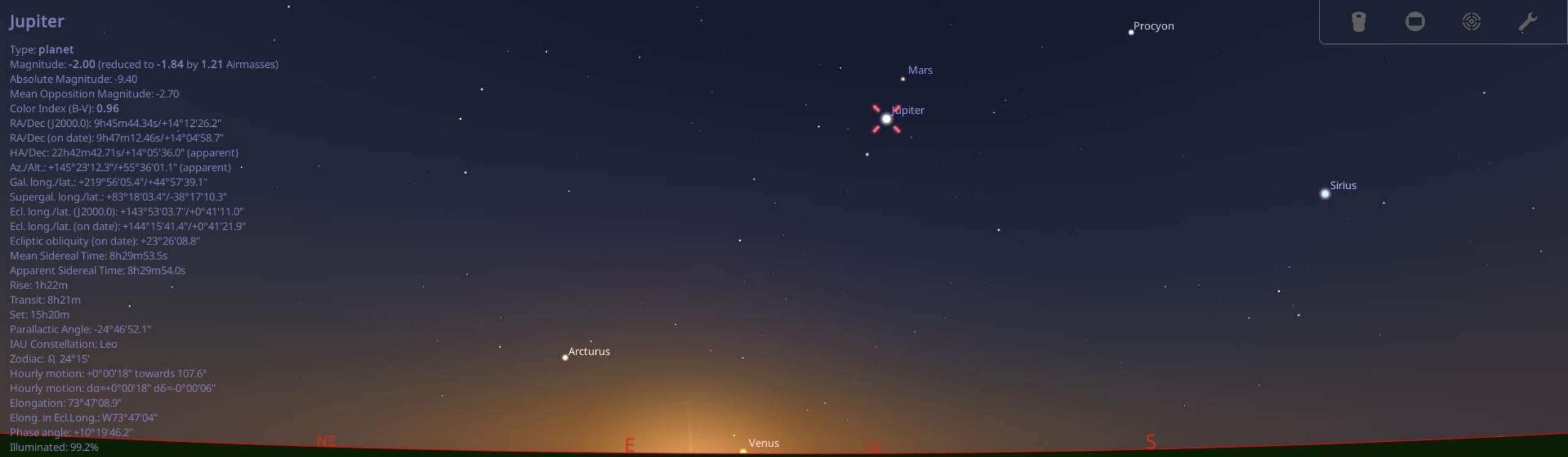
Date and Time

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Jupiter – Lunar Occultation

- On October 31st, Jupiter is high in the southeastern sky at sunrise.



Jupiter

Type: **planet**
Magnitude: **-2.00** (reduced to **-1.84** by **1.21** Airmasses)
Absolute Magnitude: -9.40
Mean Opposition Magnitude: -2.70
Color Index (B-V): **0.96**
RA/Dec (J2000.0): 9h45m44.34s/+14°12'26.2"
RA/Dec (on date): 9h47m12.46s/+14°04'58.7"
HA/Dec: 22h42m42.71s/+14°05'36.0" (apparent)
Az./Alt.: +145°23'12.3"/+55°36'01.1" (apparent)
Gal. long./lat.: +219°56'05.4"/+44°57'39.1"
Supergal. long./lat.: +83°18'03.4"/-38°17'10.3"
Ecl. long./lat. (J2000.0): +143°53'03.7"/+0°41'11.0"
Ecl. long./lat. (on date): +144°15'41.4"/+0°41'21.9"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 8h29m53.5s
Apparent Sidereal Time: 8h29m54.0s
Rise: 1h22m
Transit: 8h21m
Set: 15h20m
Parallactic Angle: -24°46'52.1"
IAU Constellation: Leo
Zodiac: ♌ 24°15'
Hourly motion: +0°00'18" towards 107.6°
Hourly motion: dα=+0°00'18" dδ=-0°00'06"
Elongation: 73°47'08.9"
Elong. in Ecl.Long.: W73°47'04"
Phase angle: +10°19'46.2"
Illuminated: 99.2%
Distance from Sun: 5.317 AU (795.372 M km)
Distance: 5.508 AU (823.954 M km)
Light time: 0h45m48.4s
Orbital velocity: 12.781 km/s
Sidereal period: 4331.87 days (11.860 a)
Synodic period: 398.89 days (1.092 a)
Apparent diameter: +0°00'35.79"
Equatorial diameter: 142984.0 km
Sidereal day: 9h55m40.6s
Mean solar day: 9h55m44.0s
Equatorial rotation velocity: 12.568 km/s
Position Angle of axis: +21°35'32"
Center point: L_{IIe}=+262°52'39" ϕ_e: -0°09'13"
Subsolar point: L_{IIs}=+273°12'03" ϕ_s: +0°12'02"
Albedo: 0.51
Solar Az./Alt.: +101°28'24"/-8°35'45"
Lunar Az./Alt.: +218°18'19"/+66°33'06"

Date and Time

Date and Time | Julian Day

2026 – 10 – 31 | 7 : 4 : 5

SATURN

Saturn

- On October 1st, Saturn is low on the western horizon at sunrise.

Saturn

Type: **planet**
Magnitude: **0.34** (reduced to **1.07** by **5.66** Airmasses)
Absolute Magnitude: -8.88
Mean Opposition Magnitude: 0.67
Color Index (B-V): **1.22**
RA/Dec (J2000.0): 0h45m18.10s/+1°55'10.2"
RA/Dec (on date): 0h46m41.09s/+2°04'00.3"
HA/Dec: 5h12m34.93s/+2°07'48.0" (apparent)
Az./Alt.: +263°11'27.8"/+9°57'18.8" (apparent)
Gal. long./lat.: +119°46'36.0"/-60°54'52.8"
Supergal. long./lat.: +297°38'32.5"/+2°51'24.3"
Ecl. long./lat. (J2000.0): +11°09'49.9"/-2°42'48.4"
Ecl. long./lat. (on date): +11°32'24.3"/-2°42'43.2"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 5h59m30.9s
Apparent Sidereal Time: 5h59m31.4s
Rise: 19h06m
Transit: 1h20m
Set: 7h30m
Parallactic Angle: +45°19'38.4"
IAU Constellation: Cet
Zodiac: ♈ 11°32'
Hourly motion: +0°00'12" towards 246.7°
Hourly motion: dα=-0°00'11" dδ=-0°00'05"
Elongation: 175°45'29.3"
Elong. in Ecl.Long.: W176°44'17"
Phase angle: +0°26'59.1"
Illuminated: 100.0%
Distance from Sun: 9.435 AU (1411.384 M km)
Distance: 8.436 AU (1261.972 M km)
Light time: 1h10m09.5s
Orbital velocity: 9.751 km/s
Sidereal period: 10760.00 days (29.459 a)
Synodic period: 378.09 days (1.035 a)
Apparent diameter: +0°00'19.70", with rings: +0°00'45.89"
Equatorial diameter: 120536.0 km
Sidereal day: 10h39m22.4s
Mean solar day: 10h39m24.0s
Equatorial rotation velocity: 9.871 km/s
Position Angle of axis: +3°12'45"
Center point: L_{IIIe}=+305°58'46" ϕ_e: -7°37'33"
Subsolar point: L_{IIIs}=+306°25'15" ϕ_s: -7°43'54"
Albedo: 0.50
Solar Az./Alt.: +86°57'03"/-7°49'02"
Lunar Az./Alt.: +233°11'20"/+64°45'56"



W

Date and Time

Date and Time | Julian Day

2026 – 10 – 1 6 : 32 : 4

Earth, Peterborough, 188 m FOV 31.8° 17.86 FPS 2026-10-01 06:32:04 UTC-04:00

Saturn

- On October 1st, Saturn is low on the eastern horizon at evening twilight.

- Saturn reaches opposition to Earth on October 4th, with a maximum magnitude of +0.3 in the evening sky.

- Now visible all night.

Saturn

Type: **planet**
Magnitude: **0.34** (reduced to **2.02** by **12.85** Airmasses)
Absolute Magnitude: -8.88
Mean Opposition Magnitude: 0.67
Color Index (B-V): **1.22**
RA/Dec (J2000.0): 0h45m08.87s/+1°54'09.7"
RA/Dec (on date): 0h46m31.87s/+2°03'00.0"
HA/Dec: 18h12m29.74s/+2°11'26.5" (apparent)
Az./Alt.: +90°36'46.7"/+3°45'55.4" (apparent)
Gal. long./lat.: +119°41'45.6"/-60°55'46.3"
Supergal. long./lat.: +297°36'56.8"/+2°53'21.2"
Ecl. long./lat. (J2000.0): +11°07'18.8"/-2°42'50.0"
Ecl. long./lat. (on date): +11°29'53.4"/-2°42'44.9"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 18h58m26.4s
Apparent Sidereal Time: 18h58m26.9s
Rise: 19h06m
Transit: 1h20m
Set: 7h30m
Parallactic Angle: -45°44'22.1"
IAU Constellation: Cet
Zodiac: ♈ 11°29'
Hourly motion: +0°00'12" towards 246.7°
Hourly motion: dα=-0°00'11" dδ=-0°00'05"
Elongation: 176°10'36.4"
Elong. in Ecl.Long.: W177°18'25"
Phase angle: +0°24'19.4"
Illuminated: 100.0%
Distance from Sun: 9.434 AU (1411.360 M km)
Distance: 8.435 AU (1261.901 M km)
Light time: 1h10m09.2s
Orbital velocity: 9.751 km/s
Sidereal period: 10760.00 days (29.459 a)
Synodic period: 378.09 days (1.035 a)
Apparent diameter: +0°00'19.70", with rings: +0°00'45.90"
Equatorial diameter: 120536.0 km
Sidereal day: 10h39m22.4s
Mean solar day: 10h39m24.0s
Equatorial rotation velocity: 9.871 km/s
Position Angle of axis: +3°12'58"
Center point: L_{IIIe}=+23°23'43" ϕ_e: -7°36'24"
Subsolar point: L_{IIIs}=+23°46'54" ϕ_s: -7°44'23"
Albedo: 0.50
Solar Az./Alt.: +272°03'24"/-7°06'24"
Lunar Az./Alt.: +25°32'26"/-14°23'42"



E

Date and Time

Date and Time | Julian Day

2026 – 10 – 1 | 19 : 28 : 52

Earth, Peterborough, 188 m | FOV 19.3° | 47.9 FPS | 2026-10-01 19:28:52 UTC-04:00

Saturn

- On October 23rd, Saturn shares a wide conjunction with a gibbous moon.

- Both objects rise together in the evening eastern twilight sky,

Saturn

Type: **planet**
Magnitude: **0.42** (reduced to **0.99** by **4.42** Airmasses)
Absolute Magnitude: -8.88
Mean Opposition Magnitude: 0.67
Color Index (B-V): **1.22**
RA/Dec (J2000.0): 0h38m57.68s/+1°15'29.6"
RA/Dec (on date): 0h40m20.73s/+1°24'23.3"
HA/Dec: 19h07m05.96s/+1°27'22.5" (apparent)
Az./Alt.: +100°50'32.6"/+12°57'29.4" (apparent)
Gal. long./lat.: +116°23'42.1"/-61°27'18.3"
Supergal. long./lat.: +296°34'34.3"/+4°12'15.0"
Ecl. long./lat. (J2000.0): +9°26'42.2"/-2°42'05.8"
Ecl. long./lat. (on date): +9°49'19.3"/-2°42'01.3"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 19h47m14.4s
Apparent Sidereal Time: 19h47m14.9s
Rise: 17h36m
Transit: 23h43m
Set: 5h55m
Parallactic Angle: -44°40'46.7"
IAU Constellation: Cet
Zodiac: ♈ 9°49'
Hourly motion: +0°00'11" towards 248.4°
Hourly motion: dα=-0°00'10" dδ=-0°00'04"
Elongation: 159°06'05.0"
Elong. in Ecl.Long.: E159°16'08"
Phase angle: +2°09'25.9"
Illuminated: 100.0%
Distance from Sun: 9.428 AU (1410.359 M km)
Distance: 8.492 AU (1270.328 M km)
Light time: 1h10m37.4s
Orbital velocity: 9.758 km/s
Sidereal period: 10760.00 days (29.459 a)
Synodic period: 378.09 days (1.035 a)
Apparent diameter: +0°00'19.57", with rings: +0°00'45.59"
Equatorial diameter: 120536.0 km
Sidereal day: 10h39m22.4s
Mean solar day: 10h39m24.0s
Equatorial rotation velocity: 9.871 km/s
Position Angle of axis: +3°21'33"
Center point: L_{IIIe}=+201°04'39" ϕ_e: -6°52'07"
Subsolar point: L_{IIIs}=+199°15'42" ϕ_s: -8°04'04"
Albedo: 0.50
Solar Az./Alt.: +260°28'53"/-6°58'11"
Lunar Az./Alt.: +106°46'14"/+20°04'36"

Moon

Saturn

E

SE

Date and Time

Date and Time | Julian Day

2026 – 10 – 23 | 18 : 51 : 2

Earth, Peterborough, 188 m | FOV 52.4° | 17.86 FPS | 2026-10-23 18:51:02 UTC-04:00

Saturn

- On October 31st, Saturn sets at 5:17 a.m. in the western pre-dawn sky.

Saturn

Type: **planet**
Magnitude: **0.46** (reduced to **5.02** by **36.03** Airmasses)
Absolute Magnitude: -8.88
Mean Opposition Magnitude: 0.67
Color Index (B-V): **1.22**
RA/Dec (J2000.0): 0h37m05.92s/+1°04'30.8"
RA/Dec (on date): 0h38m29.03s/+1°13'25.7"
HA/Dec: 6h04m59.70s/+1°35'18.9" (apparent)
Az./Alt.: +272°00'32.2"/+0°12'57.8" (apparent)
Gal. long./lat.: +115°22'57.3"/-61°35'10.2"
Supergal. long./lat.: +296°16'24.2"/+4°36'10.9"
Ecl. long./lat. (J2000.0): +8°56'40.1"/-2°41'13.4"
Ecl. long./lat. (on date): +9°19'18.5"/-2°41'09.1"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 6h44m57.9s
Apparent Sidereal Time: 6h44m58.4s
Rise: 17h03m
Transit: 23h10m
Set: 5h21m
Parallactic Angle: +45°41'10.9"
IAU Constellation: Cet
Zodiac: ♈ 9°19'
Hourly motion: +0°00'10" towards 248.9°
Hourly motion: dα=-0°00'09" dδ=-0°00'03"
Elongation: 151°14'00.3"
Elong. in Ecl.Long.: E151°20'54"
Phase angle: +2°54'20.7"
Illuminated: 99.9%
Distance from Sun: 9.425 AU (1410.021 M km)
Distance: 8.543 AU (1278.009 M km)
Light time: 1h11m03.0s
Orbital velocity: 9.760 km/s
Sidereal period: 10760.00 days (29.459 a)
Synodic period: 378.09 days (1.035 a)
Apparent diameter: +0°00'19.45", with rings: +0°00'45.32"
Equatorial diameter: 120536.0 km
Sidereal day: 10h39m22.4s
Mean solar day: 10h39m24.0s
Equatorial rotation velocity: 9.871 km/s
Position Angle of axis: +3°24'06"
Center point: L_{IIIe}=+110°55'01" ϕ_e: -6°39'24"
Subsolar point: L_{IIIs}=+108°24'46" ϕ_s: -8°10'43"
Albedo: 0.50
Solar Az./Alt.: +83°16'20"/-27°12'24"
Lunar Az./Alt.: +154°41'10"/+69°03'05"



Date and Time

Date and Time | Julian Day

2026 – 10 – 31 | 5 : 19 : 26

Earth, Peterborough, 188 m | FOV 9.9° | 18.66 FPS | 2026-10-31 05:19:27 UTC-04:00

Saturn

- On October 31st, Saturn is well placed above the eastern horizon at evening twilight.

Saturn

Type: **planet**
Magnitude: **0.46** (reduced to **0.92** by **3.53** Airmasses)
Absolute Magnitude: -8.88
Mean Opposition Magnitude: 0.67
Color Index (B-V): **1.22**
RA/Dec (J2000.0): 0h36m58.15s/+1°03'45.4"
RA/Dec (on date): 0h38m21.27s/+1°12'40.3"
HA/Dec: 19h27m34.07s/+1°15'04.5" (apparent)
Az./Alt.: +104°46'40.8"/+16°22'54.9" (apparent)
Gal. long./lat.: +115°18'43.1"/-61°35'41.6"
Supergal. long./lat.: +296°15'08.8"/+4°37'50.8"
Ecl. long./lat. (J2000.0): +8°54'35.0"/-2°41'09.4"
Ecl. long./lat. (on date): +9°17'13.6"/-2°41'05.1"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 20h05m45.6s
Apparent Sidereal Time: 20h05m46.1s
Rise: 17h03m
Transit: 23h10m
Set: 5h21m
Parallactic Angle: -43°48'11.2"
IAU Constellation: Cet
Zodiac: ♈ 9°17'
Hourly motion: +0°00'10" towards 249.1°
Hourly motion: dα=-0°00'09" dδ=-0°00'03"
Elongation: 150°39'00.2"
Elong. in Ecl.Long.: E150°45'44"
Phase angle: +2°57'32.9"
Illuminated: 99.9%
Distance from Sun: 9.425 AU (1409.996 M km)
Distance: 8.547 AU (1278.672 M km)
Light time: 1h11m05.2s
Orbital velocity: 9.760 km/s
Sidereal period: 10760.00 days (29.459 a)
Synodic period: 378.09 days (1.035 a)
Apparent diameter: +0°00'19.44", with rings: +0°00'45.29"
Equatorial diameter: 120536.0 km
Sidereal day: 10h39m22.4s
Mean solar day: 10h39m24.0s
Equatorial rotation velocity: 9.871 km/s
Position Angle of axis: +3°24'17"
Center point: L_{IIIe}=+200°36'24" ϕ_e: -6°38'31"
Subsolar point: L_{IIIs}=+198°03'10" ϕ_s: -8°11'13"
Albedo: 0.50
Solar Az./Alt.: +256°26'38"/-6°40'21"
Lunar Az./Alt.: +2°12'01"/-23°14'56"



E

SE

Date and Time

Date and Time | Julian Day

2026 – 10 – 31 | 18 : 38 : 3

Earth, Peterborough, 188 m | FOV 52.4° | 17.84 FPS | 2026-10-31 18:38:03 UTC-04:00

URANUS

Uranus

- On October 1st, Uranus is high in the southeastern sky at sunrise.


Uranus
Type: planet
Magnitude: 5.67 (reduced to 5.82 by 1.17 Airmasses)
Absolute Magnitude: -7.19
Mean Opposition Magnitude: 5.52
Color Index (B-V): 0.74
RA/Dec (J2000.0): 4h12m56.69s/+21°00'08.9"
RA/Dec (on date): 4h14m31.72s/+21°04'17.4"
HA/Dec: 1h41m43.12s/+21°04'46.9" (apparent)
Az./Alt.: +230°25'41.1"/+58°40'54.6" (apparent)
Gal. long./lat.: +173°32'29.8"/-21°29'47.1"
Supergal. long./lat.: +337°58'49.2"/-35°53'04.0"
Ecl. long./lat. (J2000.0): +65°08'24.9"/-0°09'24.1"
Ecl. long./lat. (on date): +65°30'58.4"/-0°09'04.9"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 5h56m15.9s
Apparent Sidereal Time: 5h56m16.4s
Rise: 21h13m
Transit: 4h47m
Set: 12h18m
Parallactic Angle: +36°14'41.7"
IAU Constellation: Tau
Zodiac: ♉ 5°30'
Hourly motion: +0°00'03" towards 260.6°
Hourly motion: dα=-0°00'03" dδ=-0°00'00"
Elongation: 122°45'34.2"
Elong. in Ecl.Long.: W122°45'34"
Phase angle: +2°28'55.8"
Illuminated: 100.0%
Distance from Sun: 19.441 AU (2908.366 M km)
Distance: 18.881 AU (2824.589 M km)
Light time: 2h37m01.8s
Orbital velocity: 6.724 km/s
Sidereal period: 30685.00 days (84.011 a)
Synodic period: 369.66 days (1.012 a)
Apparent diameter: +0°00'03.73", with rings: +0°00'14.27"
Equatorial diameter: 51118.0 km
Sidereal day: 17h14m24.0s
Mean solar day: 17h14m22.5s
Equatorial rotation velocity: 2587.521 m/s
Position Angle of axis: +291°22'05"
Center point: L_s=+304°35'06" ϕ_s: +75°25'27"
Subsolar point: L_s=+300°05'20" ϕ_s: +73°15'30"
Albedo: 0.66
Discovered: 17 March 1781 (W. Herschel)
Solar Az./Alt.: +86°22'46"/-8°23'45"
Lunar Az./Alt.: +231°54'04"/+65°12'38"
Moon
Betelgeuse
Sirius
Rigel
Saturn
S
SW
W
NW
Date and Time
Date and Time
Julian Day
2026 - 10 - 1
6 : 28 : 50
Earth, Peterborough, 188 m
FOV 117°
61.39 FPS
2026-10-01 06:28:50 UTC-04:00

Uranus

- On October 1st, Uranus rises at 9:22 p.m. in the eastern evening sky.

- Uranus is a few degrees south of the of M45 as a reference point.

Uranus

Type: **planet**
Magnitude: **5.67** (reduced to **10.09** by **34.71** Airmasses)
Absolute Magnitude: -7.19
Mean Opposition Magnitude: 5.52
Color Index (B-V): **0.74**
RA/Dec (J2000.0): 4h12m54.02s/+21°00'01.9"
RA/Dec (on date): 4h14m29.06s/+21°04'10.5"
HA/Dec: 16h31m45.09s/+21°26'58.2" (apparent)
Az./Alt.: +59°36'35.4"/+0°17'51.5" (apparent)
Gal. long./lat.: +173°32'08.1"/-21°30'19.3"
Supergal. long./lat.: +337°58'13.2"/-35°52'39.5"
Ecl. long./lat. (J2000.0): +65°07'46.9"/-0°09'24.3"
Ecl. long./lat. (on date): +65°30'20.5"/-0°09'05.0"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 20h44m47.1s
Apparent Sidereal Time: 20h44m47.6s
Rise: 21h13m
Transit: 4h47m
Set: 12h18m
Parallactic Angle: -41°33'06.1"
IAU Constellation: Tau
Zodiac: ♉ 5°30'
Hourly motion: +0°00'03" towards 261.1°
Hourly motion: dα=-0°00'03" dδ=-0°00'00"
Elongation: 123°22'19.3"
Elong. in Ecl.Long.: W123°22'19"
Phase angle: +2°27'52.4"
Illuminated: 100.0%
Distance from Sun: 19.441 AU (2908.349 M km)
Distance: 18.872 AU (2823.283 M km)
Light time: 2h36m57.5s
Orbital velocity: 6.724 km/s
Sidereal period: 30685.00 days (84.011 a)
Synodic period: 369.66 days (1.012 a)
Apparent diameter: +0°00'03.73", with rings: +0°00'14.28"
Equatorial diameter: 51118.0 km
Sidereal day: 17h14m24.0s
Mean solar day: 17h14m22.5s
Equatorial rotation velocity: 2587.521 m/s
Position Angle of axis: +291°20'34"
Center point: L_s=+252°56'55" ϕ_s: +75°24'54"
Subsolar point: L_s=+248°29'10" ϕ_s: +73°15'52"
Albedo: 0.66
Discovered: 17 March 1781 (W. Herschel)
Solar Az./Alt.: +291°53'21"/-25°37'14"
Lunar Az./Alt.: +45°31'19"/-3°31'08"



Date and Time

Date and Time | Julian Day

2026 – 10 – 1 | 21 : 14 : 55

Uranus

- On October 31st, Uranus is high in the western sky at sunrise .

- Uranus is a few degrees south of the of M45 as a reference point.


Uranus
Type: planet
Magnitude: 5.62 (reduced to 5.86 by 1.84 Airmasses)
Absolute Magnitude: -7.19
Mean Opposition Magnitude: 5.52
Color Index (B-V): 0.4
RA/Dec (J2000.0): 4h09m27.87s/+20°51'15.4"
RA/Dec (on date): 4h11m03.00s/+20°55'31.4"
HA/Dec: 4h15m24.57s/+20°56'30.7" (apparent)
Az./Alt.: +267°50'17.2"/+32°58'09.4" (apparent)
Gal. long./lat.: +173°03'50.5"/-22°11'36.6"
Supergal. long./lat.: +337°12'30.5"/-35°20'49.7"
Ecl. long./lat. (J2000.0): +64°18'51.0"/-0°09'16.8"
Ecl. long./lat. (on date): +64°41'28.6"/-0°08'58.1"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 8h26m32.1s
Apparent Sidereal Time: 8h26m32.6s
Rise: 19h12m
Transit: 2h46m
Set: 10h16m
Parallactic Angle: +49°58'30.5"
IAU Constellation: Tau
Zodiac: ♊ 4°41'
Hourly motion: +0°00'05" towards 260.1°
Hourly motion: dα=-0°00'06" dδ=-0°00'01"
Elongation: 153°21'07.4"
Elong. in Ecl.Long.: W153°21'08"
Phase angle: +1°18'46.1"
Illuminated: 100.0%
Distance from Sun: 19.436 AU (2907.551 M km)
Distance: 18.543 AU (2774.040 M km)
Light time: 2h34m13.2s
Orbital velocity: 6.726 km/s
Sidereal period: 30685.00 days (84.011 a)
Synodic period: 369.66 days (1.012 a)
Apparent diameter: +0°00'03.80", with rings: +0°00'14.53"
Equatorial diameter: 51118.0 km
Sidereal day: 17h14m24.0s
Mean solar day: 17h14m22.5s
Equatorial rotation velocity: 2587.521 m/s
Position Angle of axis: +289°28'47"
Center point: L_e=+228°51'36" ϕ_e: +74°42'49"
Subsolar point: L_s=+226°33'52" ϕ_s: +73°33'38"
Albedo: 0.66
Discovered: 17 March 1781 (W. Herschel)
Solar Az./Alt.: +100°54'24"/-9°10'58"
Lunar Az./Alt.: +216°40'20"/+66°54'49"
Sirius
Rigel
SW
W
NW
Date and Time
Date and Time
Julian Day
2026 - 10 - 31
7 : 0 : 44
Earth, Peterborough, 188 m
FOV 83.7°
17.86 FPS
2026-10-31 07:00:44 UTC-04:00

Uranus

- On October 31st, Uranus rises at 7:20 p.m. in the eastern sky at twilight.

Uranus

Type: **planet**
Magnitude: **5.62** (reduced to **8.58** by **22.56** Airmasses)
Absolute Magnitude: -7.19
Mean Opposition Magnitude: 5.52
Color Index (B-V): **0.74**
RA/Dec (J2000.0): 4h09m23.19s/+20°51'03.0"
RA/Dec (on date): 4h10m58.33s/+20°55'19.2"
HA/Dec: 16h40m29.55s/+21°10'43.1" (apparent)
Az./Alt.: +61°18'19.3"/+1°27'24.2" (apparent)
Gal. long./lat.: +173°03'11.9"/-22°12'32.9"
Supergal. long./lat.: +337°11'28.4"/-35°20'06.2"
Ecl. long./lat. (J2000.0): +64°17'44.3"/-0°09'16.9"
Ecl. long./lat. (on date): +64°40'22.0"/-0°08'58.2"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 20h50m27.4s
Apparent Sidereal Time: 20h50m27.9s
Rise: 19h12m
Transit: 2h46m
Set: 10h16m
Parallactic Angle: -42°19'12.3"
IAU Constellation: Tau
Zodiac: ♊ 4°40'
Hourly motion: +0°00'05" towards 260.6°
Hourly motion: dα=-0°00'06" dδ=-0°00'01"
Elongation: 153°52'56.2"
Elong. in Ecl.Long.: W153°52'57"
Phase angle: +1°17'18.2"
Illuminated: 100.0%
Distance from Sun: 19.436 AU (2907.537 M km)
Distance: 18.539 AU (2773.460 M km)
Light time: 2h34m11.3s
Orbital velocity: 6.726 km/s
Sidereal period: 30685.00 days (84.011 a)
Synodic period: 369.66 days (1.012 a)
Apparent diameter: +0°00'03.80", with rings: +0°00'14.53"
Equatorial diameter: 51118.0 km
Sidereal day: 17h14m24.0s
Mean solar day: 17h14m22.5s
Equatorial rotation velocity: 2587.521 m/s
Position Angle of axis: +289°26'19"
Center point: L_s=+127°01'23" ϕ_s: +74°41'50"
Subsolar point: L_s=+124°46'22" ϕ_s: +73°33'57"
Albedo: 0.66
Discovered: 17 March 1781 (W. Herschel)
Solar Az./Alt.: +263°58'41"/-14°31'59"
Lunar Az./Alt.: +12°45'58"/-22°22'22"

Uranus

NE

Date and Time

Date and Time | Julian Day

2026 – 10 – 31 | 19 : 22 : 37

Earth, Peterborough, 188 m | FOV 26.1° | 17.86 FPS | 2026-10-31 19:22:38 UTC-04:00

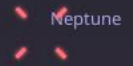
NEPTUNE

Neptune

- On October 1st, Neptune is low on the western horizon at sunrise.
-

Neptune

Type: **planet**
Magnitude: **7.68** (reduced to **9.42** by **13.32** Airmasses)
Absolute Magnitude: -6.87
Mean Opposition Magnitude: 7.84
RA/Dec (J2000.0): 0h11m19.38s/-0°19'17.3"
RA/Dec (on date): 0h12m42.13s/-0°10'18.3"
HA/Dec: 5h39m51.14s/-0°01'32.4" (apparent)
Az./Alt.: +266°27'32.8"/+3°35'04.7" (apparent)
Gal. long./lat.: +101°31'02.0"/-61°30'50.6"
Supergal. long./lat.: +293°08'41.8"/+10°25'19.0"
Ecl. long./lat. (J2000.0): +2°28'11.0"/-1°25'14.3"
Ecl. long./lat. (on date): +2°50'45.0"/-1°25'12.2"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 5h53m08.6s
Apparent Sidereal Time: 5h53m09.1s
Rise: 18h41m
Transit: 0h46m
Set: 6h48m
Parallactic Angle: +45°35'16.5"
IAU Constellation: Psc
Zodiac: ♈ 2°50'
Hourly motion: +0°00'04" towards 246.6°
Hourly motion: dα=-0°00'04" dδ=-0°00'02"
Elongation: 174°23'22.9"
Elong. in Ecl.Long.: E174°34'19"
Phase angle: +0°11'15.7"
Illuminated: 100.0%
Distance from Sun: 29.878 AU (4469.682 M km)
Distance: 28.881 AU (4320.597 M km)
Light time: 4h00m12.0s
Orbital velocity: 5.466 km/s
Sidereal period: 60189.00 days (164.789 a)
Synodic period: 367.49 days (1.006 a)
Apparent diameter: +0°00'02.36", with rings: +0°00'06.01"
Equatorial diameter: 49528.0 km
Sidereal day: 16h06m36.0s
Mean solar day: 16h06m36.6s
Equatorial rotation velocity: 2.683 km/s
Position Angle of axis: +316°16'05"
Center point: L_s=+34°03'50" ϕ_c: -18°57'05"
Subsolar point: L_s=+33°51'59" ϕ_s: -18°55'58"
Albedo: 0.62
Discovered: 23 September 1846 (J.G. Galle)
Solar Az./Alt.: +85°49'45"/-8°57'04"
Lunar Az./Alt.: +230°37'45"/+65°37'50"



W

Date and Time

Date and Time | Julian Day

2026 – 10 – 1 | 6 : 25 : 43

Earth, Peterborough, 188 m | FOV 15.8° | 17.87 FPS | 2026-10-01 06:25:43 UTC-04:00

Neptune

- On October 1st, Neptune is low on the eastern horizon at sunset.

- Saturn is around 5 degrees southeast of Neptune. Use as a point of reference.


Neptune
Type: planet
Magnitude: 7.68 (reduced to 8.41 by 5.66 Airmasses)
Absolute Magnitude: -6.87
Mean Opposition Magnitude: 7.84
RA/Dec (J2000.0): 0h11m16.06s/-0°19'39.1"
RA/Dec (on date): 0h12m38.82s/-0°10'40.0"
HA/Dec: 18h56m20.68s/-0°06'50.2" (apparent)
Az./Alt.: +100°01'18.2"/+9°57'01.6" (apparent)
Gal. long./lat.: +101°29'08.5"/-61°30'55.1"
Supergal. long./lat.: +293°08'06.6"/+10°26'00.8"
Ecl. long./lat. (J2000.0): +2°27'16.6"/-1°25'14.5"
Ecl. long./lat. (on date): +2°49'50.8"/-1°25'12.4"
Ecliptic obliquity (on date): +23°26'08.9"
Mean Sidereal Time: 19h08m43.8s
Apparent Sidereal Time: 19h08m44.3s
Rise: 18h41m
Transit: 0h46m
Set: 6h48m
Parallactic Angle: -44°48'40.2"
IAU Constellation: Psc
Zodiac: ♈ 2°49'
Hourly motion: +0°00'04" towards 246.6°
Hourly motion: dα=-0°00'04" dδ=-0°00'02"
Elongation: 173°51'08.3"
Elong. in Ecl.Long.: E174°01'06"
Phase angle: +0°12'20.1"
Illuminated: 100.0%
Distance from Sun: 29.878 AU (4469.680 M km)
Distance: 28.882 AU (4320.757 M km)
Light time: 4h00m12.5s
Orbital velocity: 5.466 km/s
Sidereal period: 60189.00 days (164.789 a)
Synodic period: 367.49 days (1.006 a)
Apparent diameter: +0°00'02.36", with rings: +0°00'06.01"
Equatorial diameter: 49528.0 km
Sidereal day: 16h06m36.0s
Mean solar day: 16h06m36.6s
Equatorial rotation velocity: 2.683 km/s
Position Angle of axis: +316°16'23"
Center point: L_e=+329°34'40" ϕ_e: -18°57'24"
Subsolar point: L_s=+329°21'43" ϕ_s: -18°55'53"
Albedo: 0.62
Discovered: 23 September 1846 (J.G. Galle)
Solar Az./Alt.: +273°51'36"/-8°56'33"
Lunar Az./Alt.: +27°37'10"/-13°36'18"
Neptune
Saturn
E
Date and Time
Date and Time
Julian Day
2026 – 10 – 1
19 : 39 : 8
Earth, Peterborough, 188 m
FOV 26.1°
17.87 FPS
2026-10-01 19:39:08 UTC-04:00

Neptune

- On October 31st, Neptune sets at 4:41 a.m. in the western late morning sky.

Neptune

(4) Vesta

Saturn

W

Type: **planet**
Magnitude: **7.70** (reduced to **11.56** by **29.85** Airmasses)
Absolute Magnitude: -6.87
Mean Opposition Magnitude: 7.84
RA/Dec (J2000.0): 0h08m33.13s/-0°36'55.9"
RA/Dec (on date): 0h09m56.13s/-0°27'55.1"
HA/Dec: 5h55m43.82s/-0°09'10.7" (apparent)
Az./Alt.: +269°08'41.9"/+0°39'25.4" (apparent)
Gal. long./lat.: +99°56'27.7"/-61°33'28.9"
Supergal. long./lat.: +292°39'43.4"/+11°00'21.6"
Ecl. long./lat. (J2000.0): +1°43'01.2"/-1°24'54.3"
Ecl. long./lat.:(on date): +2°05'39.2"/-1°24'52.6"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 6h06m56.3s
Apparent Sidereal Time: 6h06m56.7s
Rise: 16h41m
Transit: 22h42m
Set: 4h46m
Parallactic Angle: +45°41'36.8"
IAU Constellation: Psc
Zodiac: ♈ 2°5'
Hourly motion: +0°00'03" towards 247.6°
Hourly motion: dα=-0°00'03" dδ=-0°00'01"
Elongation: 144°07'23.7"
Elong. in Ecl.Long.: E144°08'50"
Phase angle: +1°06'57.3"
Illuminated: 100.0%
Distance from Sun: 29.877 AU (4469.576 M km)
Distance: 29.067 AU (4348.376 M km)
Light time: 4h01m44.6s
Orbital velocity: 5.466 km/s
Sidereal period: 60189.00 days (164.789 a)
Synodic period: 367.49 days (1.006 a)
Apparent diameter: +0°00'02.35", with rings: +0°00'05.97"
Equatorial diameter: 49528.0 km
Sidereal day: 16h06m36.0s
Mean solar day: 16h06m36.6s
Equatorial rotation velocity: 2.683 km/s
Position Angle of axis: +316°30'57"
Center point: L_e=+245°23'14" ϕ_e: -19°13'00"
Subsolar point: L_s=+244°15'60" ϕ_s: -18°51'59"
Albedo: 0.62
Discovered: 23 September 1846 (J.G. Galle)
Solar Az./Alt.: +75°54'42"/-33°52'17"
Lunar Az./Alt.: +135°17'01"/+65°18'04"

Date and Time

Date and Time | Julian Day

2026 – 10 – 31 | 4 : 41 : 31

Earth, Peterborough, 188 m | FOV 22.1° | 26.87 FPS | 2026-10-31 04:41:31 UTC-04:00

Neptune

- On October 31st, Neptune is high in the eastern sky at evening twilight.


Neptune
Type: planet
Magnitude: 7.70 (reduced to 8.00 by 2.28 Airmasses)
Absolute Magnitude: -6.87
Mean Opposition Magnitude: 7.84
RA/Dec (J2000.0): 0h08m30.32s/-0°37'13.4"
RA/Dec (on date): 0h09m53.33s/-0°28'12.5"
HA/Dec: 20h33m07.34s/-0°26'37.1" (apparent)
Az./Alt.: +119°10'21.1"/+25°58'25.5" (apparent)
Gal. long./lat.: +99°54'51.9"/-61°33'30.7"
Supergal. long./lat.: +292°39'14.3"/+11°00'57.2"
Ecl. long./lat. (J2000.0): +1°42'15.6"/-1°24'53.7"
Ecl. long./lat. (on date): +2°04'53.7"/-1°24'51.9"
Ecliptic obliquity (on date): +23°26'08.8"
Mean Sidereal Time: 20h42m55.1s
Apparent Sidereal Time: 20h42m55.6s
Rise: 16h41m
Transit: 22h42m
Set: 4h46m
Parallactic Angle: -38°40'37.1"
IAU Constellation: Psc
Zodiac: ♈ 2°4'
Hourly motion: +0°00'03" towards 247.9°
Hourly motion: dα=-0°00'03" dδ=-0°00'01"
Elongation: 143°30'27.2"
Elong. in Ecl.Long.: E143°31'52"
Phase angle: +1°07'56.1"
Illuminated: 100.0%
Distance from Sun: 29.877 AU (4469.573 M km)
Distance: 29.073 AU (4349.312 M km)
Light time: 4h01m47.7s
Orbital velocity: 5.466 km/s
Sidereal period: 60189.00 days (164.789 a)
Synodic period: 367.49 days (1.006 a)
Apparent diameter: +0°00'02.35", with rings: +0°00'05.97"
Equatorial diameter: 49528.0 km
Sidereal day: 16h06m36.0s
Mean solar day: 16h06m36.6s
Equatorial rotation velocity: 2.683 km/s
Position Angle of axis: +316°31'12"
Center point: L_e=+210°45'32" ϕ_e: -19°13'17"
Subsolar point: L_s=+209°37'19" ϕ_s: -18°51'55"
Albedo: 0.62
Discovered: 23 September 1846 (J.G. Galle)
Solar Az./Alt.: +262°42'18"/-13°11'45"
Lunar Az./Alt.: +10°59'60"/-22°37'04"
Saturn
E
SE
Date and Time
Date and Time
Julian Day
2026 - 10 - 31
19 : 15 : 6
Date and Time in Gregorian calendar
Earth, Peterborough, 188 m
FOV 60°
50.2 FPS
2026-10-31 19:15:06 UTC-04:00

That is the Sky this Month

By David Mills