Sudekum Planetarium

ADVENTURE SCIENCE CENTER™ NASHVILLE

October 2012

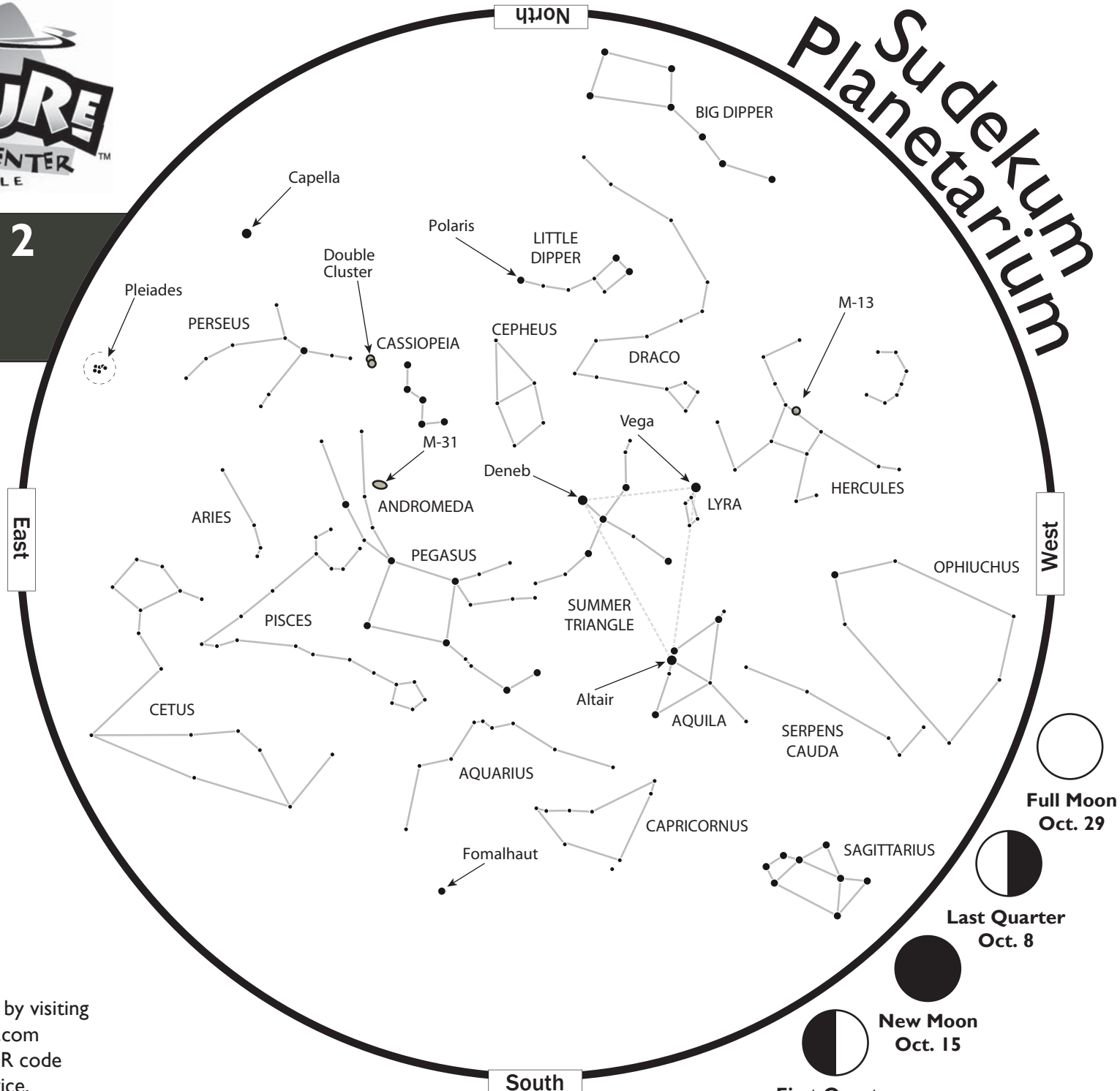
10:00 pm on October 1
9:00 pm on October 15
8:00 pm on November 1

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.

M-13: The Hercules globular star cluster
M-31: The Andromeda Galaxy
M-45: The Pleiades open star cluster
Double Cluster in Perseus



Full Moon
Oct. 29

Last Quarter
Oct. 8

New Moon
Oct. 15

First Quarter
Oct. 21

From Nashville:	Sunrise	Sunset
Oct 1	6:43 AM	6:30 PM
Oct 15	6:54 AM	6:10 PM
Nov 1	7:10 AM	5:51 PM

Find this chart online by visiting SudekumPlanetarium.com or by scanning this QR code with your mobile device.

SUDEKUM PLANETARIUM

JUDITH PAYNE TURNER THEATRE

October 2012

Observing in October

You can easily tell summer has passed. The temperature and the trees have changed, and so has a triangle of stars. The **Summer Triangle**, once up all night, now hangs high in the western sky after sunset, slowly relinquishing the top spot it has held since June. The three constellations of the triangle will soon be diving into the western horizon, but you still have another month or two to look for **Cygnus the swan**, **Aquila the eagle** and **Lyra the harp**.

Ascending from the east is **Pegasus the winged horse**. If you've never seen a flying horse before, you can start by looking for the **Great Square of Pegasus**. The square represents the body and wings of the horse. The head and neck look like a hockey stick extending from the southwest corner of the square. The front legs are composed of faint stars leading from the northwest corner.

The hind legs of Pegasus are formed by two long curving lines of stars trailing back from the southeast corner of the Square. However, these hind legs are not truly part of the constellation Pegasus at all. Instead, they represent the long, flowing gown of **Andromeda the princess** who was saved by **Perseus the hero** as she was about to be sacrificed to **Cetus the sea monster.** (Recent moviegoers might know Cetus better as the "Kraken".)

The star that marks both the southeast corner of the square and Andromeda's head is called **Alpheratz**. This star's original moniker was "al surrat al farras". Roughly translated from the Arabic, this phrase means "the navel of the horse."

Go out after 10 pm to look for **Jupiter** rising in the northeast among the stars of **Taurus the bull**. The Moon will be near Jupiter on the evening of **October 5**.

For anyone looking east between 4 am and sunrise, **Venus** will be shining bright within **Leo the lion**. A pretty crescent Moon will join Venus in the morning sky on **October 12**.

The Andromeda Smudge

North of Andromeda is a dim smudge of light only visible to the unaided eye under a clear, dark, moonless sky. This is the **Andromeda Galaxy**, the sister to our own **Milky Way Galaxy** and home to more than 400 billion stars. That blur only appears tiny because it lies more than two million light years away from us.

A **light year** is the distance a beam of light can travel in one year's time. Light travels at the incredible speed of 186,000 miles per second. That comes to a little less than six trillion miles in one year. So, a light year is a distance of about six trillion miles.

Multiply six trillion times two million to find the number of miles to the Andromeda galaxy. You'll get a twelve followed by nineteen zeroes. That's a big sounding number, yet Andromeda is one of the *nearby* galaxies. You can see why, when measuring the Universe, most astronomers prefer to work in light years instead of miles or kilometers.

That tiny, faint smudge will appear as a slightly brighter smudge through binoculars, and brighter and bigger still in telescopes. Don't expect to be blown away by massive spiral arms and tons of exquisite detail when you look at the Andromeda Galaxy. It takes careful photography through a good telescope and excellent atmospheric conditions to detect the spiral structure of this galaxy.

Shooting Stars in October

The evening of **October 20** will feature a pretty crescent Moon and the peak of the **Orionid meteor shower**. The Moon will set early, increasing chances of seeing as many as 20 meteors per hour, from under clear skies with low light pollution. Meteor showers are typically best from midnight until dawn, but meteors can appear any time after dark.

You don't need any special equipment to see meteors, aside from a lawn chair, a cool drink, a light jacket or blanket, and a few friends. Just face east, relax and let your eyes gaze over the sky.

Count the Stars

Join students, families, and citizen scientists counting stars for the **2012 Great World Wide Star Count**, **October 5-19**! During this international event, you're encouraged to look skyward after dark, count the stars you see in certain constellations, and report what you see online. Your data will help create a worldwide map of light pollution levels. See details on our web site.

Come Look Through Telescopes

The next free public star party is set for **Saturday evening, October 20 from 8:00 to 10:00 pm at Edwin Warner Park Nature Center.** (Note this is not at the special events field where we usually meet). Members of the **Barnard-Seyfert Astronomical Society** (BSAS) will set up telescopes to provide views telescopes to provide views of double stars, the Moon, Andromeda Galaxy, and more.

Star parties are weather dependant. Visit our web site for updates before making the trip, especially if the weather is iffy. You'll also find star party tips and a calendar of future events.

Don't Be Afraid of the Fright Light

Fun and a little bit scary, this family-friendly cosmic concert features lasers, stars, pumpkins, skeletons, spiders, and hamsters performing to the music of Michael Jackson, Boris Pickett, Metallica, Weird Al Yankovic, and more. Costumes are encouraged! Join us **Saturday, October 13** at **8:30 and 10:30 pm**.