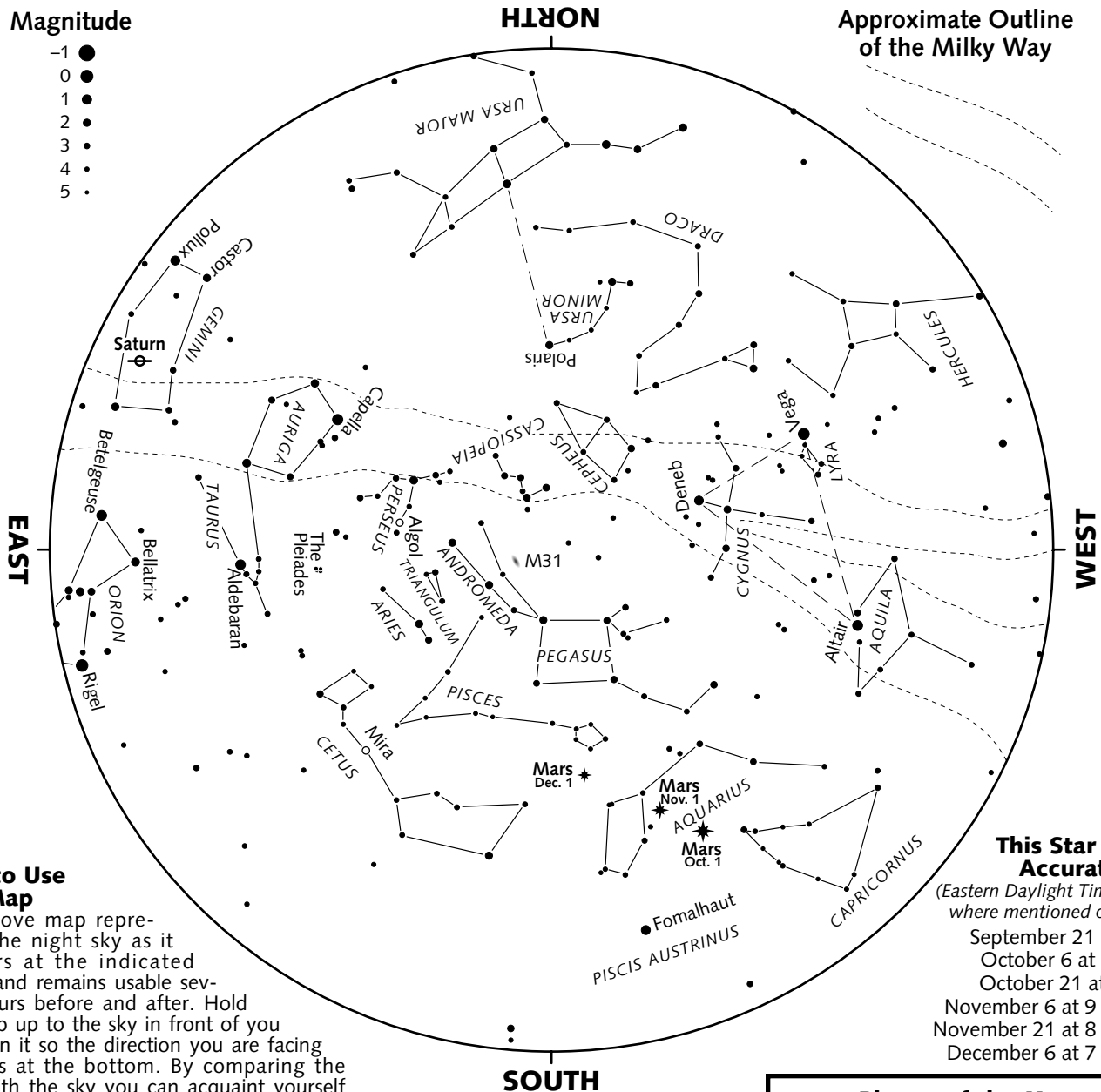
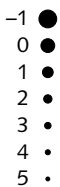


## The Starry Sky — Autumn 2003

### Magnitude



Marc Jobin / Planétarium de Montréal

### How to Use this Map

The above map represents the night sky as it appears at the indicated times, and remains usable several hours before and after. Hold the map up to the sky in front of you and turn it so the direction you are facing appears at the bottom. By comparing the map with the sky you can acquaint yourself with the constellations, an ancient legacy of Greek mythology.

### Seasonal Milestones

The **autumn equinox** occurs on September 23 at 06:47 EDT and the **winter solstice** will take place on December 22 at 02:04 EST. Autumn 2003 will last 89d 20h 17m.

**Standard Time** returns during the night of October 25 to 26 when clocks are set back one hour.

**PLANÉTIARIUM  
DE MONTRÉAL**

planetarium.montreal.qc.ca

Ville de Montréal

### This Star Map is Accurate on...

(Eastern Daylight Time, except where mentioned otherwise)

September 21 at 1 a.m.  
October 6 at midnight  
October 21 at 11 p.m.  
November 6 at 9 p.m. EST  
November 21 at 8 p.m. EST  
December 6 at 7 p.m. EST

### Phases of the Moon

(Eastern Standard Time, except \* = Eastern Daylight Time)

Full moon	Last quarter
Sept. 10 at 12:36*	Sept. 18 at 15:03*
Oct. 10 at 3:27*	Oct. 18 at 8:31*
Nov. 8 at 20:13	Nov. 16 at 23:15
Dec. 8 at 15:37	Dec. 16 at 12:42
New moon	First quarter
Sept. 25 at 23:09*	Oct. 2 at 15:09*
Oct. 25 at 8:50*	Oct. 31 at 23:25
Nov. 23 at 17:59	Nov. 30 at 12:16
Dec. 23 at 4:43	Dec. 30 at 5:03

# The Sky This Autumn

After spending summer in the limelight, Mars is now in retreat: It's time for the other planets to take the stage. Saturn, Venus and Jupiter are each waiting in the wings, and weather permitting, the Moon will offer a special show—the second total lunar eclipse this year.

## Mars' grand finale

Mars was closest to the Earth on August 27, which means it's not too late to train your binoculars and telescopes on this planet of mystery. But you'll have to do it during the first few weeks of fall because Mars' apparent size diminishes steadily as the planet recedes into space. After October 4, Mars' diameter will be less than 20 arc-seconds, and observing conditions deteriorate rapidly over the weeks that follow. This fall, the Red Planet has already risen at sunset: At the end of September it culminates around 23:00, and earlier as the season progresses.

On September 29, Mars resumes its normal westward movement with respect to the background stars. Though the planet's brilliance diminishes rapidly this autumn, its orange tint makes it easy to distinguish among its starry neighbors. The Moon also serves to locate the Red Planet: The two objects are next to each other on the evenings of October 5 & 6, on November 2 & 3, and again on December 1.

## Saturn is back

Since mid-July, Saturn has been visible in the east-northeast, before dawn. But by the end of September the ringed planet rises at midnight; toward the end of October it rises about 22:00; and at the end of November it rises around 19:00 (Eastern Standard Time). Saturn is currently in Gemini and arrives at opposition on December 31. At that point it will be visible throughout the night and ideally situated for observing. And this year, once again, Saturn's rings appear quite broad in a telescope. It's the jewel of the solar system!

A waning gibbous moon appears near Saturn on October 16, 17 & 18; on November 13 to 14; and again on December 10 to 11.

## Venus returns in the evening

Throughout September, and the first half of October, Venus has been lost in the Sun's glare, but the dazzling planet slowly reappears this fall. Toward the end of November we find the "Evening Star" near the southwestern horizon 30 minutes after sunset. Though Venus is still very low, its brilliance makes it easy to spot if the horizon is unobstructed.

But Venus's situation improves rapidly: By mid-December it sets two hours after the Sun and is visibly higher in the sky at twilight. The planet will definitely be a show-stopper throughout the winter and spring, right until the beginning of June 2004.

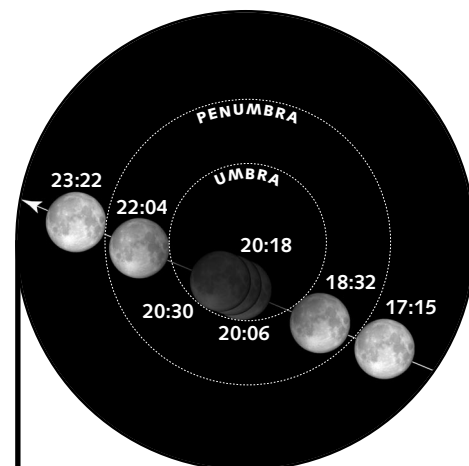
On **November 25**, a thin crescent moon will appear to the lower left of Venus: Half-an-hour after sunset the duo will be a few degrees above the horizon. But you'll need to be quick to catch them before they sink out of view!

## Jupiter in the morning sky

This fall Jupiter returns to the morning sky. At the end of September the giant planet rises two hours before the Sun and is visible in the east before dawn. It gains height with each successive night, and by mid-December it rises around midnight. Other than the Moon and Venus, Jupiter is the brightest object in the nighttime sky!

This year, Jupiter and the Moon rendezvous on several occasions. On **September 24**, about 06:00 the Moon is 5 degrees to the left of Jupiter. Beneath the two, you might be able to spot the planet Mercury, which makes a brief appearance in the soft glow of dawn. The Moon also appears near Jupiter on the mornings of October 21 & 22; November 18 & 19; and on the night of December 15 to 16.

*Happy observing!*



## Another total eclipse of the Moon

The year's second total lunar eclipse will occur on the evening of **November 8**, and will be visible throughout Québec. At 18:32 (Eastern Standard Time) our satellite will begin entering the Earth's shadow; and from 20:06 to 20:30 it will be totally eclipsed. During those 24 minutes, the Moon will take on a dramatic reddish-orange hue. It will remain visible—illuminated by sunlight that is reddened as it passes through our atmosphere. At mid-eclipse, about 20:18, the upper half of the Moon will be deeper in the Earth's shadow and will, therefore, appear darker than the lower half. The Moon exits the shadow at 22:04.

The timing of this eclipse is ideal, and will ensure a maximum viewing audience. Lunar eclipses are completely safe to observe, and everyone should take the opportunity to see this spectacular celestial show. The next total lunar eclipse, visible from Québec, will occur on the night of October 27, 2004.

Research, text, and illustrations:  
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