HIGH POINT SCIENTIFIC

WHAT'S IN THE SKY THIS MONTH?

Total Lunar Eclipse

Date: November 8th
Magnitude: 1.36
Eclipse Starts: 03:02 ET / 00:02 PT
Partial Phase Begins: 04:09 ET / 01:09 PT
Totality Begins: 05:16 ET / 02:16 PT
Mid-Eclipse: 05:59 ET / 02:59 PT
Totality Ends: 06:41 ET / 03:41 PT
Partial Phase Ends: 07:49 ET / 04:49 PT
Eclipse Ends: 08:56 ET / 05:56 PT
Duration of Eclipse: 5h 54m
Duration of Totality: 1h 25m
Constellation: Aries

2022 has brought us two total lunar eclipses. The first, back in May, was perhaps best seen on the east coast, but this month's favors the west. Regardless of your location, you'll need to rise early if you want to see anything of it. Be sure to take a look as the planet Uranus will appear within the same binocular field of view as the Moon's eclipsed disc.

By the time the partial phase begins, the Moon will be fairly low over the western horizon for east coast observers. Totality begins shortly before the start of astronomical dawn for observers there, leaving little time to enjoy the Moon and Uranus together, especially since the Moon is likely to be extremely low or even below the horizon by the time totality ends. On the flip side, west coast observers will be able to see the eclipse through to the end of the partial phase.

OUR NEAREST NEIGHBORS

Neither **Mercury** nor **Venus** are visible this month, but **Saturn** can still be enjoyed for a few hours after sunset. You'll find it above the southwestern horizon, with a first quarter Moon nearby on the 1st and a waxing crescent Moon close by on the 28th. Telescopic observers can also observe **Neptune**, while **Jupiter** continues to shine brightly just a little way toward the east. You'll find a waxing gibbous Moon to the left of Jupiter on the 4th. **Uranus** reaches opposition in Aries on the 9th, giving you your best opportunity to spot the ice giant this year. **Mars**, now retrograde in neighboring Taurus, reaches opposition next month, but the red planet is already an outstanding telescopic sight, and it's well worth investing some time at the eyepiece to make the most of it. You'll find it midway between the horns of the bull, with the waning gibbous Moon to its upper right during the evening of the 10th. Finally, the **Moon** is full on the 8th and then turns new on the 23rd.

M31 - The Andromeda Galaxy: Known since ancient times, the Andromeda Galaxy is the furthest object you can easily see with just your eyes - but nowadays you'll need to be under dark skies to have any chance of seeing it without equipment.

NGC 869 / 884 - The Double Cluster: As with the Andromeda Galaxy, the Double Cluster has been known since antiquity. They're both relatively large open star clusters and, consequently, best observed with binoculars or a telescope with a low power, wide-angle eyepiece.

Gamma Arietis - Mesarthim: A pair of bright white stars of equal brightness, split with a small telescope at low power but best seen at a magnification of around 100x.

NGC 457 - The Owl Cluster: There are few open star clusters that so obviously resemble the object they're named for, but the Owl Cluster is one of them. Other names include the Dragonfly Cluster and even the E.T. Cluster - which one seems most appropriate to you?

M31 - The Andromeda Galaxy

Source: NASA/JPL-Caltech

STELLAR CONCEPTS

Open Cluster: A close group of stars, often numbering in the hundreds or even thousands, that formed from the same cloud of gas and dust in space. As such, they're usually young, blue-white stars that are still relatively close together. Many of the clusters have nicknames based on the shapes they appear to form when viewed through binoculars or a telescope.