

November 2008

10:00 p.m. on November 1
8:00 p.m. on November 15
7:00 p.m. on December 1

To use this chart: hold the chart in front of you and turn it so the direction you are facing is at the bottom of the chart.

- **Bright Stars**
- **Medium Bright Stars**
- **Faint Stars**

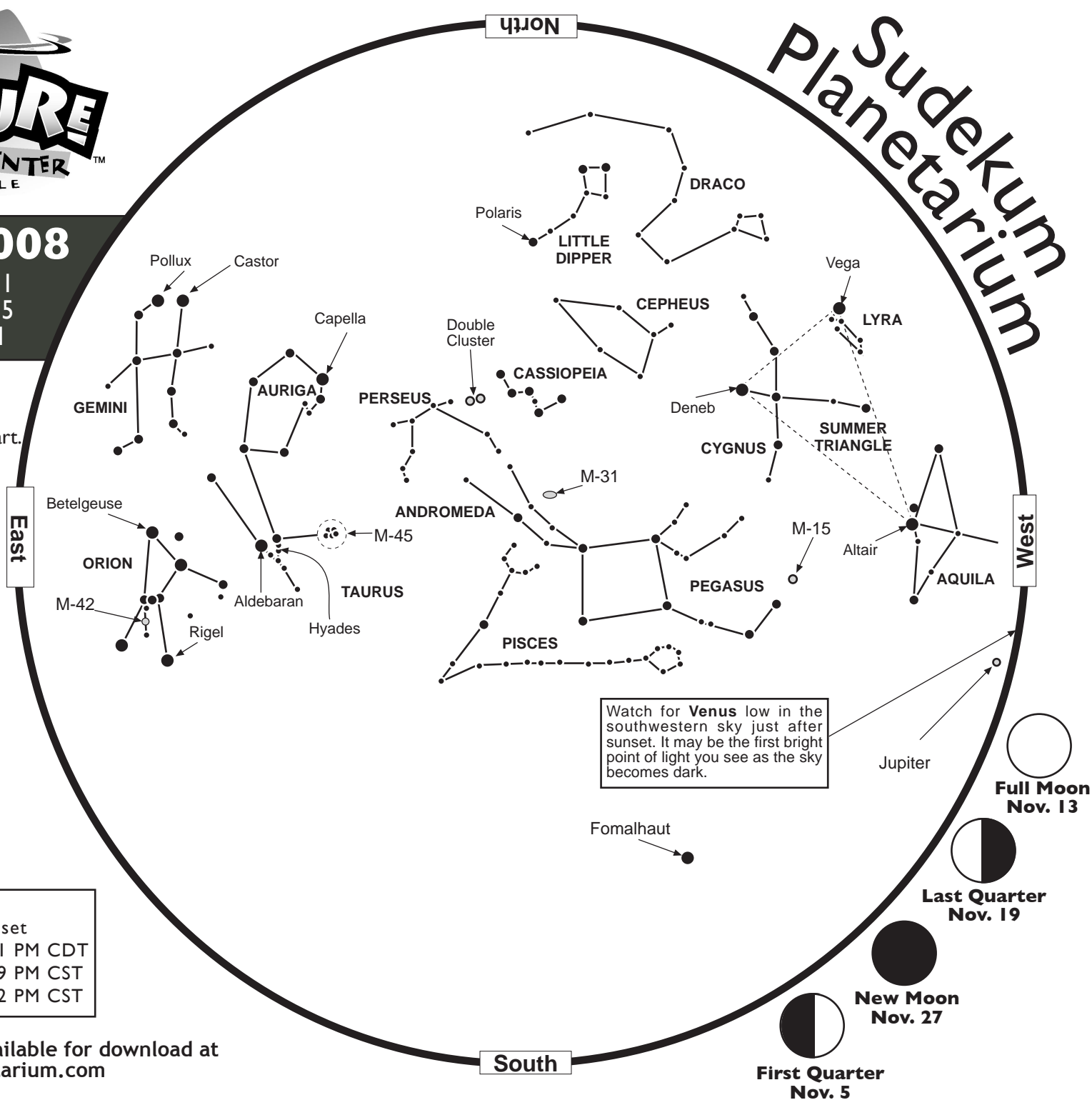
Scan the sky with binoculars:
the darker the sky, the better.

- **Globular Star Cluster:**
M-15 in Pegasus
- **Open Star Clusters:**
M-45 - The Pleiades
"Double Cluster" between Perseus and Cassiopeias
The Hyades form the face of Taurus
- **A Spiral Galaxy:**
M-31 in Andromeda
- **A Nebula:**
M-42 - the Orion Nebula

From Nashville:

	Sunrise	Sunset
November 1	7:10 AM CDT	5:51 PM CDT
November 15	6:24 AM CST	4:39 PM CST
December 1	6:40 AM CST	4:32 PM CST

FREE monthly star charts are available for download at www.SudekumPlanetarium.com



THE NEW SUDEKUM PLANETARIUM

AT ADVENTURE SCIENCE CENTER

November 2008

November Nights

November gets off to a great start with the beautiful pairing of **Venus** and a thin crescent **Moon**. Look low in the southwest just after sunset on the **1st**. Venus is astoundingly bright and should be the first point of light you'll notice as the sky begins to darken.

Higher in the sky and to the left of Venus and the Moon is the bright planet **Jupiter**. On the **2nd** of November, the Moon will be almost directly between the two planets, and on the **3rd**, the Moon will appear close by Jupiter.

Keep watching the Moon from night to night to track its changing location in the sky as well as its constantly changing phases. In one month the Moon will have gone completely around the Earth. On **December 1st**, these three objects will appear even closer together, forming a pretty triangle in the evening twilight.

Don't forget that **Daylight Saving Time ends** early on the morning of **November 2nd**. If you go out at 6:45 PM on the 1st to look for Venus, Jupiter, and the Moon, you'll want to go out at 5:45 PM on the 2nd to make the comparison.

All three of these objects are worthy targets for a small telescope. During a crescent Moon, we can see craters and mountains casting long shadows on the lunar surface. This makes it easier to pick out details. By comparison, the full Moon looks a little 'flat' in a telescope because the shadows are relatively short. Details don't stand out nearly as well.

Meanwhile, try spying Jupiter's four largest moons through binoculars or a small telescope. Watch over several nights as the moons orbit Jupiter. Some nights you might see only two or three of them. The others may be in front of or behind the giant planet.

In a telescope, Venus looks round and bright with no details to be seen. Look carefully though - is it really perfectly round? Just like the Moon, Venus goes through phases. This month, Venus shows us a 'gibbous' phase - more than half illuminated, but not quite full.

If you don't own a telescope, join us for one of the **FREE** public star parties scheduled throughout the year. If you are thinking about buying a telescope for yourself or as a gift, be sure to attend the Telescope Talk described below.

Hubble Highlights

by Quame Traylor, Big Picture Intern

The Hubble Space Telescope is awaiting a journey once again! After two weeks of engineering reviews, NASA managers have decided to put the telescope into electronic hibernation.

On September 27, 2008, the science data formatter malfunctioned. This unit relays commands to the telescope's science instruments and prepares recorded observations from the instruments to be sent to Earth.

The Space Shuttle Atlantis was scheduled to launch in early October to perform the fourth and final servicing mission for the Hubble Telescope. The launch has been delayed until February 2009 so that a replacement unit can be prepared for installation.

When the servicing mission is complete, the Hubble Telescope will have six new gyroscopes, new batteries, two instruments repaired, and two completely new cameras. The only parts of the telescope that remain from when it was first

launched in 1990 are the tube and the primary and secondary mirrors.

Star Parties

The next **FREE** public star party is **Saturday, November 8**, from 8-10 PM at **Shelby Bottoms Park** with another on **Saturday, December 13**, from 7:30 - 9:30 PM at **Edwin Warner Park**.

In November, telescopes will focus on the crescent Moon, Jupiter, and the Pleiades star cluster. There won't be any planets at December's star party, but be prepared for fascinating deep-sky objects like galaxies, nebulae and star clusters. Members of the **Barnard-Seyfert Astronomical Society (BSAS)** will set up their telescopes to provide views of these and more.

To attend the star party at Shelby Bottoms, **please call 862-8539** to reserve your place. For Warner Park, call 362-6299. Most importantly, **dress warmly**, in many layers. It will be very cold!

For directions, check the Sudekum Planetarium web site, where you can also find helpful tips for enjoying a star party. If it is cloudy or raining, the star party will be canceled. If the weather is questionable, visit our web site or call **Astroline** at **(615) 401-5092** before leaving home.

Telescope Talk

How do you buy a telescope? *Should* you buy a telescope? What are the best gifts for an astronomy fan? **Dr. Spencer Buckner of Austin Peay State University** will address these questions and more at Adventure Science Center on **Thursday, November 20**, starting at 7:30 PM.

Dr. Buckner's talk is part of November's monthly meeting of the Barnard-Seyfert Astronomical Society. You don't need to be a BSAS member to enjoy his talk, but if you want to learn more about joining Nashville's astronomy club, visit www.bsasnashville.com.

For information about programs and events at the Sudekum Planetarium and Adventure Science Center, visit www.SudekumPlanetarium.com

For current night sky information, call AstroLine at 615-401-5092.