

Astronomy targets: October 2019

Unless stated otherwise, all times are for mid-month, for Birmingham UK and are BST. Rise & set times are for 20 degrees above horizon. Dark & light times are nautical twilight times (Sun 12 degrees below horizon) and astronomical darkness (Sun 18 degrees below horizon).

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Sun & Moon times

Monday date	Sunset	Naut	Astro	Astro	Naut	Sunrise	Moon
		Dark	Dark	Light	Light		
07/10/19	1832	1945	2025	0526	0606	0720	72%
14/10/19	1816	1930	2009	0539	0618	0732	99%
21/10/19	1801	1915	1955	0551	0630	0745	45%
28/10/19	1646	1802	1841	0502	0542	0658	1%

Calendar

8 Oct Draconids Meteor Shower
13 Oct Full Moon
21 Oct Orionids Meteor Shower
27 Oct New Moon

Planets

Jupiter: Low at Sunset
Saturn: Low at Sunset
Uranus: 2050-Sunrise (at opposition)
Neptune: 1950-0145

Andromeda 2000-0550, best 0040

Planetary nebula: NGC7662 (C22) Blue Snowball
Open cluster: NGC752 (C28)
Galaxies:
M31, M32 & M110 Andromeda Galaxy
NGC404 Mirach's Ghost
NGC891 (C23)

Multiple star: Almaak γ-And (gamma-And) gold & green

Aquarius 2020-0020, best 2140

Planetary nebula: NGC7293 Helix Nebula
Globular clusters:
M2
M72
Open cluster: M73

Aries 2020-Sunrise, best 0140

Multiple star: Σ326 orange & red

Auriga 2240-Sunrise, best 0440

Emission nebula: IC405 (C31) Flaming Star Nebula
Open clusters:
M36
M37
M38
Multiple star: OΣ147 yellowish & two blue

Camelopardalis all night, best 0410

Galaxy: NGC2403 (C7)
Asterism: Kemble's Cascade & NGC1502 cluster

Cancer 0340-Sunrise

Open clusters:
M44 Beehive Cluster
M67
Multiple star: ι-Cnc (iota-Cnc) gold & blue

Canes Venatici 0520-Sunrise

Globular cluster: M3
Galaxies:
M51 Whirlpool Galaxy
M63 Sunflower Galaxy
M94
M106
NGC4631 Whale Galaxy
Coloured star: La Superba Y-CVn carbon star
Multiple star: Cor Caroli α-CVn (alpha-CVn) yellow & orange

Capricornus low, best 2000

Globular cluster: M30

Cassiopeia all night, best 0010

Emission nebulae:
NGC281 Pacman Nebula
NGC7635 (C11) Bubble Nebula
IC1805 Heart Nebula
IC1848 Soul Nebula

Open clusters:
M52
M103
NGC457 (C13) Owl cluster
NGC654
NGC659
NGC663 (C10)
NGC7789
NGC7790

Multiple star: η-Cas (eta-Cas) gold & red

Cepheus all night, best 2050

Reflection nebula: NGC7023 (C4) Iris Nebula
Open clusters:
NGC188 (C1)
NGC7160
Coloured star: Garnet Star μ-Cep (mu-Cep)
Multiple stars:
δ-Cep (delta-Cep) yellow & purple
Σ2816 yellow & two white

Cetus low, best 0220

Planetary nebula: NGC246 (C56)
Galaxy: M77

Cygnus Sunset-0100, best 2010

Emission nebulae:
NGC6888 Crescent Nebula
NGC6960 Veil Nebula
IC5070 Pelican Nebula
IC7000 (C20) North American Nebula

Planetary nebulae:
IC5146 (C19) Cocoon Nebula
NGC6826 Blinking Nebula
NGC7008 Fetus Nebula

Open clusters:
M29
M39
NGC6871
NGC6883
NGC6910 Rocking Horse Cluster
Galaxy: NGC6946 (C12) Fireworks Galaxy
Multiple stars:
Albireo β-Cyg (beta-Cyg) gold & blue
61-Cyg orange & red

Delphinus Sunset-0040, best 2010

Globular clusters:
NGC6934 (C47)
NGC7006 (C42)

Draco Sunset-0210

Planetary nebula: NGC6543 Cats Eye Nebula
Galaxy: M102

Eridanus partly visible, best 0350

Planetary nebula: NGC1535

Gemini 0140-Sunrise, best 0600

Planetary nebula: NGC2392 (C39) Eskimo Nebula

Open cluster: M35

Multiple star: Castor α -Gem (alpha-Gem) two blue

Hercules Sunset-2110

Globular clusters:

M13 Hercules Globular Cluster

M92

Lacerta Sunset-0450, best 2200

Open cluster: NGC7243 (C16)

Lepus low, best 0530

Globular cluster: M79

Coloured star: Hind's Crimson Star R-Lep

Lynx 0200-Sunrise

Globular cluster: NGC2419 (C25)

Lyra Sunset-0050

Planetary nebula: M57 Ring Nebula

Globular cluster: M56

Multiple stars:

Double-Double ϵ -Lyr (epsilon-Lyr) four white

Other Double-Double Σ 2470 & Σ 2474 four white

Monoceros 0440-Sunrise

Emission nebula: NCG2239 Rosette Nebula

Reflection nebula: NGC2261 (C46) Hubble's Variable Nebula

Open clusters:

M50

NGC2232

NGC2264

Multiple star: β -Mon (beta-Mon) three blue

Orion 0120-Sunrise, best 0500

Emission nebulae:

NGC2024 Flame Nebula

NGC2174 Monkey Head Nebula

IC434 Horsehead Nebula

Reflection nebulae:

M42 & M43 Orion Nebula

M78

NGC1977 Running Man

Open clusters:

NGC1662

NGC1981

Multiple star: Trapezium θ 1-Ori (theta-1-Ori) four white

Pegasus Sunset-0340, best 2310

Globular cluster: M15

Galaxies:

NGC7320 Stefan's Quintet galaxy cluster

NGC7331 (C30) galaxy cluster

Multiple star: Σ 2841 orange & green

Perseus 2100-Sunrise, best 0300

Emission nebula: NGC1499 California Nebula

Planetary nebula: M76 Little Dumbell Nebula

Open clusters:

M34

NGC869 & NGC884 (C14) Double Cluster

NGC1528

NGC1582

Melotte 20

Multiple star: η -Per (eta-Per) gold & blue

Pisces 2140-0240, best 0000

Galaxies: M74

Sagitta Sunset-0030

Globular cluster: M71

Taurus 2340-Sunrise, best 0410

Planetary nebulae:

M1 Crab Nebula

NGC1514

Open clusters:

M45 Pleiades

NGC1647

Melotte 25 Hyades

Triangulum all night, best 0100

Galaxy: M33 Triangulum Galaxy

Ursa Minor all night

Planetary nebula: M97 Owl Nebula

Galaxies:

M81 Bode's Galaxy & M82 Cigar Galaxy

M101 Pinwheel Galaxy

M108

M109

Multiple star: Mizar & Alcor ζ -UMa (zeta-UMa) 3 white

Ursa Major Sunset-2350 & 0440-Sunrise

Multiple star: Polaris α -UMi (alpha-UMi) yellow & white

Vulpecula Sunset-0040

Planetary nebula: M27 Dumbell Nebula

Open cluster: NGC6885 (C37)

Asterism: Coathanger