

# STAR GAZERS

## NEWSFLASH

### EINSTEIN IS RIGHT ABOUT BLACK HOLES

The edge of black holes where matter can't stay in orbit and falls in was predicted by his theory of gravity. Using X-ray telescopes, astronomers have observed this area – called the “plunging region” – in a black hole about 10,000 light-years from Earth.

<https://www.cnn.com/2024/05/17/world/black-holes-einstein-plunging-region-scn/index.html>

### WEBB CAPTURES HORSEHEAD NEBULA

NASA's James Webb Space Telescope has captured the sharpest infrared images to date of a zoomed-in portion of one of the most distinctive objects in our skies, the Horsehead Nebula.

<https://science.nasa.gov/missions/webb/webb-captures-top-of-iconic-horsehead-nebula-in-unprecedented-detail/>

### THIS SUMMER - COSMIC EXPLOSION

Scientists are calling it a “once-in-a-lifetime event.” A nova occurs when a white dwarf – a star at the end of its life – suddenly brightens due to ejecting material it has collected from a nearby younger star.

<https://www.seti.org/be-first-see-once-lifetime-stellar-explosion>



A SpaceX Falcon Heavy rocket with the Psyche spacecraft launches from NASA's Kennedy Space Center on October 13, 2023.  
Credit: Chandan Khanna | AFP | Getty Images

## 2024 SPACE MISSIONS TO FOLLOW

1. **Europa Clipper** - NASA is expected to launch the spacecraft in October to explore Europa, one of Jupiter's largest moons. Is Europa's ocean suitable for extraterrestrial life?
2. **Artemis II** - It's been 50+ years since NASA sent a crew to moon. This is the first step in the plan for long-term, sustained presence in space.
3. **VIPER** - The 100-day search for water on the moon's south pole.
4. **Lunar Trailblazer (PRIME-1)** - This little guy will be tagging along to the moon with PRIME-1, sort of like a rideshare.
5. **JAXA's Martian Moon eXploration** - Japan has a robotic mission to Mars' moons Phobos and Deimos scheduled for September 2024. Are the moons captured asteroids or did they form from debris like our own?
6. **ESA's Hera** - European Space Agency has a mission to visit the same asteroid system NASA's DART visited in 2022. DART hit the asteroid Dimorphos so hard that it changed its orbit. Understanding this impact technique could come in handy if there is ever an object hurling through space towards earth.

<https://www.pbs.org/newshour/science/6-space-missions-to-look-forward-to-in-2024>

## EUCLIDS SPARKLING COSMIC VIEWS

ESA's Euclid space mission releases five spectacular new views of the Universe. These images are unrelated to Euclid's true mission

Euclid will trace the hidden foundations of the cosmos, map billions of galaxies across one-third of the sky, explore how our Universe formed and evolved over cosmic history, and study the dark energy and dark matter

[https://www.esa.int/Science\\_Exploration/Space\\_Science/Euclid/ESA\\_s\\_Euclid\\_celebrates\\_first\\_science\\_with\\_sparkling\\_cosmic\\_views](https://www.esa.int/Science_Exploration/Space_Science/Euclid/ESA_s_Euclid_celebrates_first_science_with_sparkling_cosmic_views)

## THE MEANING OF LIGHT AND COLOR

Did you know that the Hubble Space Telescope doesn't have any color cameras on it? It uses filters that allow only a certain range of light through. Once the unwanted light has been filtered out, the remaining light is recorded in black and white. NASA created the Hubble palette to add color to interesting features of objects.

<https://hubblesite.org/contents/articles/the-meaning-of-light-and-color>