

JUNE 2024

11:00 pm on June 1
 10:00 pm on June 15
 9:00 pm on July 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-4: Globular star cluster in Scorpius
- M-6: Open star cluster in Scorpius
- M-8: Lagoon Nebula in Sagittarius
- M-13: Globular star cluster in Hercules
- M-22: Globular star cluster in Sagittarius
- Albireo: Double star in Cygnus

The first day of summer is June 20! This is also the longest day of the year. From now until the first day of winter, the days will gradually be getting shorter.

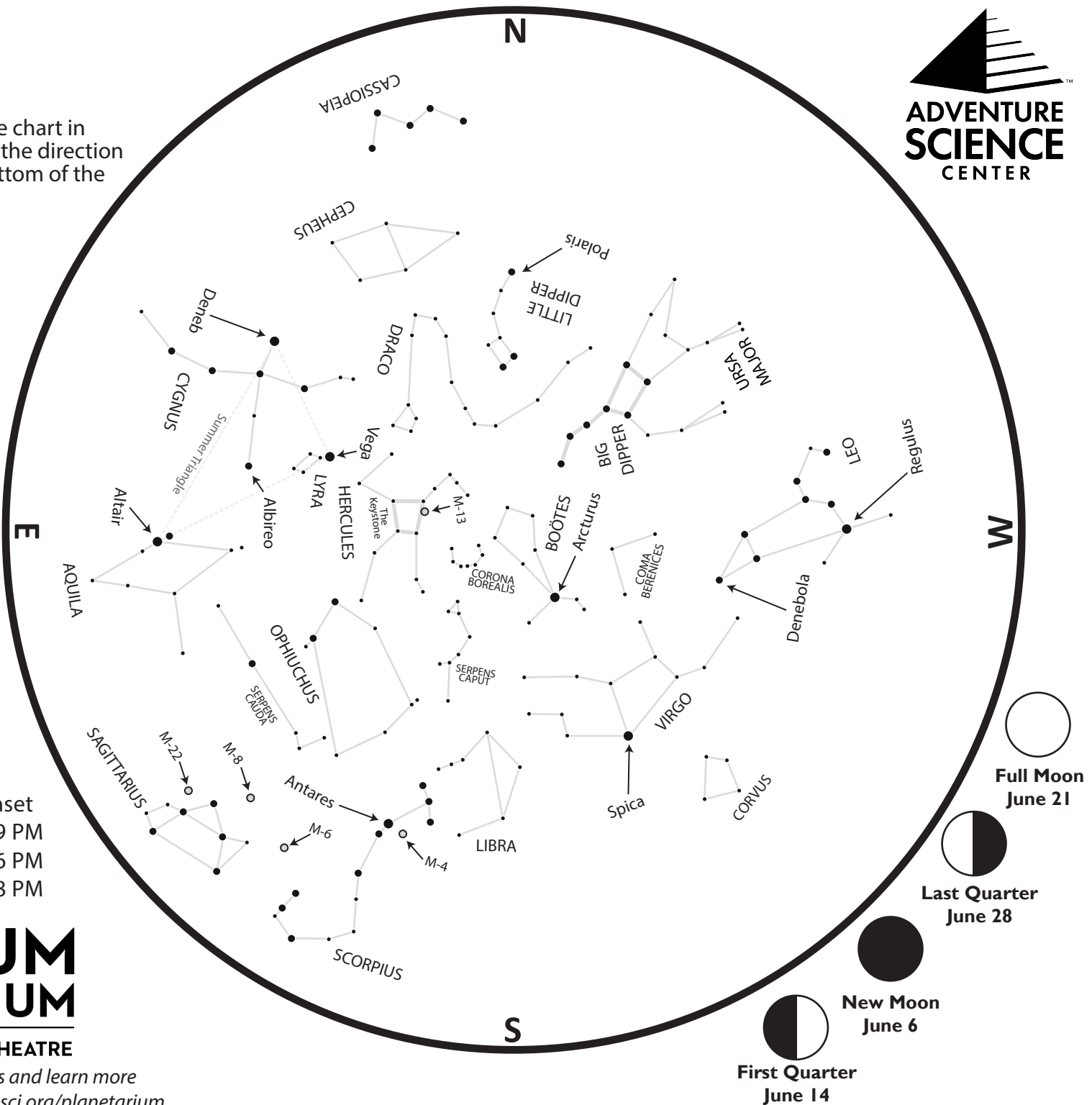
From Nashville:

	Sunrise	Sunset
June 1	5:31 AM	7:59 PM
June 15	5:29 AM	8:06 PM
July 1	5:34 AM	8:08 PM

SUDEKUM PLANETARIUM

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After Sunset

In the late spring, 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**.

Imagine poking a hole in the bottom of the Big Dipper to let the water drip out. The water falls onto the back of **Leo the Lion**. The head and mane of the lion are represented by a group of stars that looks something like a backwards question mark. Other stargazers imagine the top hook of a coat hanger, or a sickle in this group of stars. The "dot" at the bottom of the question mark is **Regulus**, the brightest star in Leo. It marks the regal heart of the lion.

Go back to the Big Dipper once more and follow its curved handle 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 for the Moon near Spica on the evening of June 16.

Look to the southeast for the hook-shaped constellation **Scorpius the Scorpion** low in the south. The red star **Antares** marks the scorpion's heart. The Moon will be near Antares on the evening of June 19.

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.

To the east are 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**.

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.

Evenings in late spring and early summer 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.

Look high in the east for the constellation **Hercules**. Four stars in Hercules form a trapezoid shape called the **Keystone**, after the top stone in an arch. Stay out a little late and the Keystone will eventually appear directly overhead. Imagine the Keystone holding up the arch of the sky!

Look near the Keystone for the globular cluster known as the **Hercules Cluster**, or **M-13**. Using binoculars, you may be able to spot a round-shaped glow. If that blurry glow doesn't seem impressive, just remember that it's a collection of around 300,000 stars, at a distance of over 22,000 light years, at an age of over 11 billion years old.

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 autumn night sky.

In the hours before dawn, the Summer Triangle is high overhead. Sagittarius is setting to the southwest. Autumn constellations such as **Pegasus the Flying Horse** and **Andromeda the Princess** are high in the east.

There aren't any planets to see in the evening sky, but get up early and you can catch **Mars** and **Saturn** rising in the east. As the weeks go on, both planets will gradually rise earlier. By the end of the month, Saturn will rise over the horizon after midnight, and Mars will rise around 3 am. Look for the Moon near Saturn on the morning of the 27th and near Mars on both June 2 and July 1. Near the end of the June, mighty **Jupiter** peeks over the eastern horizon at 4am, not long before the glow of sunrise will hide it.

Keep a close eye on the relative positions of Mars and Jupiter as they grow closer to each other in the sky. On August 14 they will pass very close to each other in the predawn hours. It might just be worth setting your alarm for!

But before you set your alarm for the wee hours of the morning, consider planning out your observing. Desktop planetarium software like the free, open-source Stellarium (stellarium.org) can show you more precisely where night sky objects can be found on any date and time, and help you plan ahead.

Mars: The Ultimate Voyage

Don't miss this brand new show, starting in the Sudekum Planetarium on June 1. See the challenges that NASA must face before one day safely sending humans to Mars.

While you're at Adventure Science Center, don't forget to check out an amazing new space and astronomy gallery, including a full-size model of NASA's **Curiosity** Mars rover and a Mars meteorite you can touch! The new gallery opens on June 1.

This Month in the Sudekum Planetarium

NIGHTWATCH
MARS INCOMING!
THE ULTIMATE VOYAGE

**SUDEKUM
PLANETARIUM**
AT ADVENTURE SCIENCE CENTER