AUGUST 2021

10:00 pm on August 1
9:00 pm on August 15
8:00 pm on September 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 dark skies with binoculars:

M-6: The Butterfly Cluster

M-7: Open star cluster

M-8: The Lagoon Nebula

M-13: Globular star cluster

M-15: Globular star cluster

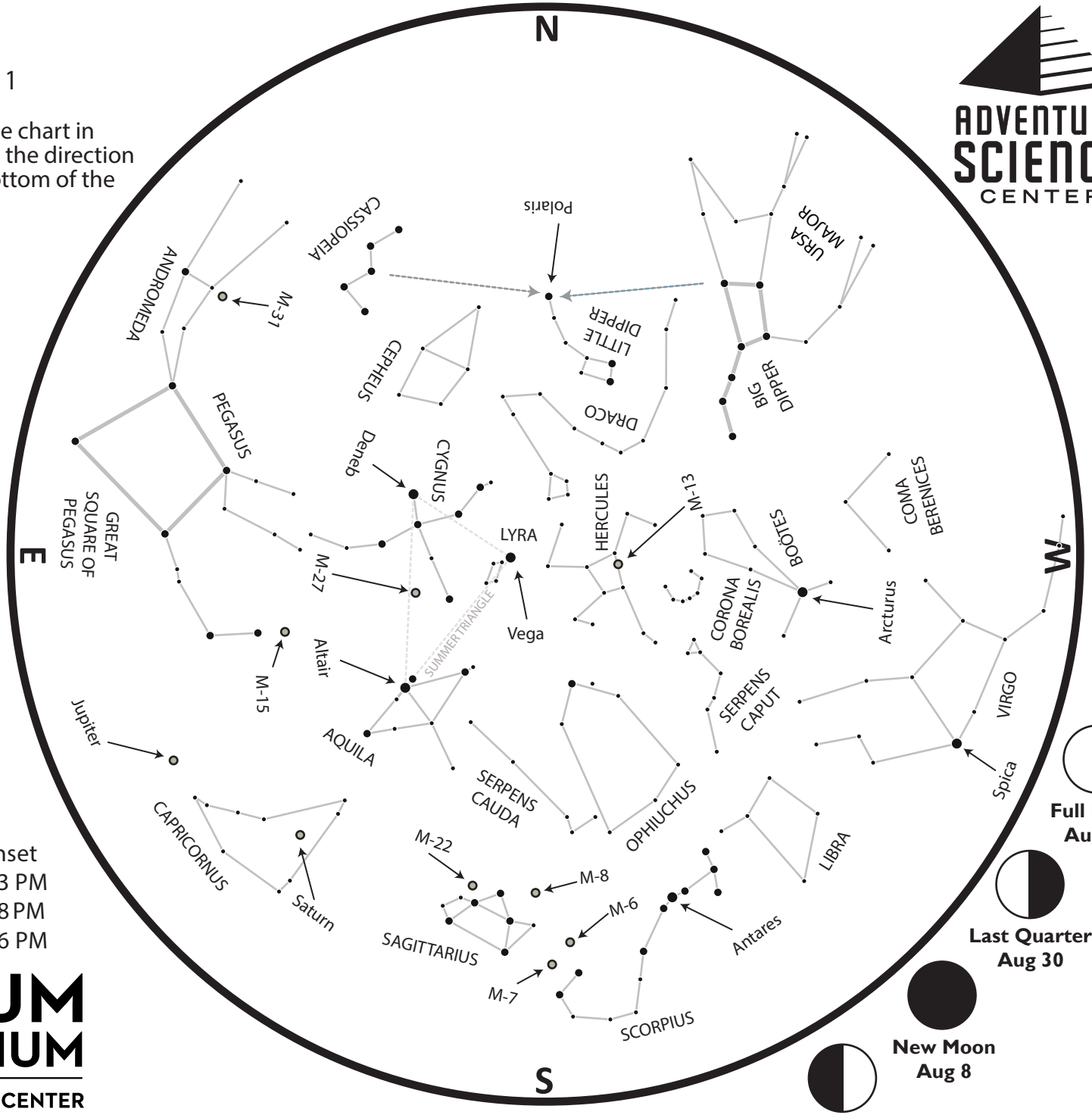
M-22: Globular star cluster

M-27: Dumbell Nebula

M-31: The Andromeda Galaxy

From Nashville:

	Sunrise	Sunset
Aug 1	5:54 AM	7:53 PM
Aug 15	6:05 AM	7:38 PM
Sept 1	6:19 AM	7:16 PM



Full Moon
Aug 22

Last Quarter
Aug 30

New Moon
Aug 8

First Quarter
Aug 15

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SUDEKUM PLANETARIUM

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August 2021

After Sunset

Look low in the west as the sky darkens after sunset to find brilliant **Venus** setting. You'll need a horizon clear of buildings or trees to spot it. Look for a thin crescent Moon to the right of Venus on the evening of August 10.

In the early summer, the **Big Dipper** is easy to find, high in the northwest after sunset. Connect the dots to imagine a big spoon or ladle high above.

The Big Dipper is not officially a constellation; it's what astronomers sometimes call an **asterism**. It's a familiar name for this pattern of stars, especially used by observers in the United States, but it's not one of the 88 constellations recognized by astronomers worldwide. **Ursa Major the Great Bear** is the official constellation here, but you'll need dark skies to see its fainter stars.

Use the two stars at the end of the Dipper's bowl to lead you to **Polaris**, also known as the **North Star**. Polaris is not a particularly bright star, but it does remain fixed in the sky throughout the night and throughout the year. When you face the North Star, you're facing due north. Polaris is at the end of the handle of the **Little Dipper**. This group of stars is also officially known as **Ursa Minor the Little Bear**.

Follow the curved handle of the Big Dipper to trace an 'arc' to **Arcturus**, the orange colored star in **Boötes the Herdsman**. Then speed on to **Spica**, the single bright star in **Virgo the Maiden**. Neither of these constellations has any other bright stars. Even under dark skies away from city lights, it's hard to imagine these mythological figures just by connecting the dots.

Look to the east for the three bright stars that make up the **Summer Triangle**. Viewers with darker skies might find the fainter stars that make up the three constellations of the Triangle: **Cygnus the Swan**, **Aquila the Eagle**, and **Lyra the Harp**.

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Low in the south is the hook-shaped constellation **Scorpius the Scorpion** low in the south. The red star **Antares** marks the heart of the scorpion. This star's name means 'rival of Mars', as its red color nearly matches that of the 'red planet.'

Just to the east of Scorpius is **Sagittarius the Archer**. To ancient civilizations it may have looked like a mythical centaur holding a bow and arrow, but to modern stargazers it looks a lot more like a teapot.

Rising in the southeast are the planets **Jupiter** and **Saturn**. Jupiter is the brighter of the two. Saturn lies within the constellation **Capircornus the Sea Goat**, and Jupiter is further to the east, in **Aquarius the Water Bearer**. Both of these constellations are famous, but hard to find without clear dark skies and excellent imaginations.

If you have binoculars, you may be able to see Jupiter's four largest moons. Watch Jupiter's moons over several nights to watch them orbit around their parent planet. If you have trouble steadying your binoculars on Jupiter, try leaning them up against the side of a building or another steady surface.

A small telescope not only shows the four largest moons of Jupiter, but also the planet's cloud bands. Jupiter has stripes! Meanwhile, binoculars will at best show Saturn as appearing slightly oval in shape. A small telescope reveals the reason: those beautiful rings.

Look for a bright, nearly-full Moon near Saturn on August 20 and near Jupiter on August 21.

From Dark Skies

Bright outdoor lighting can make it hard to see all but the brightest stars. On a clear night, find a dark spot far away from city lights, give your eyes time to adjust to the dark, and look for even more celestial sights.

Summer evenings are great for spotting the **Milky Way** coursing from Sagittarius and Scorpius, through the Summer Triangle and on towards **Cassiopeia the Queen** in the northeast. This hazy band of light is the bulk of our disc-shaped galaxy, as we see it from within.

As you look towards Scorpius and Sagittarius, you are looking in the direction of the dense center of the Milky Way Galaxy. Scan with binoculars or a telescope in this area to find many faint star clusters and nebulae throughout this part of the sky.

Early Morning

As the Earth orbits the Sun throughout the year, the constellations rise and set just a little bit earlier every day. You won't see much difference from night to night, but you will over the course of weeks or months. What we see in today's pre-dawn sky is a preview of the early evening sky in later months. Go out before dawn this month for a look ahead at the late autumn night sky.

In the hours before dawn, the Summer Triangle is begining to set, as are Jupiter and Saturn. Autumn constellations such as **Pegasus the Flying Horse** are high in the west. Winter constellation **Orion the Hunter** is just rising in the east.

Perseid Meteor Shower

The annual **Perseid Meteor Shower** peaks on August 12. This year, the Moon will be a thin crescent setting after sunset, so its light won't interfere with the view. If it's clear, head away from the city lights and take some time to meteor-watch.

Find a comfortable spot of open sky either pre-dawn or after twilight ends on the 12th. Relax, face east, and watch a wide area of the sky. Bring some friends! Be patient. Under ideal conditions, there may only be one or two meteors per minute on average. Meteors may appear anywhere in the sky, but they will appear to be moving in a direction away from the constellation **Perseus**.

Some Perseid meteors can appear up to a week or two before or after the peak, at lower rates.

Meteors from the Perseid shower consist of debris left behind by Comet Swift-Tuttle. Every year, Earth passes through this trail of tiny particles. These particles burn up as they fall through our atmosphere, resulting in the distinctive swift streaks of light we call meteors.

This Month in the Sudekum Planetarium

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