

# WHAT'S UP IN SPACE: 2017

**2017 IS AN EXCITING YEAR FOR ASTRONOMY** as we gear up for the much anticipated North American total solar eclipse, view Saturn's rings at maximum tilt, experience a few dazzling planetary and lunar conjunctions and occultations, promising meteor showers, and more!

## JANUARY 3, 4

Quadrantids Meteor Shower – Up to 40 meteors per hour at its peak, Quadrantid meteors are tiny dust particles left behind by asteroid 2003 EH1. They should peak after midnight and the setting of the first quarter Moon. Get out under dark skies and peer towards the radiant in the constellation Bootes.

## JANUARY 31

Conjunction of the Moon, Mars, and Venus – A tidy triad after dusk, a crescent Moon will join Mars and Venus on the ecliptic for a triangular treat for stargazers and photographers.

## FEBRUARY 11

Penumbral Lunar Eclipse – A partial eclipse visible throughout most of eastern South America, eastern Canada, Europe, Africa, and western Asia.

## FEBRUARY 16

Venus at Greatest Brilliance – Blazing at -4.6 magnitude, romantic Venus will be shining bright near Valentine's Day.

## FEBRUARY 26

Annular Solar Eclipse – A “ring of fire” and/or partial solar eclipse for parts of South America and Africa.

## MARCH 4

Moon Occults Aldebaran – Depending on your latitude in North America, check out the constellation Taurus and the orange giant “bull’s eye” star, Aldebaran, for a close pairing, grazing event, or full on occultation by the first quarter Moon.

## APRIL 7

Jupiter at Opposition – The closest approach of Jupiter for 2017 and the best time of the year to observe and image the giant planet. Top amateur imagers like Team Celestron's Damien Peach ([celestron.com/team-celestron/damian-peach](http://celestron.com/team-celestron/damian-peach)) will even be able to resolve surface details on the Galilean moons!

## APRIL 22, 23

Lyrids Meteor Shower – Up to 20 meteors per hour at its peak under the crescent Moon, the Lyrids are tiny dust particles left behind by comet C/1861 G1 Thatcher. Watch the constellation Lyra after midnight from a dark sky location.

## MAY 6, 7

Eta Aquarids Meteor Shower – Up to 30 meteors per hour in the Northern Hemisphere, Eta Aquarid meteors are tiny dust particles left behind by the famous comet Halley and will peak after midnight under a waxing gibbous Moon in the constellation Aquarius.

## JUNE 15

**SPECIAL OBSERVING NOTE: Saturn at Opposition/Maximum Tilt** – The best time to observe and image the ringed planet in over a decade! Saturn will achieve its closest approach to Earth while its rings achieve maximum tilt at 27 degrees in what promises to be one of the most beautiful sights of 2017.

## AUGUST 7

Partial Lunar Eclipse – Visible throughout most of eastern Africa, central Asia, the Indian Ocean, and Australia.

## AUGUST 12, 13

Perseids Meteor Shower – One of the best showers of the year clocking in at up to 60 meteors per hour at its peak, the Perseids will burn brightest after midnight under the waning gibbous Moon.

## AUGUST 21 TOTAL SOLAR ECLIPSE

**SPECIAL OBSERVING NOTE: NORTH AMERICAN TOTAL SOLAR ECLIPSE\*** – Coast to coast from Oregon to South Carolina, this will be one of the most-watched astronomical events in our lifetime. This is the Big Kahuna so don't miss it! Do your homework, plan early, and purchase your EclipSmart Solar Safe glasses, binoculars, and telescopes from Celestron NOW! Learn more at [celestron.com/eclipsewatch2017](http://celestron.com/eclipsewatch2017).

## SEPTEMBER 5

Neptune at Opposition – The blue giant planet will be at its closest approach to Earth in early September. Don't expect to observe surface details like other planets, but Neptune's bluish fuzzball appearance is still worthy of observation.

## OCTOBER 7

Draconids Meteor Shower – Up to 10 meteors per hour at its peak from a dark location, the Draconids are produced by dust grains from comet 21P Giacobini-Zinner. Grab some dark skies and view these meteors near the constellation Draco in the early evening.

## OCTOBER 19

Uranus at Opposition – You won't be able to resolve surface details, but spot the blue-green gas giant around its closest approach to Earth in the fall for a colorful treat.

## OCTOBER 21, 22

Orionids Meteor Shower – Up to 20 meteors per hour at its peak after the early setting crescent Moon, Orionids are produced by dust grains left behind by the famous comet Halley. Hit your favorite dark sky spot with friends and hot chocolate for this fall favorite.

## NOVEMBER 13

Conjunction of Venus and Jupiter – Spot this spectacular pairing of the two brightest planets which will appear extremely close together (only 0.3 degrees apart) in the Eastern sky just before sunrise.

## NOVEMBER 17, 18

Leonids Meteor Shower – Up to 15 meteors per hour at its peak, the Leonids are unique in that they have a cyclonic peak about every 33 years resulting in a meteor storm with reports of hundreds of meteors per hour (the last of these occurred in 2001). This shower is produced by comet Tempel-Tuttle and radiates from the constellation Leo.

## DECEMBER 13, 14

Geminids Meteor Shower – Rounding out 2017 is the king of the meteor showers, the Geminids. Producing up to 120 multicolored meteors per hour at its peak, this shower is produced by an asteroid known as 3200 Phaethon. Grab some friends, head to dark skies and gaze towards the constellation Gemini after midnight.



Check local times.

\*WARNING: Always use solar safe optics when observing the Sun. Visit [celestron.com/EclipSmart](http://celestron.com/EclipSmart) for more details

Sources: UniverseToday.com, Seasky.org, Sky News and Sky & Telescope magazines