April 2019

10:00 pm on April 1
9:00 pm on April 15
8:00 pm on May 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-42: The Great Orion Nebula

M-44: The Beehive Cluster

M-45: The Pleiades star cluster

The Double Cluster in Perseus

Spring is here! The days have been getting longer ever since the first day of winter, and will continue to lengthen until the first day of summer, June 20.

From Nashville:

	Sunrise	Sunset
Apr. 1	6:34 AM	7:08 PM
Apr. 15	6:15 AM	7:20 PM
May 1	5:55 AM	7:34 PM

SUDEKUM PLANETARIUM

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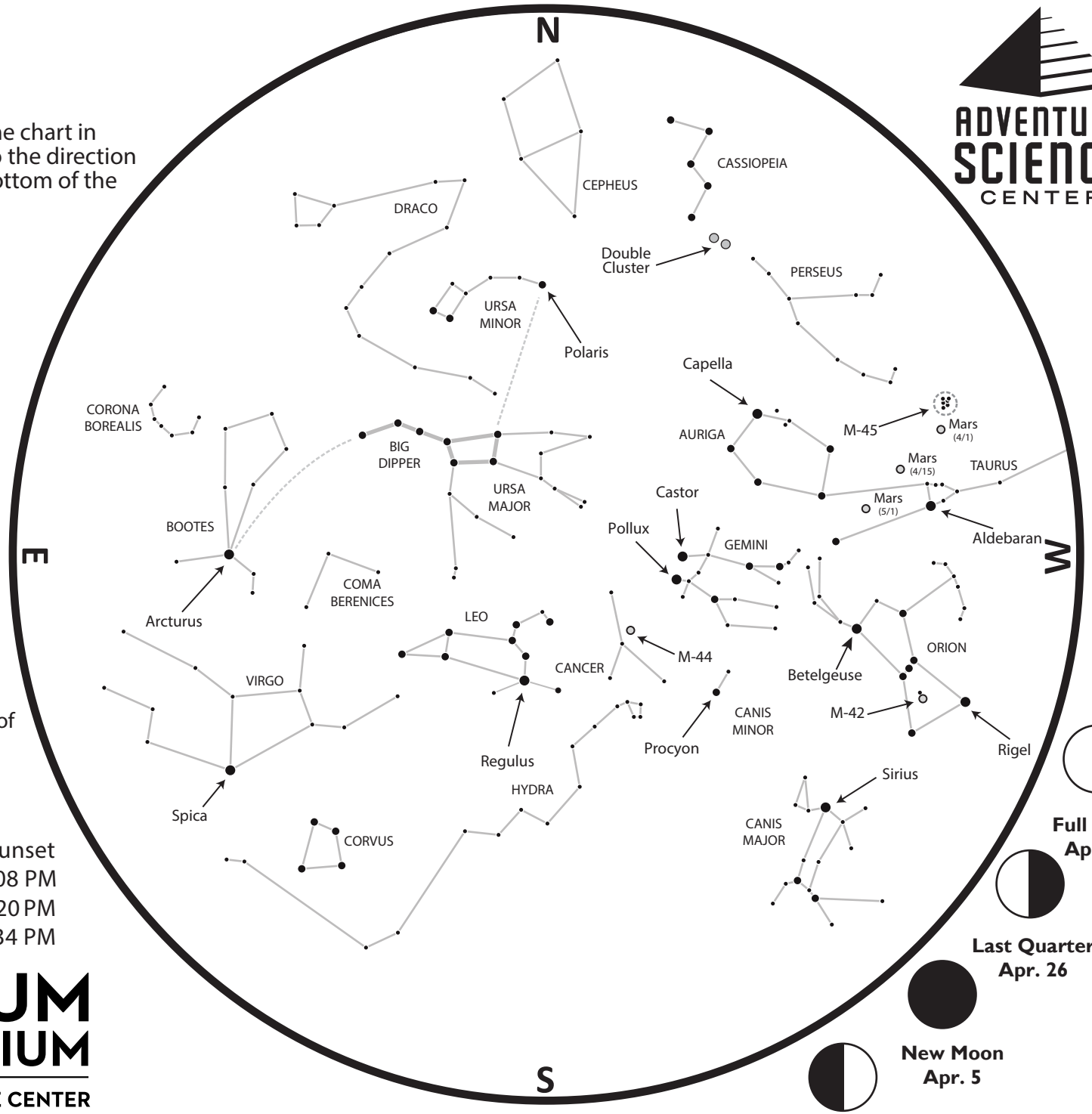
Download monthly star charts and learn more about our shows at adventuresci.org



Full Moon Apr. 19

Last Quarter Apr. 26

New Moon Apr. 5

First Quarter Apr. 12

April 2019

After Sunset

Look high in the north for the **Big Dipper**. As famous as the Dipper is, it's not always easily visible from our latitude in Tennessee. During the autumn, it stays hidden near the northern horizon, only to emerge in the wee hours of the morning. But in the spring, the Dipper is high in the sky, easy to find.

We can use the stars of the Big Dipper to help us find **Polaris**, the **North Star**. Use the two stars at the end of the bowl of the Dipper to point you to Polaris. When you face Polaris, you're facing due north.

Polaris is not a particularly bright star, but it does remain fixed in the sky throughout the night and throughout the year. Polaris is at the end of the handle of the **Little Dipper**. This group of stars is officially known as **Ursa Minor the Little Bear**. Similarly, the Big Dipper is just a part of the official constellation **Ursa Major the Great Bear**. You'll need dark skies to see the great bear's fainter stars.

Imagine poking a hole in the bottom of the 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.

Follow the curved handle of the Big Dipper to trace the 'arc' to **Arcturus**, the orange colored star in **Boötes the Herdsman**. Then speed on to **Spica**, the single bright star in **Virgo the Maiden** low in the southeast. 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 low to the west for our last glimpses of winter constellations. **Orion the Hunter** stands out early in the month, but will be lost in the glow of sunset by May. Follow Orion's belt to the left to find the brightest star in the night sky, **Sirius**, in **Canis Major the Big Dog**. Follow the belt stars to the right to find orange star **Aldebaran**, the eye of **Taurus the Bull**.

Draw a line from Orion's blue-colored foot **Rigel** up through **Betelgeuse**, and keep on going until you run into **Gemini the Twins**. The bright stars **Castor** and **Pollux** mark the heads of the twins. Under dark skies you may just be able to pick out two stick-figure bodies leading back towards Orion.

Watch nearby for another orange-red dot in the sky, the planet **Mars**. Mars starts the month very close to the **Pleiades** star cluster low in the west, near Aldebaran. As the month continues, the red planet moves away from the Pleiades. By the end of the month, the Pleiades will be lost in the glow of sunset, but Mars will still be visible, between the horns of Taurus.

Watch out for those two other nearby red points of light, Aldebaran and Betelgeuse. How can you tell the difference between stars and planets? Planets don't twinkle, while stars do. Look at Mars in a properly focused telescope and it will appear as a round dot, but nighttime stars will remain tiny points of light. Watch Mars over many nights and you'll see it move against the background stars.

A Look Ahead

As 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 summer evening sky.

By morning, our winter constellations have set in the west, and even Leo the Lion has set along the western horizon. High overhead are the three bright stars that make up the **Summer Triangle**. To the south is the J-shaped **Scorpius the Scorpion**, with the red star **Antares**.

Look towards the south for **Saturn** and **Jupiter**. Jupiter is the brighter of the two, and appears to the right of Saturn, closer to Scorpius. As the weeks progress, Jupiter and Saturn will rise earlier and earlier, on their way to becoming a great evening sight during the summer.

Desktop planetarium software like the free, open-source Stellarium (stellarium.org) can show you more precisely where night sky objects will be on any date and time, and help you plan your observing.

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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.

Just beneath the belt of Orion is a faint patch of light that marks the hunter's sword. This is **M-42**, the **Great Orion Nebula**. A small telescope can reveal the overall shape of the nebula. A quartet of young stars near the center are called the **Trapezium**. These stars formed out of the gas and dust of the nebula.

Look between the constellations Leo and Gemini to find... nothing? Even under dark skies you'll have to look closely to spot the famous but faint constellation **Cancer the Crab**, shaped like an upside-down letter Y. Near the center of the Y is **M-44**, the **Beehive Cluster**. Like the Pleiades in Taurus, this open star cluster is a great target for binoculars.

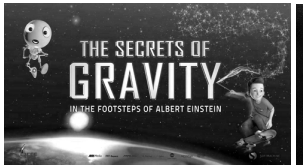
Don't have a telescope? Don't know where to find dark skies? The next free public star party hosted by the Barnard-Seyfert Astronomical Society is scheduled for Saturday, April 13 from 8:30 to 10:30 at **Edwin Warner Park**. Come observe the Moon, Mars, the Beehive Cluster, and more through telescopes provided by BSAS members.

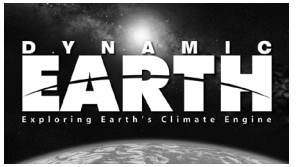
Visit the BSAS web site at bsasnashville.com for details. If the weather is bad, the star party will be canceled. Make sure to check their web site for updates before making the trip to a star party, especially if the weather is iffy. On the BSAS web site you'll also find driving directions and a list of future events.

This Month in the Sudekum Planetarium

April 13: Second Saturday

6:30pm Sakanaction: Goodnight Planetarium
7:30pm That '70s Laser Show
8:30pm Led Zeppelin
9:30pm Pink Floyd: The Dark Side of the Moon





Full schedule at
adventuresci.org/sudekum-planetarium