

The Starry Sky — Spring 2012



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. Lines identify the constellations. The light-coloured area outlines the Milky Way.

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This Star Map is Accurate on...

(Eastern Daylight Time)

- March 21 at 1 a.m.
- April 6 at midnight
- April 21 at 11 p.m.
- May 6 at 10 p.m.
- May 21 at 9 p.m.

The Sky This Spring

Several planets are visible over the coming months,
but dazzling Venus will capture our attention above all.

Venus is resplendent

Venus adorned the winter sky with an outstanding evening apparition — but the planet is even more spectacular this spring! At the end of March and throughout April, Venus appears high in the evening sky at sundown. On March 27, the Evening Star reaches its greatest elongation, 46 degrees east of the Sun: As a result, the planet sets more than four hours after sunset. A few days later, on **April 3**, Venus passes less than half-a-degree from the brilliant Pleiades star cluster — a spectacular sight in binoculars or a small telescope.

But all good things come to an end: In May, the gap between Venus and the Sun diminishes rapidly. The planet appears ever lower in the twilight sky, eventually vanishing on the northwest horizon in the glow of sunset, during the last evenings of May. As it moves toward inferior conjunction, on **June 5**, Venus will “transit” directly in front of the Sun. Because transits are rare events, no effort should be spared to see this one!

For complete details about this event, see www.transitofvenus.ca

Later in June, Venus will reappear in the dawn sky, close to the northeast horizon.

Seen through a telescope, Venus's form changes dramatically as spring progresses. At the beginning of the season, the planet first appears like a “half-moon,” and then like a thick crescent. As the evenings go by, Venus prepares to pass between the Sun and Earth: The planet's night side will face us increasingly, and its crescent will grow progressively thinner. All the while, Venus will be approaching Earth, and the apparent size of its disk will more than double in two months, growing from 24 to 55 arc seconds. At the end of May, a few days before it transits in front of the Sun, Venus will subtend nearly one sixtieth of a degree.

The crescent Moon will be less than 3 degrees to the left of Venus on **March 26**, and this duo will provide a remarkable view on

Phases of the Moon

(Eastern Daylight Time)

New moon	First quarter
March 22 at 10:37	March 30 at 15:41
April 21 at 2:18	April 29 at 5:57
May 20 at 19:47	May 28 at 16:16
June 19 at 11:02	June 26 at 23:30
Full moon	Last quarter
April 6 at 15:19	April 13 at 6:50
May 5 at 23:35	May 12 at 17:47
June 4 at 7:12	June 11 at 6:41
July 3 at 14:52	July 10 at 21:48

the western horizon, in the evening twilight. The Moon will appear somewhat farther from Venus on the evening of April 24, and again on May 22. However, this time the scene will unfold much closer to the west-northwest horizon, just 30 minutes after sunset.

Mars gets farther and fainter

About every 26 months, Mars is in opposition, as was the case on March 3. For several weeks, astronomers take advantage of this optimum period for observing the Red Planet since the distance separating us, from it, is at a minimum. But this year's opposition wasn't very favourable: Mars was nearly twice as far, so its orange disk appeared half the size compared with the best oppositions. As springtime begins, Mars is still close enough to offer a subtle view of some surface details, but the prospect is disappointing. As of April, Mars begins to recede significantly from Earth, and its brightness will fade progressively.

Mars' rapid motion against the background stars can best be appreciated with the naked eye. The Red Planet spends this entire spring season in Leo, and before terminating its retrograde loop, it heads westward among the stars, moving ever closer to Regulus. But then, around mid-April, Mars resumes its direct eastward movement and begins heading toward the constellation of Virgo.

The gibbous Moon will appear beneath Mars on the evenings of April 3 & 30, and May 1. The first quarter Moon will be below the Red Planet on May 28.

Saturn grabs the spotlight

Saturn is currently near Spica, the brightest star in Virgo, and is the second featured object in the springtime sky. At the beginning of spring, Saturn rises in the east-southeast, early in the evening, and culminates in the south around 2:00 A.M. However, the best time for observing Saturn arrives progressively earlier over the coming weeks: When the ringed planet is at opposition on April 15, it rises at twilight and culminates around midnight; but at the end of May, Saturn has already reached its highest point by nightfall.

Now is the ideal time to aim your telescope at Saturn. Its famous rings provide one of the most captivating views in astronomy! This year, the rings' inclination surpasses 13 degrees, which makes viewing their different zones and concentric divisions much easier.

The full Moon will appear near Saturn, and Spica, during the night of April 6 to 7; a gibbous Moon will appear near the duo again, on the night of May 4 to 5, and once more during the night of May 31.

Jupiter retreats

Since its magnificent pairing with Venus, on March 13, Jupiter has continued its descent toward the western horizon and appears ever lower in the twilight sky. As such, conditions for observing the giant planet with a telescope have become less and less favourable. However, to the naked eye the situation remains interesting because Jupiter partakes in several beautiful encounters with the crescent Moon, set against the background colours of twilight. On **March 25**, a thin lunar crescent comes to rest just two degrees to the right of the bright planet: Both objects set about three hours after the Sun, which provides an ideal occasion to admire the glow of earthshine on the Moon. On the evening of April 23, 30 minutes after sunset, the lunar crescent will appear low on the west-northwest horizon, three degrees above Jupiter.

The Sun eventually catches up with the giant planet, and it disappears in the glow of sunset during the last evenings of April. Jupiter passes behind the Sun (superior conjunction) on May 13 and gradually reappears in June, low on the east-northeast horizon at dawn. On the morning of **June 17**, 45 minutes before sunrise, the crescent Moon appears less than one degree to the left of Jupiter — another spectacular pairing, this time against the colours of dawn!

Mercury remains discreet

After an unfavourable apparition in the morning skies of late April and early May, Mercury reappears in the evening skies of June. On **June 1**, Mercury and Venus meet during twilight, just half-a-degree from one another. Look for the two planets low on the northwest horizon, 15 minutes after sunset: This is a difficult observation requiring an absolutely clear horizon. A pair of binoculars will help locate Venus in the glow of sunset; Mercury is much fainter and is situated just above the brilliant planet.

Over the following weeks, Mercury will move away from the Sun and gain altitude. Though the furtive planet will gradually get fainter, it will remain easy to spot until the first evenings of summer. On June 21, at twilight, the crescent Moon will join Mercury on the west-northwest horizon.

Clear skies!

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Seasonal Milestones

The **spring equinox** takes place on March 20, 2012, at 1:14 EDT, and the **summer solstice** occurs on June 20 at 19:09. Spring will last 92 d 17 h 55 min.