

S*T*A*R CHART

FOR LATE AUTUMN
November/December

* 2012 *



THE CONSTELLATIONS

The star groups linked by lines are the constellations created by our ancestors thousands of years ago as a way of mapping the night sky. Modern astronomers still use the traditional names, which give today's stargazers a permanent link to the sky myths and legends of the past. This autumn, look for the 'W' shaped constellation of Cassiopeia high in the North Eastern sky. According to the ancient Greeks, the five bright stars represented an Ethiopian Queen seated in her chair. Midway between Cassiopeia and the Big Dipper, you can find the North Star – very useful for orientation in the sky..



THE PLANETS

VENUS rises early as a morning star in the eastern pre-dawn sky. Venus will be near the bright star Spica Nov 16 and Nov 18, and near Saturn on Nov 26 and Nov 27.

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MARS can be found, with some difficulty, low in the south-west sky in the evening twilight.

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JUPITER reaches opposition, its closest approach to Earth, on Dec 2. It will rise as a bright star in the east. The Moon passes by on Nov 1, Nov 28, and Dec 25

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SATURN comes back into view this season early in the dawn sky. Watch for a rendezvous with Venus on Nov 26 and Nov 27.

★ ★ **OBSERVING TIP:** ★ ★
★ Need a night-sky friendly flashlight?
★ Cover a flashlight's lamp with brown
★ or red paper to dim its light and ★
★ preserve your night vision. ★

Check our calendar for more details:
www.ontariosciencecentre.ca

OBSERVING HIGHLIGHTS

NOV 14 New Moon and a Total Solar Eclipse is visible from Australia and the South Pacific.

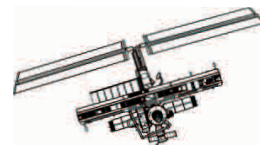
NOV 16 Venus and Spica together as the Leonid meteor shower peaks.

NOV 28 Penumbral eclipse of the Moon at dawn as the moon sets.

DEC 2 Jupiter reaches peak brightness during its closest approach to Earth for 2012.

DEC 13 The Geminid meteor shower peaks in a moonless sky. Great night for observing!

DEC 21 The winter solstice occurs at 6:12am EST. Shortest day of the year!



SPACE STATION SIGHTINGS

As the space station orbits the Earth, sunlight reflects off of its giant solar arrays. From Earth, it appears as a bright object moving high across the night sky. Visit www.heavens-above.com to get a list of upcoming ISS passes over your community.

MOON PHASES

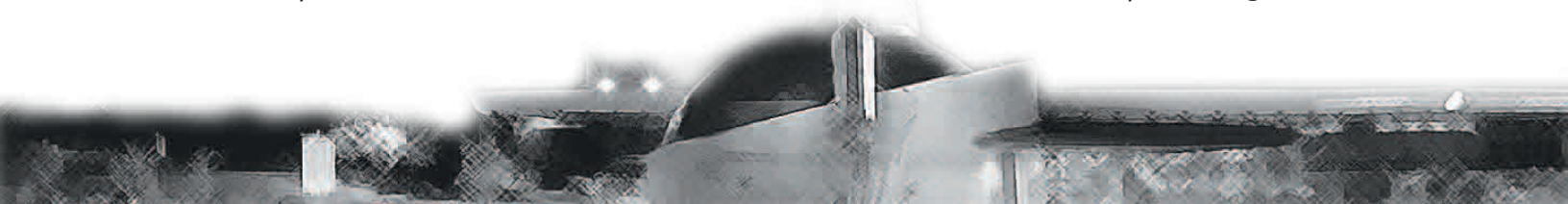
Full	○	Nov 28 (9:46 a.m. EST) Dec 28 (5:21 a.m., EST)
New	●	Nov 13 (5:08 p.m. EST) Dec 13 (3:42 a.m., EST)

ASTRONOMY AT THE OSC

November 14/December 12: Recreational Astronomy Night with the Royal Astronomical Society. The RASC members invite one and all to attend their free astronomy night. Each Recreational Astronomy Night features speakers covering a wide range of astronomical and space science topics. Visit the website for more information: toronto.rasc.ca.

October 3 – January 1 *NEW EXHIBIT* Beyond Planet Earth: The Future of Space Exploration is at the Ontario Science Centre from October 3, 2012 to January 1 2013. Behold the next century of space exploration in our new exhibition. The exhibition has artifacts from past space missions, an interactive touch table allowing you to terraform mars, and much more. See ontariosciencecentre.ca for more details.

December 1 - Solar Observing - Safely observe the Sun with specially filtered telescopes. Hosted by the Royal Astronomical Society of Canada, who's experienced volunteers will help you learn both about the Sun and how to observe it safely. This program is FREE occurring from 10:00am until noon, and is located on the Teluscape out front of the Ontario Science Centre. This event is weather permitting.



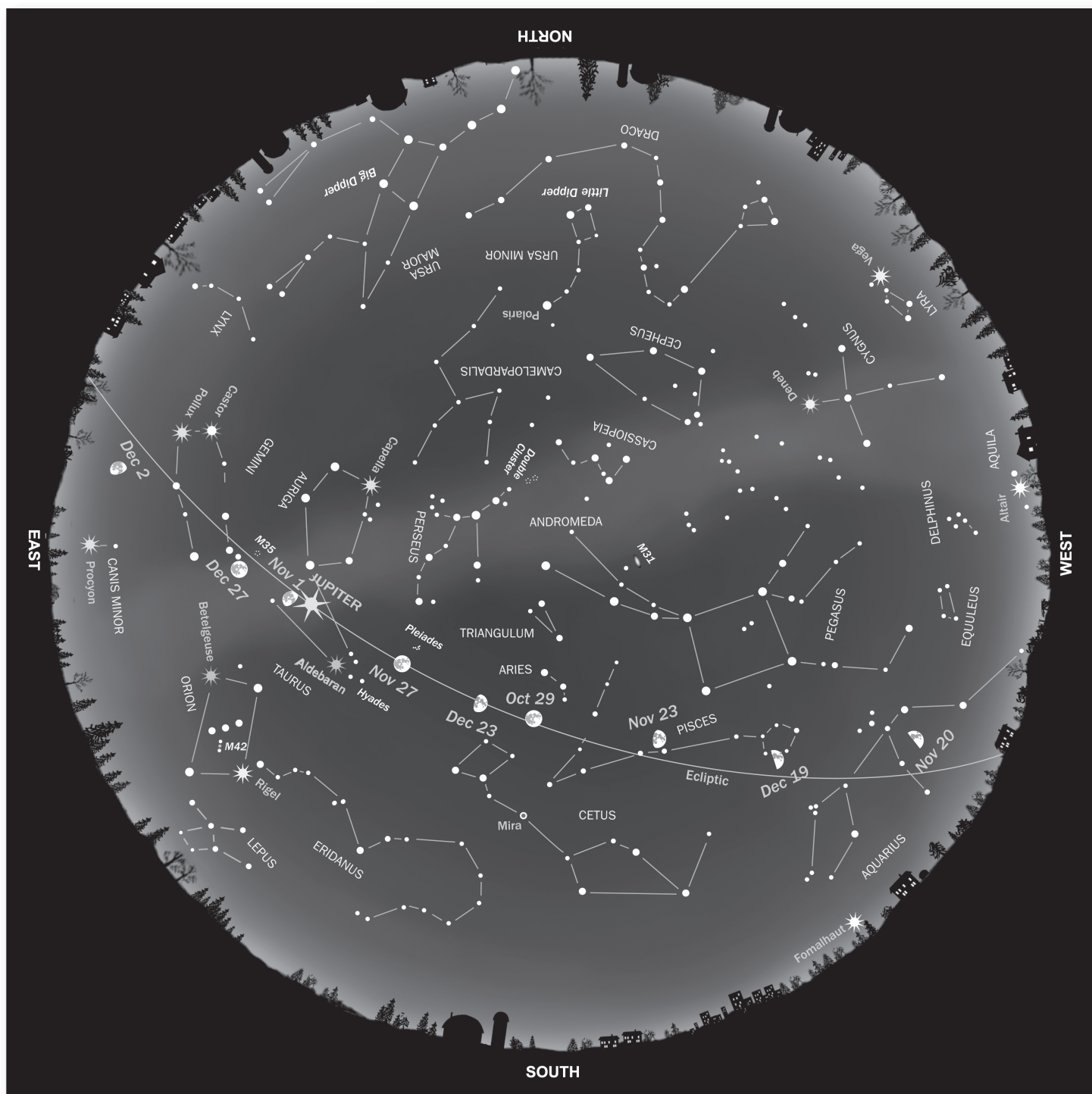


STAR CHART FOR LATE AUTUMN

OUR CHART SHOWS the major stars, planets and constellations visible from Canada and the northern United States within one hour of these times:

EARLY NOVEMBER: 11:00 P.M.; LATE NOVEMBER: 10:00 P.M.

EARLY DECEMBER: 9:00 P.M.; LATE DECEMBER: 8:00 P.M.



Cartography and design by Roberta Cooke. Base chart data derived from maps drawn by Roy Bishop for the Observer's Handbook, published by The Royal Astronomical Society of Canada.

ROTATING NIGHT SKY: During the night, the Earth's rotation on its axis slowly shifts the entire sky. This is the same motion that swings the Sun on its daily east-to-west trek. The rotational hub is Polaris, the North Star, located almost exactly above the Earth's North Pole. Everything majestically marches counter-clockwise around it, a motion that becomes evident after about half an hour.

TO USE THIS CHART: Hold the chart in front of you and rotate it so the direction you are facing (N,S,E,W) is at the bottom of the chart. The edge of the chart represents the horizon; the overhead point is at centre. On a moonless night in the country, you will see more stars than are shown here; deep in the city, you will see fewer. The ecliptic line is the celestial pathway of the Moon and planets. The star groups straddling this line are known as the zodiac constellations. The Moon is shown for selected dates.



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