

10:00 pm on February 1
 9:00 pm on February 15
 8:00 pm on March 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-31: The Andromeda Galaxy
- M-42: The Orion Nebula
- M-45: The Pleiades open star cluster
- The Double Cluster in Perseus

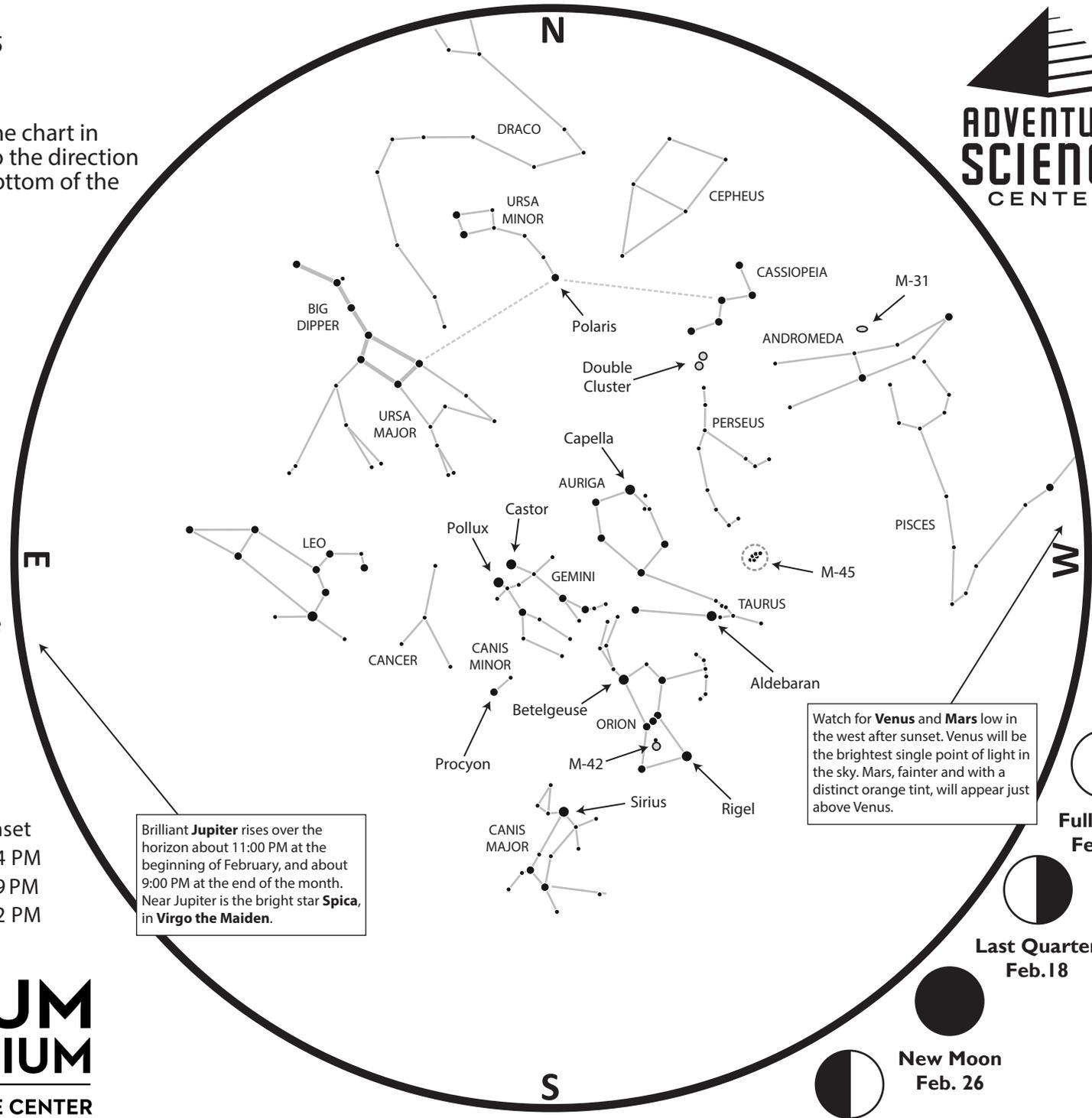
Winter is here! The days are now getting longer and the nights shorter. This will continue until June 20, the longest day of the year and the first day of summer.

From Nashville:

	Sunrise	Sunset
Feb 1	6:48 AM	5:14 PM
Feb 15	6:34 AM	5:29 PM
Mar 1	6:17 AM	5:42 PM

Brilliant **Jupiter** rises over the horizon about 11:00 PM at the beginning of February, and about 9:00 PM at the end of the month. Near Jupiter is the bright star **Spica**, in **Virgo the Maiden**.

Watch for **Venus** and **Mars** low in the west after sunset. Venus will be the brightest single point of light in the sky. Mars, fainter and with a distinct orange tint, will appear just above Venus.



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FEBRUARY 2017

After Sunset

As the Sun sets and the sky begins to darken, look to the southwest for a brilliant point of light. This is the planet **Venus**. It will set over the horizon about two hours after the Sun. Fainter but with a distinctive red-orange color, planet **Mars** appears just above Venus. Both planets will stay in our evening sky through the rest of winter.

Low in the northeast you can find the stars of the **Big Dipper**. The end of the dipper's handle curves down towards the horizon. The two stars at the end of the bowl point to **Polaris**, also known as the **North Star**. Look high in the northwest to find a W-shaped group of stars, **Cassiopeia the Queen**. The central peak of the W also points you to **Polaris**.

Polaris is almost directly above the north pole of the Earth. As the Earth rotates on its axis, Polaris stays fixed in its location above the northern horizon. As you face the North Star, you face due north.

High in the south, you can find the bright stars of the winter evening sky. The most famous and easily found constellation is **Orion the Hunter**. Look for the three stars in a straight line that mark his belt, the two stars that mark his shoulders, and the two stars of his feet. Betelgeuse, one of this shoulder stars, is distinctly red in color. Learn to find Orion, and he can direct you to many other sights of the winter sky.

Follow Orion's belt down and to the left to find the brightest star in the night sky, **Sirius**, in **Canis Major the Big Dog**. Follow the belt stars up and to the right to find orange star **Aldebaran**, the eye of **Taurus the Bull**. Look just past Aldebaran and you may see a grouping of stars called **M-45**, or the **Pleiades Star Cluster**.

To many people, the Pleiades looks like the **Little Dipper**, except it's much smaller. If you have dark skies and good eyesight, you will see at least six, maybe even seven stars in this cluster. With binoculars, you'll see dozens of stars!

Look below Orion's belt to find **M-42**, the **Great Orion Nebula**. This faint patch of light is a massive star-forming cloud of gas and dust over one thousand light years away. Take a look at

M-42 through steady binoculars or a small telescope to see a little more detail.

Draw an imaginary line from bright blue star **Rigel**, through **Betelgeuse**, and continue that line on towards **Gemini the Twins**. The two brightest stars, **Castor** and **Pollux**, represent the heads of the mythological twins.

Draw another line, this time across Orion's shoulders from west to east. You'll end up at **Procyon**, part of **Canis Minor the Little Dog**. Canis Minor is made of only two stars, so you'll really have to use your imagination to see any sort of four-legged creature here.

High above Orion's head is the bright star **Capella**, known as the **Goat Star**, part of **Auriga the Charioteer**.

From very dark skies, look for the hazy band of the **Milky Way** stretching from Canis Major in the south, over Orion's head, and on through Cassiopeia in the northwest.

Stay Up Late

By midnight, Orion is about to set in the southwest. The Big Dipper is now high in the north. Poke a hole in the bottom of the dipper's bowl to let the water spill out on to the back of springtime constellation **Leo the Lion**.

Look to the southeast to find giant planet **Jupiter**. Just below Jupiter is the bright blue star **Spica**, in **Virgo the Maiden**. The Moon will join the pair on the mornings of February 15 and 16.

A Look Ahead

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 spring night sky.

Follow along the handle of the Big Dipper to lead you to a bright orange star, **Arcturus**, nearly overhead. Continue that line down towards **Spica** and **Jupiter**, now high in the south.

Look low in the southeast to find **Saturn**. The beautiful ringed planet will return to our early evening skies this summer. Low in the east, the three stars of the **Summer Triangle** stand out, as if to remind us that warmer weather is on the way!

Eclipse: The Sun Revealed

A very special astronomical event occurs this summer. On August 21, 2017, a **total solar eclipse** will sweep across the United States - and Nashville is right in the path of totality! Sudekum Planetarium's brand new production, **Eclipse: The Sun Revealed**, is now showing daily. Join us as we explore one of the most stunning sights in nature and learn how you can observe solar eclipses safely.



Saturday, February 11

adventuresci.org/saturday

6:30 pm: Skies Over Nashville

7:30 pm: Fulldome Feature:
Fractals

8:30 pm: Jukebox Heroes

9:30 pm: The Other Side of Pink Floyd

10:30 pm: Led Zeppelin

**This month
in the Sudekum Planetarium:**

ECLIPSE

THE SUN REVEALED

DREAM TO FLY

Showtimes and info at
adventuresci.org/show-schedule

Local Astronomy Events

The next free BSAS public star party is scheduled for Saturday, February 4 from 6:30-8:30 pm at **Edwin Warner Park**. Come observe Mars, the Andromeda Galaxy, star clusters, and more through telescopes provided by members of the Barnard-Seyfert Astronomical Society.

Visit the BSAS web site at bsasnashville.com for details. If the weather is bad, the star party will be cancelled. 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.

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