

Beyond the *last light*.

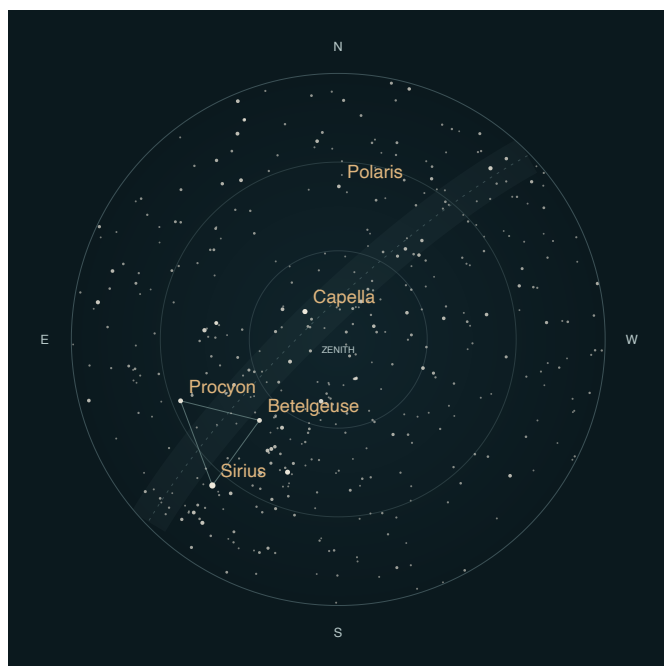
Learn the sky above Bryce. Turn the clock, find a familiar star, and see how one night becomes a season.

A calculated sky at Sunset Point. No weather forecast or visibility guarantee.

THE SEASONAL OBSERVING GUIDE

Eight ways into the night.

Begin with your own eyes. These short lessons work with the explorer, on paper, or as questions to carry outside.



Winter · January 15, 9 p.m. MST

2026-01-16 04:00 UTC · north at top



Summer · July 15, 11 p.m. MDT

2026-07-16 05:00 UTC · north at top

2026 teaching examples. These charts show stars through magnitude 4.5 for print clarity; the interactive catalogue extends to 5.5. Points and finding lines are diagrammatic. HYG 4.1 / David Nash, adapted under CC BY-SA 4.0.

01 START HERE · ANY SEASON

A horizon is not a skyline.

Learn to read the dome before looking for a constellation.

Imagine a level circle surrounding you. That is the geometric horizon: altitude 0° . The point directly overhead is the zenith, altitude 90° . A star halfway from the circle's edge to its center is 45° above that ideal horizon. This chart looks up, so east is on your left when north is at the top.

Real trees, cliffs and distant ridges can interrupt a sightline. A star just inside this circle may still be behind your local skyline. Atmospheric refraction also shifts objects near the horizon. Neither effect is drawn here. Sunset Point supplies the published reference coordinates; it is not a promise of an unobstructed view or access at a particular hour.

Reading: [NASA skywatching FAQ \(https://science.nasa.gov/skywatching/faq/\)](https://science.nasa.gov/skywatching/faq/) · [NPS location \(https://mapservices.nps.gov/arcgis/rest/services/NationalDatasets/NPS_Public_POIs/FeatureServer/0/7763?f=pjson\)](https://mapservices.nps.gov/arcgis/rest/services/NationalDatasets/NPS_Public_POIs/FeatureServer/0/7763?f=pjson) · [NASA/JPL Horizons \(https://ssd.jpl.nasa.gov/horizons/manual.html\)](https://ssd.jpl.nasa.gov/horizons/manual.html)

TRY IT IN THE SKY

Open the example and select Antares. Read its altitude, then rotate the chart to face south. The star's altitude stays the same: turning the chart changes your orientation, not the sky.

The direction you face is always at the bottom of the circle, nearest you. North means geographic north, not magnetic north.

02 ALL YEAR · NORTHERN SKY

Watch the sky turn.

A nearly fixed North Star makes the movement easier to see.

Earth's rotation makes the stars appear to turn around the celestial poles. Polaris sits close to the north celestial pole, so it traces a small circle while stars farther away sweep through wider arcs. It is a useful marker of true north, but it is neither perfectly motionless nor the brightest star.

At Bryce's latitude, the north celestial pole is about 37.6° above the level northern horizon. Stars close enough to that pole remain geometrically above the horizon throughout the day. They are called circumpolar. Daylight, weather and the landscape still affect what can actually be seen.

Reading: [NASA: Polaris \(https://science.nasa.gov/solar-system/skywatching/what-is-the-north-star-and-how-do-you-find-it/\)](https://science.nasa.gov/solar-system/skywatching/what-is-the-north-star-and-how-do-you-find-it/) · [Orbital formulas \(https://stjarnhimlen.se/comp/ppcomp.html\)](https://stjarnhimlen.se/comp/ppcomp.html)

TRY IT IN THE SKY

Face north and select Polaris. Step forward one hour several times, or start the animation and then pause it. Compare Polaris with the Big Dipper's handle.

The chart advances one sky hour per second during animation. This is accelerated astronomical time. It starts only when you press Play.

03 WINTER · JANUARY EVENING

Find a triangle in the cold.

Sirius, Betelgeuse and Procyon frame the Winter Triangle.

An asterism is a recognizable star pattern. It can cross the boundaries of several constellations. The Winter Triangle connects Sirius, Betelgeuse and Procyon. The line segments in this chart are memory aids; the stars are not joined in space.

The example places all three above Bryce's southeastern-to-southern horizon on a January evening. Select each star and compare the angles. Sirius has a lower catalogue magnitude than the other two, which means it appears brighter. The enlarged points make this brightness ordering easier to read, but they do not represent stellar diameters.

Reading: [NASA: asterisms \(https://science.nasa.gov/solar-system/what-are-asterisms/\)](https://science.nasa.gov/solar-system/what-are-asterisms/) · [HYG catalogue \(https://github.com/astronexus/HYG-Database/tree/c7f7f883fe678cc7680169a50ccd7dcc49b060ce/hyg\)](https://github.com/astronexus/HYG-Database/tree/c7f7f883fe678cc7680169a50ccd7dcc49b060ce/hyg)

TRY IT IN THE SKY

Open the January example and identify the three labeled corners. Then advance two hours. Which corner moves closer to the southern meridian?

Seasonal names are a starting point. A constellation can be above the horizon in another season at a different hour—or during daylight.

04 SPRING · MAY EVENING

Follow a familiar curve.

Use the Big Dipper as a starting point for Arcturus.

The curve of the Big Dipper's handle points toward Arcturus. You can try this familiar finding technique without needing a telescope. First identify the handle stars, then continue the curve away from the bowl. Arcturus is the bright marker you are seeking.

Now compare May with the January example at roughly the same evening hour. The star patterns retain their shapes but occupy different parts of the sky. As Earth travels around the Sun, the direction we face away from the Sun at night changes. Daily rotation and annual orbital motion work together to give every season its characteristic evening sky.

Reading: [NASA: finding Arcturus \(https://science.nasa.gov/resource/whats-up-september-2021/\)](https://science.nasa.gov/resource/whats-up-september-2021/) · [NASA: changing seasons \(https://spaceplace.nasa.gov/constellations/en/\)](https://spaceplace.nasa.gov/constellations/en/)

TRY IT IN THE SKY

Select Arcturus in the May scene, then change only the date to January 15. Keep 11 p.m. on the clock and use the scene list to check whether it is above the horizon.

The Dipper's line drawing is a finding aid, not a physical connection or a constellation boundary. This explorer draws only a few familiar patterns.

05 SUMMER · JULY EVENING

Look along our galaxy.

Three bright stars lead into a much larger structure.

Vega, Deneb and Altair belong to three different constellations: Lyra, Cygnus and Aquila. Together they form the Summer Triangle. In this July scene they make a broad pattern high across the eastern sky. Select each corner to connect the name with its direction.

The Milky Way appears as a faint band because we look through the disk of our own galaxy from inside it. Turn on the Galactic plane guide to see that disk's orientation. The soft ribbon is a diagram around the calculated Galactic equator. Its width and glow are drawn for teaching; they are not a photograph, a map of dust lanes or a prediction of sky brightness.

Reading: [NASA: asterisms \(https://science.nasa.gov/solar-system/what-are-asterisms/\)](https://science.nasa.gov/solar-system/what-are-asterisms/) · [NASA: our galaxy \(https://science.nasa.gov/skywatching/\)](https://science.nasa.gov/skywatching/) · [ESA coordinate frame \(https://gea.esac.esa.int/archive/documentation/GDR3/Data_processing/chap_cu3ast/sec_cu3ast_intro/ssec_cu3ast_intro_transforms.html\)](https://gea.esac.esa.int/archive/documentation/GDR3/Data_processing/chap_cu3ast/sec_cu3ast_intro/ssec_cu3ast_intro_transforms.html) · [NPS night skies \(https://www.nps.gov/brca/learn/nature/night-skies.htm\)](https://www.nps.gov/brca/learn/nature/night-skies.htm)

TRY IT IN THE SKY

Compare the July and January examples with the Galactic plane guide switched on. Notice how its orientation changes. Then turn the guide off and find the Summer Triangle again.

A moonless, clear, dark sky can reveal far more than this small bright-star catalogue. Clouds, haze, smoke and artificial light are not modeled.

06 AUTUMN · OCTOBER EVENING

A letter changes its angle.

Cassiopeia is a useful reminder that the sky has no fixed up.

Cassiopeia's familiar zigzag is often described as a W. During an autumn evening it stands high in the northern sky. As Earth turns, that pattern tilts; at other hours it can look like an M or a sideways zigzag. The stars have kept their arrangement while your local horizon has rotated beneath them.

Patterns help recognition, but astronomical constellations are formally defined regions of sky. People around the world have also interpreted the stars in many other ways. These few line drawings are modern finding aids, not a complete account of sky traditions or official constellation borders.

Reading: [NASA: Cassiopeia \(https://science.nasa.gov/asset/hubble/ic-63-ghost-nebula/\)](https://science.nasa.gov/asset/hubble/ic-63-ghost-nebula/) · [NASA skywatching FAQ \(https://science.nasa.gov/skywatching/faq/\)](https://science.nasa.gov/skywatching/faq/)

TRY IT IN THE SKY

Open the October scene facing north. Select Schedar, then step ahead four hours. Rotate your chart separately and distinguish that control from changing the time.

A scene link shares the UTC instant at the fixed Bryce location. Your display orientation and red-light preference are not included.

07 ANY SEASON · COMPARE TWO NIGHTS

The Moon changes the night.

Its phase and its place in the sky answer different questions.

The Moon reflects sunlight. Its changing phase comes from the angle between the Sun, Moon and Earth, not from Earth's shadow during an ordinary month. A near-full Moon and a thin crescent offer very different observing experiences. But phase alone does not tell you whether the Moon is above your horizon.

This explorer shows the Moon's direction from the reference location and an approximate illuminated fraction. The fraction describes how much of the disk is sunlit; it is not a percentage of maximum brightness. The enlarged Moon marker shows position, not the disk's shape or its orientation through a telescope.

Reading: [NASA: lunar phases \(https://science.nasa.gov/moon/moon-phases/\)](https://science.nasa.gov/moon/moon-phases/) · [NASA/JPL Horizons \(https://ssd.jpl.nasa.gov/horizons/manual.html\)](https://ssd.jpl.nasa.gov/horizons/manual.html)

TRY IT IN THE SKY

Compare July 15 and July 29 at 11 p.m. Read both the illuminated fraction and the altitude. The star chart does not fade faint stars to simulate moonlight.

The reference checks support broad direction and phase learning. This tool does not predict eclipses, occultations or exact rise/set times.

08 EVERY EVENING · GIVE DARKNESS TIME

Night arrives in stages.

A dark screen cannot make a bright sky dark.

After the Sun's center passes below a level horizon, twilight is commonly divided at solar altitudes of -6° , -12° and -18° . These are geometric definitions, not promises of when a particular star will appear. The chart hides its stars in daylight and identifies the twilight stage beside the clock.

Your eyes need time away from bright light to adapt. The National Park Service suggests allowing roughly 20–30 minutes and using a restrained red light. Try the red display here, then lower your device brightness yourself. Software color cannot control the brightness of every screen or the light spilling from other applications. Give people nearby the same chance to enjoy the dark.

Reading: NOAA: twilight (<https://www.weather.gov/fsd/twilight>) · NPS: dark adaptation (<https://www.nps.gov/zion/planyourvisit/sunset-stargazing.htm>) · NPS stargazing (<https://www.nps.gov/thingstodo/stargazing-at-bryce-canyon.htm>)

TRY IT IN THE SKY

Start with the July 15, 8:30 p.m. example and step ahead one hour at a time. Watch the Sun's altitude and the twilight label. Compare that change with turning on red display: only time changes the modeled sky.

Before visiting, consult NPS for current conditions and program information. This classroom has no weather, closure or live telescope-program feed.

CARE FOR THE DARK

Leave room for wonder.

Keep light low and directed where it is needed. Allow your eyes—and the people near you—time to adjust. The night sky is part of the landscape worth caring for.

Use [NPS current conditions](https://www.nps.gov/brca/planyourvisit/conditions.htm) (<https://www.nps.gov/brca/planyourvisit/conditions.htm>) and the [official park calendar](https://www.nps.gov/brca/planyourvisit/calendar.htm) (<https://www.nps.gov/brca/planyourvisit/calendar.htm>) for a real visit. A simulated star above the horizon does not establish weather, access, trail conditions or a program schedule.

[Plan a visit →](#) [Return to the daylight landscape →](#)

A chart with its workings visible.

HYG 4.1 supplies a local, curated set of 2,865 stars through visual magnitude 5.5. The [downloadable catalogue](#) retains J2000 coordinates; the explorer corrects their precession to the selected date. Point sizes show relative brightness, not physical size. Finding lines are original diagrams between catalogue positions.

The fixed reference is **Sunset Point: 37.622568° N, 112.165988° W**, from the NPS public point record. All inputs and displays use **America/Denver**; the UTC instant is always shown. Supported local dates are **2020–2035**, under the browser's current time-zone rules. Spring clock gaps are rejected; repeated autumn hours require a choice.

Broad teaching tolerances are **0.1° for stars and the Sun, 0.25° for the Moon, and 2 percentage points for the illuminated fraction**. These are not survey or telescope-pointing specifications. Sun and Moon positions were checked against 678 NASA/JPL Horizons reference rows spanning the supported years; sampled maxima and assumptions are in the [accuracy record](#).

What is included—and what remains unknown

Altitude is measured above a level geometric horizon. Azimuth runs from true north through east: north 0°, east 90°, south 180°, west 270°. The chart is an azimuthal equidistant projection looking upward; distortion increases toward its rim.

The Sun and Moon use an original implementation of published low-precision orbital formulas. The Moon includes the principal perturbations and parallax for an observer on a WGS84 reference surface at the published coordinates. Zero ellipsoid height is a simplifying calculation assumption, not Bryce's actual elevation. That approximation is much smaller than the stated teaching tolerance.

The star model omits proper motion, nutation, aberration and stellar parallax. UTC approximates UT1, and the simplified solar/lunar model does not distinguish TT from UT. These approximations, plus reference comparisons, are documented in the accuracy record. No atmospheric refraction, terrain skyline, weather, sky-brightness model, planets, satellites, meteors, rise/set events or eclipse predictions are provided.

The Galactic plane is a calculated great circle using the ESA-documented coordinate transform. Its surrounding glow and width are illustrative. The Moon's illuminated fraction is geocentric; direction includes observer parallax. The symbols have exaggerated sizes.

Primary references & reuse rights

Sources checked October 2, 2026. Original teaching copy and chart code; no agency photograph or third-party star-chart artwork is reproduced. The HYG subset and catalogue-derived charts are adaptations under [CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/) (<https://creativecommons.org/licenses/by-sa/4.0/>). Credit David Nash / Astronexus and retain that license when reusing them. [Catalogue license](#) · [Reuse notice](#) · [Complete source ledger](#).

1. [HYG catalogue](https://github.com/astronexus/HYG-Database/tree/c7f7f883fe678cc7680169a50ccd7dcc49b060ce/hyg) (<https://github.com/astronexus/HYG-Database/tree/c7f7f883fe678cc7680169a50ccd7dcc49b060ce/hyg>). David Nash · Version 4.1; repository pinned by commit. Star positions at epoch/equinox J2000.0; Apparent visual magnitude; Catalogue identities and names; Maximum omitted proper motion in the subset.
2. [NPS location](https://mapservices.nps.gov/arcgis/rest/services/NationalDatasets/NPS_Public_POIs/FeatureServer/0/7763?f=pjson) (https://mapservices.nps.gov/arcgis/rest/services/NationalDatasets/NPS_Public_POIs/FeatureServer/0/7763?f=pjson). National Park Service · Live public record retrieved 2026-10-02; no source revision date asserted. Fixed published location: 37.622568244798885 N, -112.1659876923019 E.
3. [Orbital formulas](https://stjarnhimlen.se/comp/ppcomp.html) (<https://stjarnhimlen.se/comp/ppcomp.html>). Paul Schlyter · Undated online reference; describes formulas developed in 1979 from van Flandern and Pulkkinen. Low-precision solar and lunar elements; Lunar longitude, latitude and distance perturbations; Coordinate transformations and topocentric distinction.
4. [Meeus, 1998](https://ui.adsabs.harvard.edu/abs/1998asaj.book.....M/abstract) (<https://ui.adsabs.harvard.edu/abs/1998asaj.book.....M/abstract>). Jean Meeus · 1998. Mean sidereal time equation 12.4; IAU 1976 J2000-to-date precession.
5. [ERFA reference](https://github.com/liberfa/erfa/blob/master/src/t_erfa_c.c) (https://github.com/liberfa/erfa/blob/master/src/t_erfa_c.c). ERFA and IAU SOFA contributors · Retrieved 2026-10-02; relevant numerical test values retained. Independent pmat76 matrix case.
6. [NASA/JPL Horizons](https://ssd.jpl.nasa.gov/horizons/manual.html) (<https://ssd.jpl.nasa.gov/horizons/manual.html>). JPL Solar System Dynamics Group · Reference queries 2026-10-02; DE441 ephemeris. Independent Sun and Moon azimuth/altitude; Independent lunar illuminated fraction; Apparent sidereal time comparison; Airless topocentric reference conventions.
7. [ESA coordinate frame](https://gea.esac.esa.int/archive/documentation/GDR3/Data_processing/chap_cu3ast/sec_cu3ast_intro/ssec_cu3ast_intro_tansfor.ms.html) (https://gea.esac.esa.int/archive/documentation/GDR3/Data_processing/chap_cu3ast/sec_cu3ast_intro/ssec_cu3ast_intro_tansfor.ms.html). Alexey Butkevich and Lennart Lindegren · Gaia DR3 documentation release 1.3. ICRS-to-Galactic rotation defining the Galactic equator.
8. [NPS night skies](https://www.nps.gov/brca/learn/nature/night-skies.htm) (<https://www.nps.gov/brca/learn/nature/night-skies.htm>). Bryce Canyon National Park · Updated 2026-07-11. Bryce dark-sky educational context; Milky Way under clear, dark, new-Moon conditions; Light stewardship.
9. [NPS stargazing](https://www.nps.gov/thingstodo/stargazing-at-bryce-canyon.htm) (<https://www.nps.gov/thingstodo/stargazing-at-bryce-canyon.htm>). Bryce Canyon National Park · Updated 2024-10-10. Use official calendar or visitor center for actual programs; Sunset Point is among the interpretive stargazing locations.

10. [NASA: Polaris \(https://science.nasa.gov/solar-system/skywatching/what-is-the-north-star-and-how-do-you-find-it/\)](https://science.nasa.gov/solar-system/skywatching/what-is-the-north-star-and-how-do-you-find-it/). Preston Dyches · Published 2021-07-28; updated 2024-11-06. Polaris near the north celestial pole; Daily apparent stellar rotation; True north versus magnetic north; Big Dipper finding aid.
11. [NASA: asterisms \(https://science.nasa.gov/solar-system/what-are-asterisms/\)](https://science.nasa.gov/solar-system/what-are-asterisms/). NASA Skywatching · Updated 2024-11-06. Summer Triangle members; Winter Triangle members; Asterisms are recognizable patterns.
12. [NASA: finding Arcturus \(https://science.nasa.gov/resource/whats-up-september-2021/\)](https://science.nasa.gov/resource/whats-up-september-2021/). NASA Skywatching · 2021-09. Following the Big Dipper handle's arc to Arcturus.
13. [NASA: changing seasons \(https://spaceplace.nasa.gov/constellations/en/\)](https://spaceplace.nasa.gov/constellations/en/). NASA / JPL-Caltech · Undated page retrieved 2026-10-02. Different evening constellations as Earth orbits the Sun.
14. [NASA: our galaxy \(https://science.nasa.gov/skywatching/\)](https://science.nasa.gov/skywatching/). NASA Skywatching · Page retrieved 2026-10-02. Milky Way band as our view through the disk from within it.
15. [NASA: Cassiopeia \(https://science.nasa.gov/asset/hubble/ic-63-ghost-nebula/\)](https://science.nasa.gov/asset/hubble/ic-63-ghost-nebula/). Hubble science team · 2018. Cassiopeia W high on autumn and winter evenings at mid-northern latitudes.
16. [NASA: lunar phases \(https://science.nasa.gov/moon/moon-phases/\)](https://science.nasa.gov/moon/moon-phases/). NASA lunar science education · Page retrieved 2026-10-02. Reflected sunlight; Lunar phase geometry; Phase and time above the horizon differ.
17. [NOAA: twilight \(https://www.weather.gov/fsd/twilight\)](https://www.weather.gov/fsd/twilight). National Weather Service, Sioux Falls · Undated page retrieved 2026-10-02. Civil, nautical and astronomical twilight boundaries at solar center altitudes -6, -12 and -18 degrees.
18. [NPS: dark adaptation \(https://www.nps.gov/zion/planyourvisit/sunset-stargazing.htm\)](https://www.nps.gov/zion/planyourvisit/sunset-stargazing.htm). Zion National Park · Page retrieved 2026-10-02. Roughly 20–30 minutes for dark adaptation after white light; Restrained red lighting.
19. [NASA skywatching FAQ \(https://science.nasa.gov/skywatching/faq/\)](https://science.nasa.gov/skywatching/faq/). NASA Skywatching · Page retrieved 2026-10-02. Celestial directions and observing context; Constellations versus asterisms; Sirius as brightest night-sky star; Landscape obstruction.
20. [NASA: Deneb \(https://science.nasa.gov/solar-system/skywatching/night-sky-network/summer-triangle-corner-deneb/\)](https://science.nasa.gov/solar-system/skywatching/night-sky-network/summer-triangle-corner-deneb/). Kat Troche; original Night Sky Notes material · Displayed 2026-08-15. Deneb belongs to Cygnus and the Summer Triangle.
21. [NASA: Altair \(https://science.nasa.gov/solar-system/skywatching/night-sky-network/summer-triangle-corner-altair/\)](https://science.nasa.gov/solar-system/skywatching/night-sky-network/summer-triangle-corner-altair/). Kat Troche; original Dave Prosper article · Displayed 2026-07-15; article also notes original August 2020 and update July 2025. Altair belongs to Aquila and the Summer Triangle.

No location permission, accounts or tracking. Runtime assets are local. Browser and numerical checks are not field observations, physical-device tests, assistive-user review or independent astronomer acceptance.