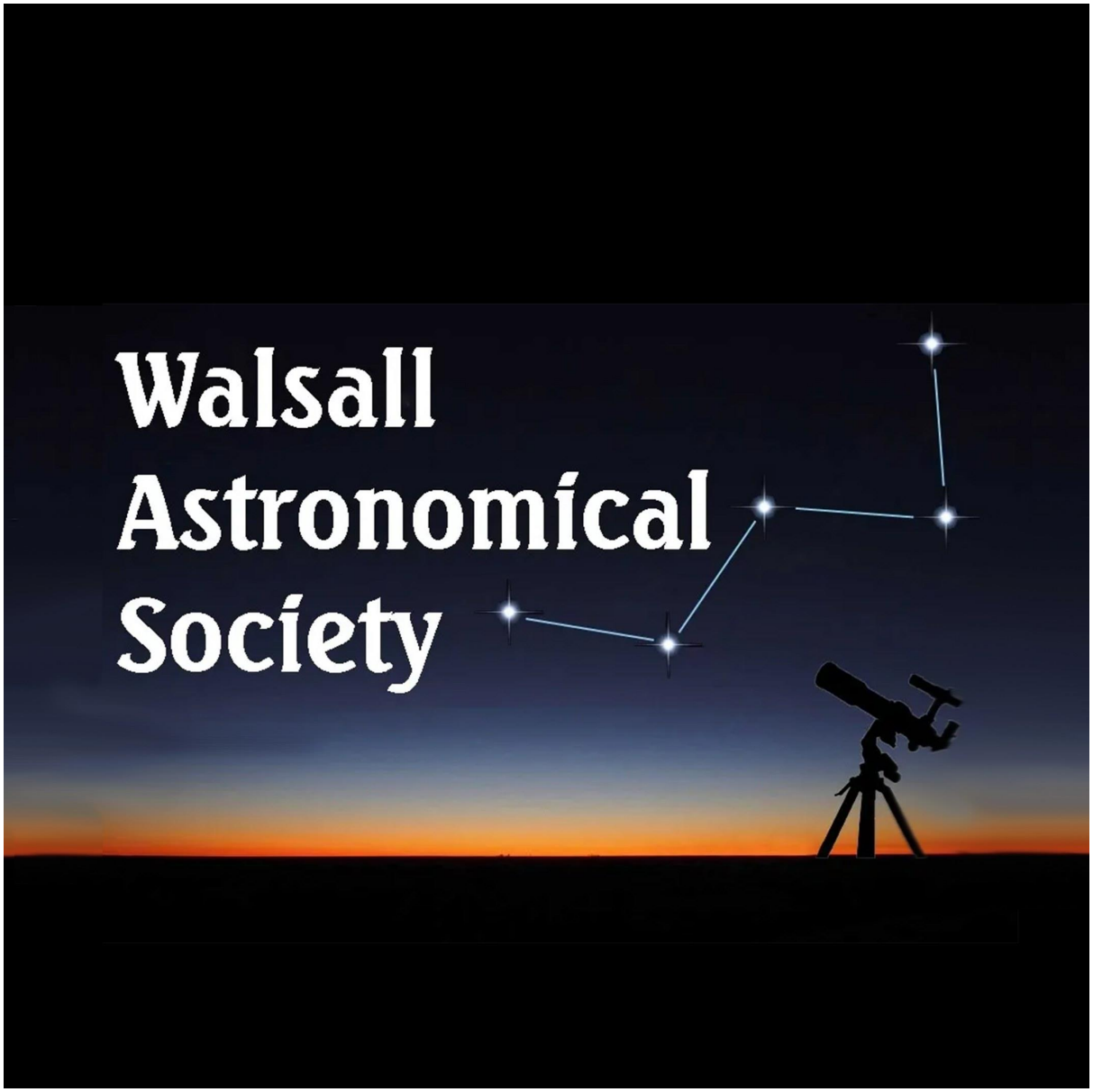
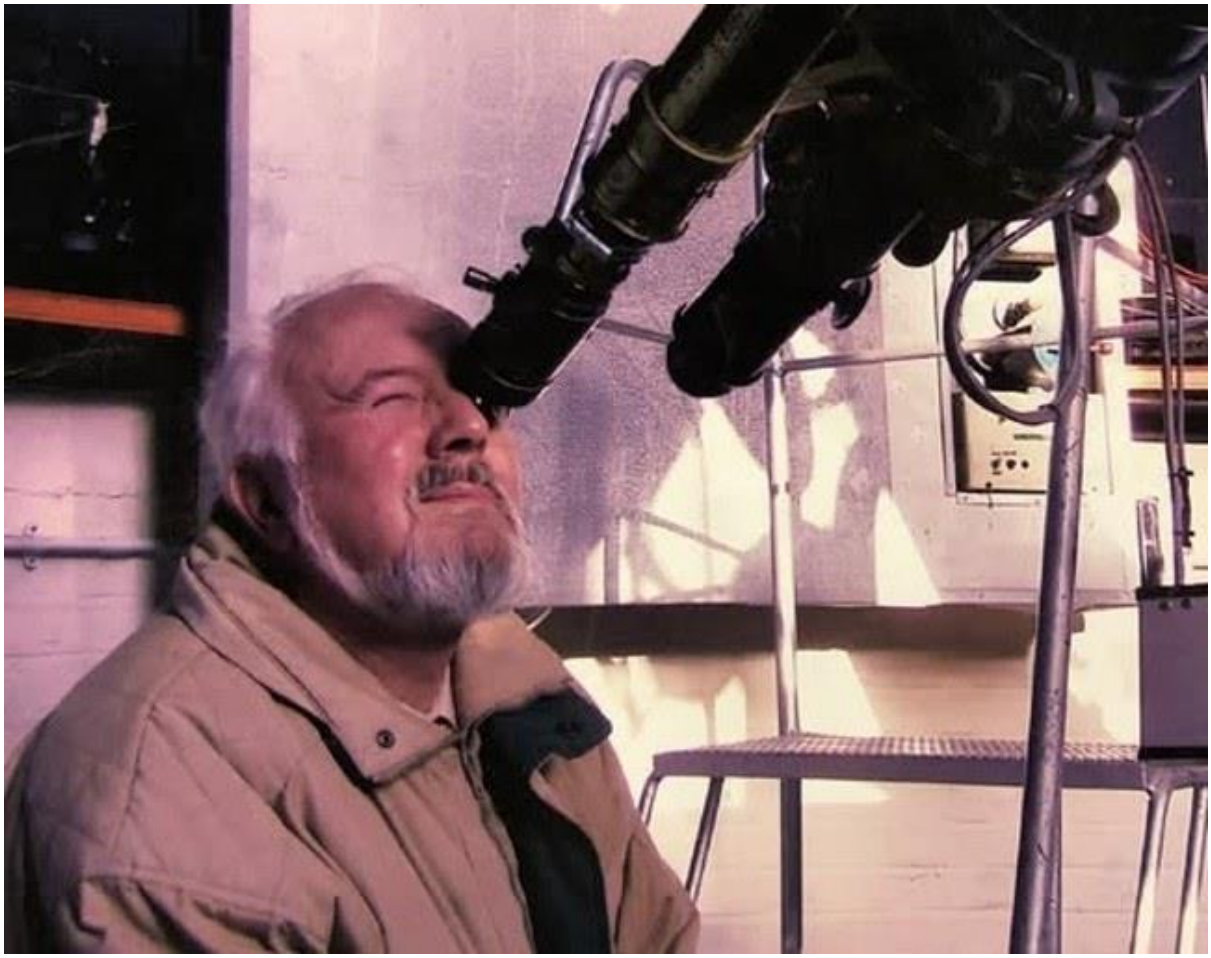


December 2025

Funeral details



- Monday 15th December
- Streetly Crematorium
- Time: 13:15
- East Chapel
- Wake 14:15 Rushall Football Club

How should we, as a club, remeber Alan?

As many of you know, our dear friend and fellow astronomer, past chairman and treasurer, **Alan**, has passed away recently.

This is a profound loss for all of us, and his passion for the night sky, his enthusiasm, and his contributions to our group will be deeply missed.

We feel it is important for us, as a club, to create a lasting and meaningful way to honor Alan's memory and recognize his dedication to astronomy and our community. As

mentioned on the What's up call, we invite **your suggestions** on how our club could best remember him.

All ideas will be carefully considered.

Here are a few categories of ideas to get you thinking, but please feel free to propose anything you believe would be a fitting tribute:

- **Club Activities:** An annual event, a dedicated observing night, or a special talk in his honor.
- **Physical Memorials:** A commemorative plaque, a donation in his name, or a book/equipment dedication.
- **Annual award**: A annual prize or prizes / trophy named after Alan.

Please reply to this email with your suggestions **by End of, December**.

Thank you for helping us honor Alan's memory.

eMail: info@walsallastro.com[1]

What's Up Monthly Publication

[1] mailto:info@walsallastro.com

December:

Time to wrap up warm and go observing! December brings the darkest months of the year. As 2025 comes to a close, the sky becomes dominated by Orion and one of the brightest nebulae, M42. As the nights continue to get darker, and hopefully clearer, the Milky Way will become more visible to the naked eye, especially from areas with low light pollution.

Merry Christmas to all members!

What's on in December

- This month we have our Christmas meal and quiz alongside General Club Meeting, for discussion and support with Observing if clear🤞.
- We are also running our annual moon event to remember Phil McMahon, please see the details below.

Don't forget to send us any images you have taken or post them on the Facebook Group![2]

[2] https://www.facebook.com/groups/251803274136388

Thursday 4th December: Club Christmas Meal - please be aware this will replace the meeting so there will be no one present at the club. Meal booked for 18:30.

Thursday 11th December: General Club Meeting, for discussion and support - Observing with telescopes if clear

Thursday 18th December: Christmas Quiz at the club, start at 8pm.

Thursday 25th December: No club meeting

Thursday 1st January: No club meeting

Thursday 8th January: First Club meeting of the New Year!

We will be running our Annual McMahon Moon Month Event throughout December in memory of Phil who passed in 2024. This will be a competition for the best image of the moon captured during the month. There will be 2 categories:

- Images captured without using a telescope
- Images captured using a telescope

There will be a winner for each category, receiving the prize of a £10 Amazon voucher.

We will ask someone from the football club to judge and winners will be announced in January when the club resumes.

To enter the competition just follow the steps below:

- Take your best image of the Moon during December
- Post your picture on our Facebook group **Here**[3] or submit via email to info@walsallastro.com[4] - Be sure to include what equipment you used to take your picture so you can be entered into the correct category.
- Submit your entries by the deadline of **31st December**, any entries received after this will not be judged.

Members Gallery

[3] https://www.facebook.com/groups/251803274136388
[4] mailto:info@walsallastro.com

This section is to display some of the images that our own club members have taken during the previous month. Please feel free to submit any images via email, or post on the Facebook Group **Here**[5]

[5] https://www.facebook.com/groups/251803274136388


Seestar S50
Lunar
Nigelstar/stacked/01°W,52°N/2025-11-02 22:30

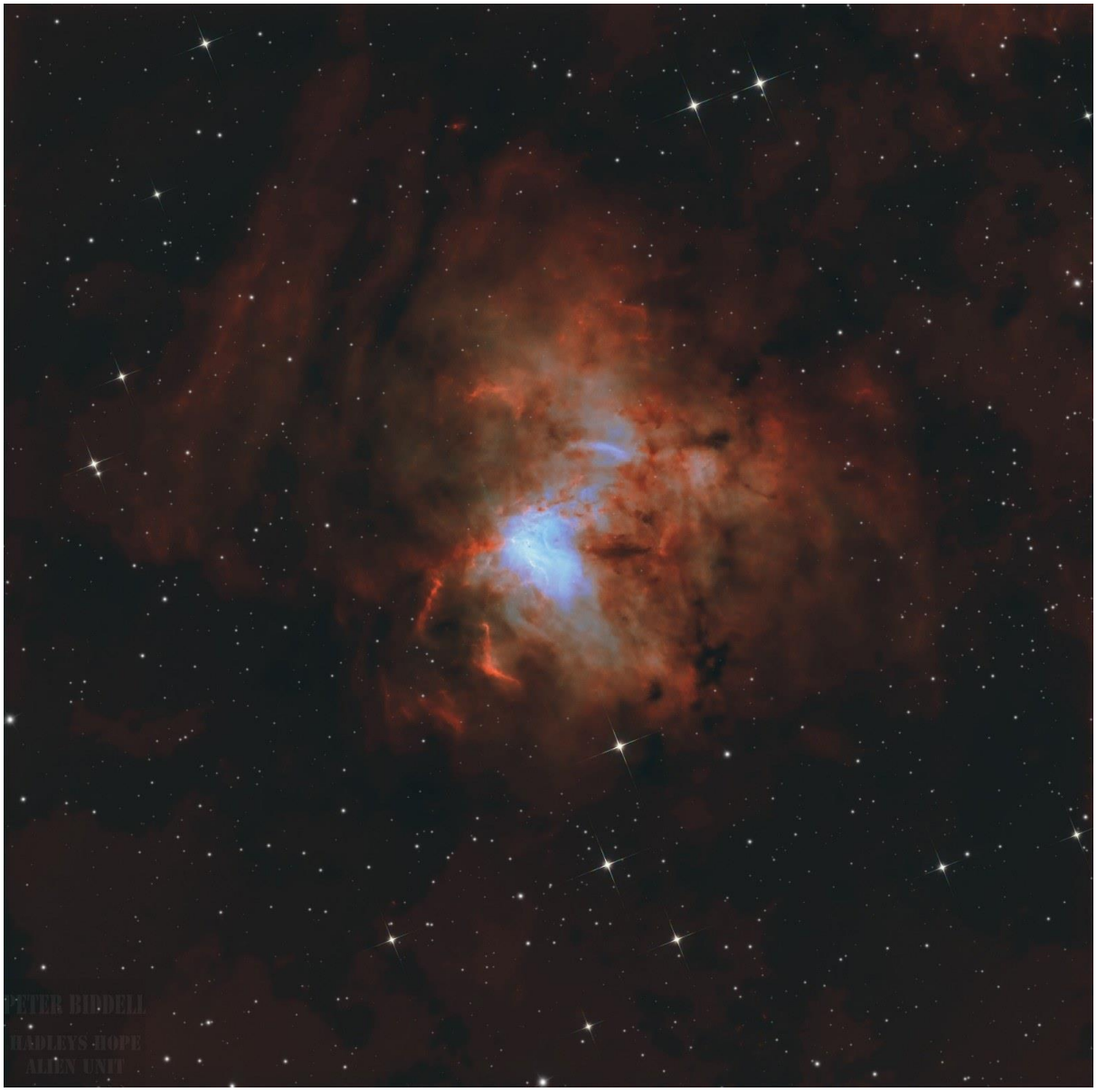
1 - Moon - Tony Jakeman

2 - Moon - David Kyte

3 - Heart and Soul Nebula - IC1805 and IC1848 - Mike Lewis


Seestar S50
C 13
Stargazer Stu / Dudley / 2025.11.17 22:33
15min

4 - Owl Cluster - C13 - Stu Selwood



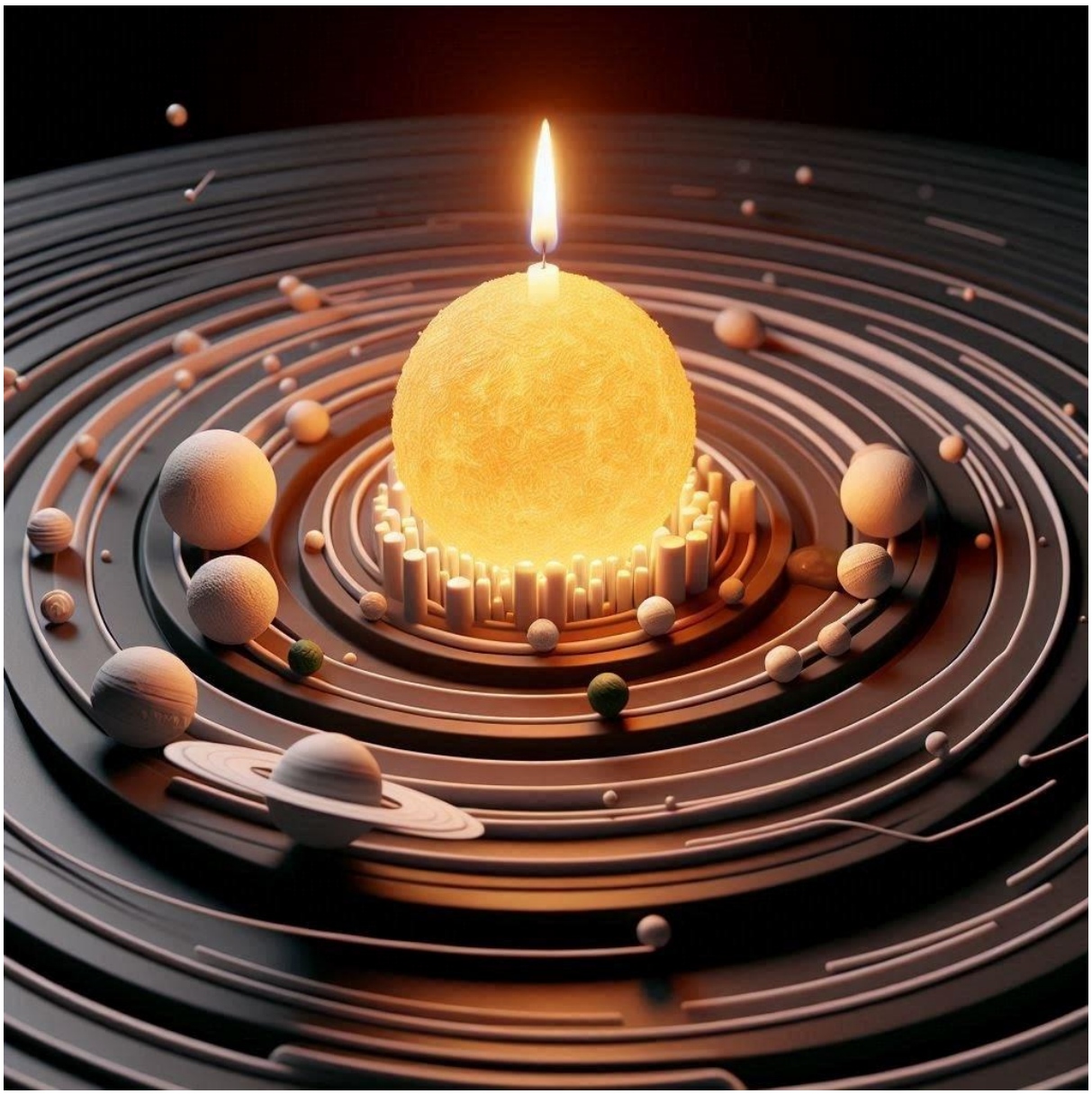
5 - Fossil Print Nebula - NGC1491 - Peter Biddell

6 - Triangulum Galaxy - M33 - Keith Thompson

7 - Horsehead Nebula IC434 and Flame Nebula NGC2024 - Peter Biddell

8 - Northern Trifid Nebula - NGC1579 - Keith Thompson

Anniversaries



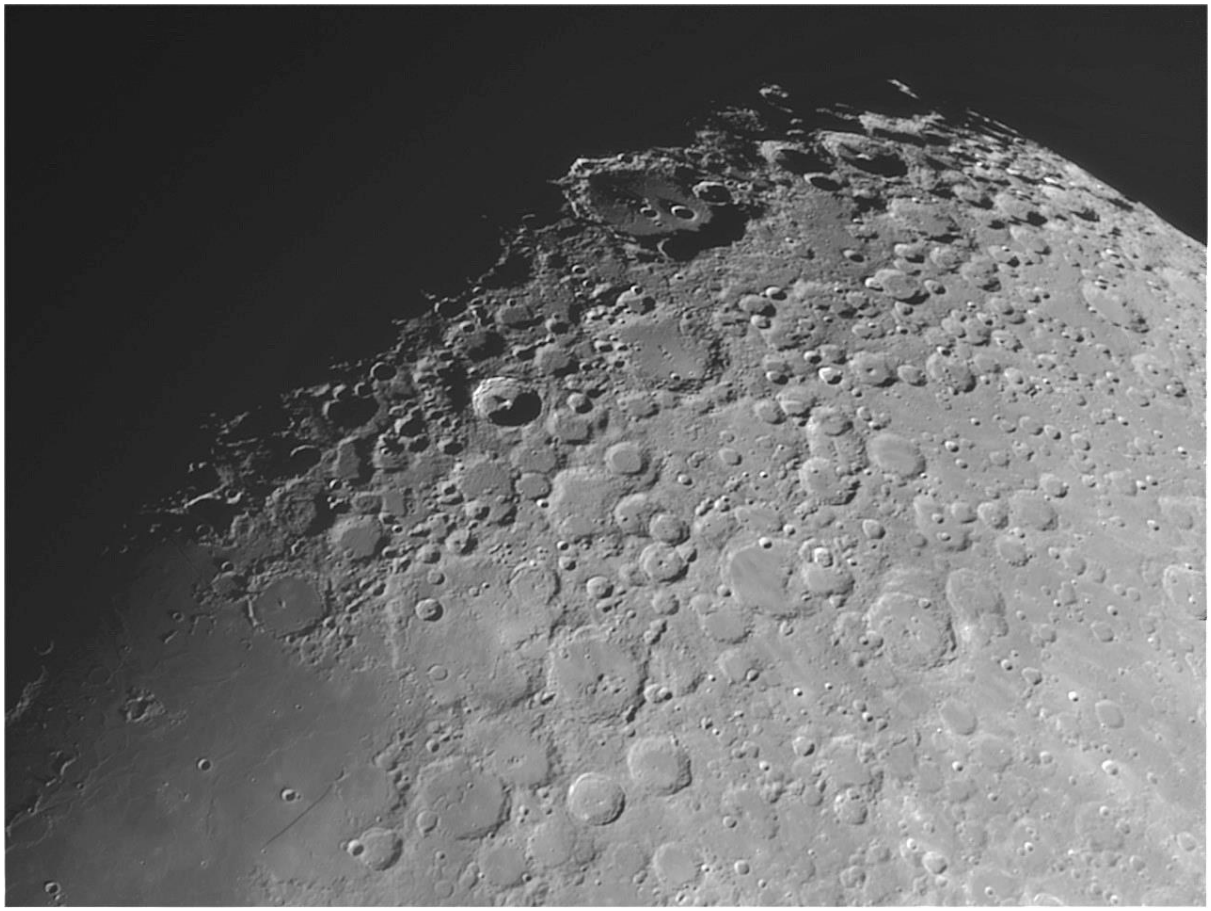
Major Astronomy Anniversaries for December

Significant historical anniversaries in November include:

- **6 December 1957 — Historic Vanguard/Vanguard failures and US early-satellite attempts** — Early US satellite launch attempts and Vanguard program events (notable December incidents) are commonly commemorated in early-December space history reviews: they represent the trial-and-error opening chapter of the satellite age.

- **7 December 1972** — **Apollo 17 launch** — Apollo 17 launched and was the final crewed Moon landing mission. Commander Eugene Cernan and geologist Harrison Schmitt conducted extended surface EVAs in Taurus-Littrow; Apollo 17 returned important rock samples and remains humanity's most recent lunar surface mission.
- **10–13 December — Apollo 17 lunar-orbit insertion and EVAs** — Across mid-December 1972 Apollo 17 inserted into lunar orbit and the crew performed three EVAs (including the final human lunar surface walks). Key science from the mission shaped lunar geology and our understanding of mare/far-side differences.
- **19 December 1972** — **Apollo 17 splashdown / end of the Apollo lunar program** — The Apollo 17 command module splashed down on 19 Dec 1972, marking the final return from human lunar landings to date. The mission closed the Apollo era but left a legacy of lunar samples still studied today.
- **24 December 1968** — **Apollo 8 Christmas Eve broadcast** — Apollo 8's live reading from lunar orbit on 24 Dec 1968 remains one of the most-remembered moments in space history — humanity's first view of Earth-rise and a symbolic milestone in space exploration.

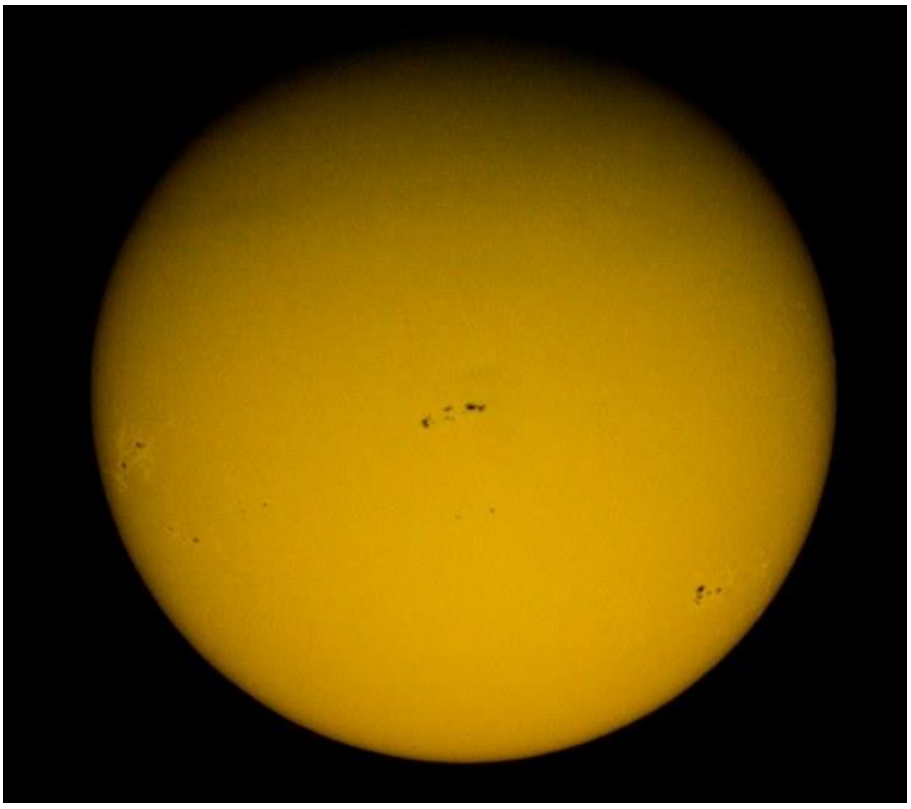
The Moon



Full Moon Phase Calendar details (Here[6])

The moon on the 4th December will be a Supermoon - also known as the 'Cold Moon'

The Sun



Solar Activity Highlights for November 2025

[6] https://www.moongiant.com/calendar/October/2025/

Predicting specific solar events is challenging, but based on the current state of **Solar Cycle 25** and forecasts from space weather centers, the outlook for December 2025 suggests **continued elevated activity** with the potential for geomagnetic storms.

Here are the key highlights and predictions for solar activity in December 2025:

1. Solar Cycle Status: Peak/Decline Phase

- **Solar Maximum is Near (or Just Past):** The sun is either at or very near the peak of Solar Cycle 25, which means overall solar activity—sunspots, solar flares, and Coronal Mass Ejections (CMEs)—is high.
- **Activity Exceeds Initial Predictions:** Solar Cycle 25 has been stronger than initially predicted, leading to more frequent and intense space weather events than were typical of the previous cycle.
- **High Sunspot Numbers:** While the official smoothed maximum may have occurred around late 2024 or mid-2025, sunspot numbers remain high. Even as the cycle transitions into its declining phase, large, complex sunspot regions capable of producing major flares are still common.

2. Space Weather Events (Flares and CMEs)

- **M-Class and X-Class Flare Potential:** Solar activity is expected to remain high enough to produce **M-class (moderate) flares** with a chance of more powerful **X-class (strong) flares**. These flares can cause shortwave radio blackouts on the sunlit side of Earth.
- **Coronal Mass Ejections (CMEs):** The elevated flaring and sunspot activity means the Sun will continue to launch CMEs, which are massive clouds of solar plasma. If a CME is Earth-directed, it can cause a geomagnetic storm.

3. Geomagnetic Storm and Aurora Forecast

- **High Potential for Geomagnetic Storms:** NOAA's forecasts for the end of October into early November indicate a likelihood of active conditions and **G1 (Minor) to G2**

(Moderate) geomagnetic storms due to recurrent **Coronal Hole High-Speed Streams (CH HSS)** and potential CME impacts.

- **Peak Storm Periods (Private Forecasts):** Some private space weather forecasts highlight specific periods of elevated geomagnetic activity that could lead to visible aurora displays at lower latitudes:

📸 **What to Watch For**

- **Sunspots**: High-resolution solar filters or solar scopes reveal increasingly active sunspot groups.
- **Flares & CMEs**: Use solar telescopes or online observatories to track M- and X-class flares.
- **Aurora Potential**: Monitor auroral alerts (Kp index ≥5) following any CME hits—northern UK may catch rare Northern Lights.
- **Radio Effects**: Amateur radio operators might experience shortwave disruptions during geomagnetic or flare events.

Aurora Watch UK is a great phone app, that can alert you when the auroral activity is increasing,

Always use the correct solar filters when viewing the Sun, if you have any doubt, please contact us or talk to one of the club committee members.

The Planets

Here's a summary of the positions and visibility of the planets in December 2025 as seen from the UK:

CAUTION - This time of the year some of the planets are close to the sun. Looking at the sun through any non-specialist equipment is very dangerous.

December 2025 Night Sky Highlights (Mid-Northern Latitudes)

🌇 **Evening Sky (Immediately After Sunset)**

- **Mars: Marginal/early evening (depending the progress through the month)** — Mars may be visible in early evening or morning depending on month phasing; check an interactive sky map for your exact UK location and date.
- **Saturn: Visible (early evening)** — Visible in the evening; ring tilt near edge-on in late Nov but still a good telescopic target in early December.
- **Neptune: Visible (late evening, telescope required)** — Requires a telescope and finder chart; best after dark.
- **Uranus: Visible (evening, with binoculars/telescope)** — Faint naked-eye limit; a telescope or good binoculars will show a small greenish disc.
- **Jupiter: Visible (evening & night)** — Bright, high in the evening sky during December; easy naked-eye target and good for telescopic views of belts and moons.

Late Night & Morning Sky (After Midnight)

- **Venus: Mostly morning/low (difficult later in December)** — Venus is a morning object early in the month, low on the southeast horizon just before sunrise — visibility falls as December progresses.
- **Mercury: Very low, brief morning visibility early December** — Best very low on the horizon just before sunrise in early December; becomes difficult later.

Key Celestial Events

- **December 4:** The "Cold Moon", which is also a **Supermoon**, appearing slightly larger and brighter than average.

Comets, Meteors & Asteroids

Meteor Showers - December

November offers excellent opportunities for meteor shower observing.

November Meteor Showers Visible in the UK

- **Geminids (peak 13–14 Dec 2025)** — Best shower for December; high rates with many bright meteors, parent body 3200 Phaethon. Good in the UK after midnight on peak date. (Royal Museums Greenwich[7])
- **Ursids (peak ~21–22 Dec 2025)** — A smaller shower active in late December (radiant near Ursa Minor); produces fewer meteors but can surprise with occasional outbursts. Good for UK observers if skies are clear. (amsmeteors.org[8])

Asteroids - December

While no **bright naked-eye asteroids** are predicted to be visible from the UK in December 2025, there are a few that will be within the range of a small telescope or strong binoculars:

Asteroids Visible with Optical Aid

The best asteroid target for UK observers in December 2025 will be **12 Victoria**.

- **12 Victoria**
- **Brightness:** Reaches opposition on November 5th, shining at about **magnitude +11**.
- **Viewing Requirement:** You will need a **small telescope** (3-inch aperture or greater) to spot it.
- **Location:** It will be visible within the constellation of **Aries** throughout December.
- **Note:** Finding an asteroid usually involves using a detailed star chart for its exact path over several nights, as it will look like a faint "star" that slowly moves against the background stars.

Comets - December

There are a few targets for UK comet observers in December 2025, however all will require a telescope to view them:

- **3I/ATLAS (interstellar)** — Faint but targetable with moderate telescopes and good morning skies; rises late and is best imaged late night/ pre-dawn around the 19 Dec

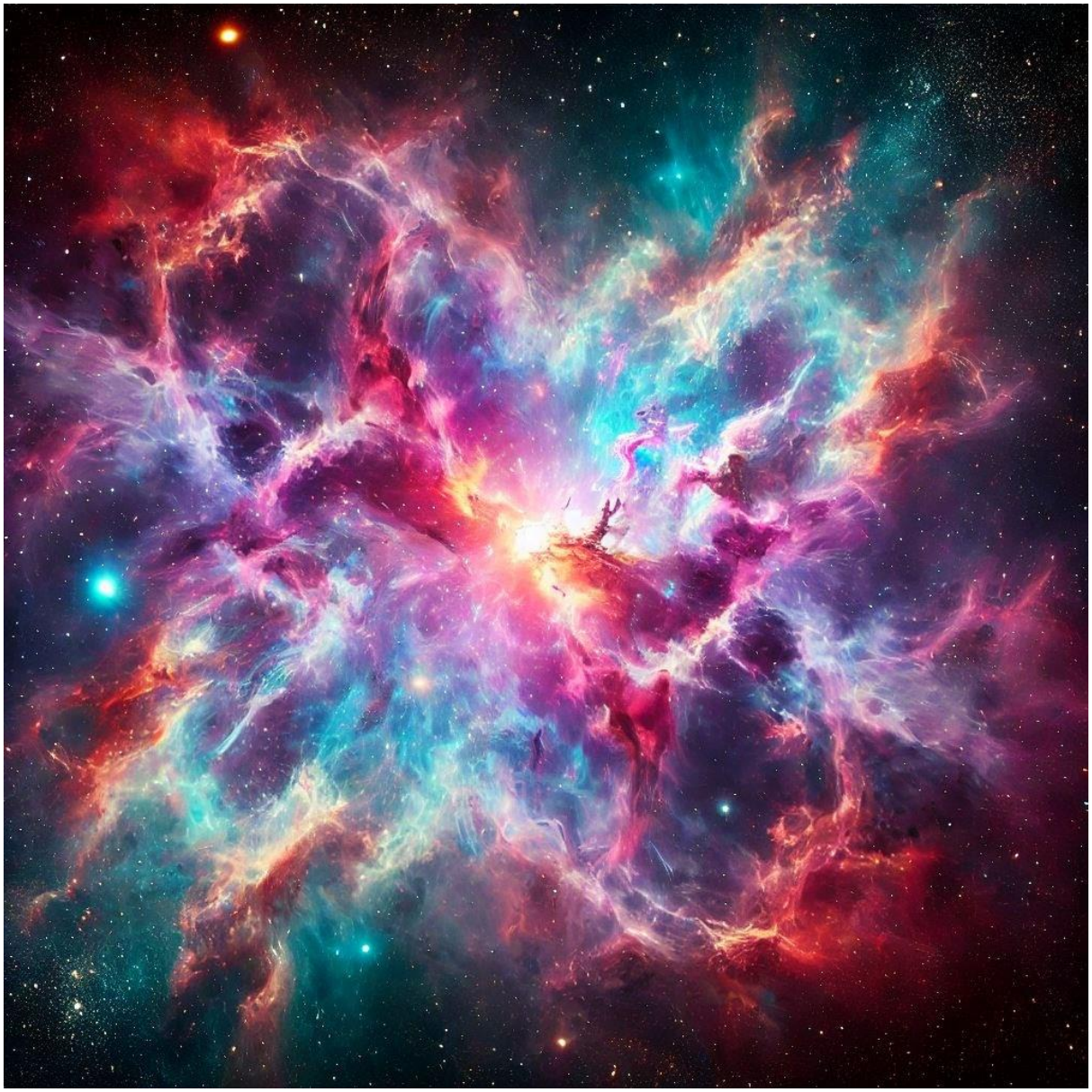
[7] https://www.rmg.co.uk/stories/space-astronomy/geminid-meteor-shower-uk-dates-how-to-see?utm_source=chatgpt.com
[8] https://www.amsmeteors.org/meteor-showers/meteor-shower-calendar/?utm_source=chatgpt.com

closest approach. Magnitude estimates in November were ~9–11 (subject to change). (Wikipedia[9])

- **C/2025 K1 (ATLAS)** — Still being tracked and imaged; has shown fragmentation/structure and can be seen in telescopes — watch magnitude updates from professional/amateur networks. (Live Science[10])
- **C/2025 T1 and other ATLAS discoveries** — The season has several ATLAS-discovered comets; some pass perihelion or reach peak brightness in December — check the IAU/MPC and local comet advice pages for nightly magnitude updates. (In-The-Sky.org[11])

[9] https://en.wikipedia.org/wiki/3I/ATLAS?utm_source=chatgpt.com
[10] https://www.livescience.com/space/comets/theres-a-second-comet-atlas-in-our-solar-system-and-it-just-turned-gold-after-a-perilous-dance-with-the-sun?utm_source=chatgpt.com
[11] https://in-the-sky.org/newscal.php?month=12&year=2025&utm_source=chatgpt.com

Deep Sky Targets



For Telescopes & Astrophotography - December

The night sky in November begins the transition to winter and offers some of the best deep-sky objects for UK observers, many of which are visible even from light-polluted areas.

Here is a list of popular astronomy targets for November, along with a link to a Google picture search for each item.

- **Andromeda Galaxy (M31) - Constellation Andromeda**
  - *Description:* The nearest major galaxy to the Milky Way (2.5 million light-years away). It is the most distant object you can see with the unaided eye under dark conditions, appearing as a faint, fuzzy smudge.

- *Visibility:* **Naked Eye** (Dark skies only), **Binoculars** (Large hazy patch), **Telescope**.
- *Picture Search:* Google Image Search for Andromeda Galaxy[12]

- **The Pleiades (M45) - Constellation Taurus**
  - *Description:* Also known as the **Seven Sisters**, this is a stunning, bright, blue-white open star cluster easily visible in the eastern sky. Under ideal conditions, you can count six or seven stars, but binoculars reveal hundreds.
  - *Visibility:* **Naked Eye** (prominent), **Binoculars** (best view).
  - *Picture Search:* Google Image Search for Pleiades Star Cluster[13]

- **Orion Nebula (M42) - Constellation Orion**
  - *Description:* The signature deep-sky object of winter, this stellar nursery begins to rise earlier in November. It is visible as a fuzzy patch in the "sword" of Orion, hanging below the three belt stars. A telescope reveals glowing gas and the **Trapezium Cluster** of four bright, young stars at its heart.
  - *Visibility:* **Naked Eye** (Fuzzy patch), **Binoculars**, **Telescope**.
  - *Picture Search:* Google Image Search for Orion Nebula[14]

- **Double Cluster (NGC 869 & NGC 884) - Constellation Perseus**
  - *Description:* Located between the constellations **Perseus** and **Cassiopeia**, this is a spectacular pair of brilliant open star clusters. They are easily visible to the naked eye as a slightly elongated fuzzy patch, but binoculars or a small telescope separate the two dazzling groups.
  - *Visibility:* **Naked Eye** (Fuzzy patch), **Binoculars** (Best view).
  - *Picture Search:* Google Image Search for Double Cluster Perseus[15]

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[12] https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DAndromeda%2BGalaxy%2BM31
[13] https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DPleiades%2BStar%2BCluster%2BM45
[14] https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DOrion%2BNebula%2BM42
[15] https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DDouble%2BCluster%2BPerseus

- **Hyades Star Cluster - Constellation Taurus**
  - *Description:* A large, V-shaped open cluster that forms the head of **Taurus the Bull**. The bright, reddish star **Aldebaran** forms the bull's eye, although it is not physically part of the cluster. The V-shape is easily seen.
  - *Visibility:* **Naked Eye** (Very prominent), **Binoculars**.
  - *Picture Search:* Google Image Search for Hyades Star Cluster[16]

- **Triangulum Galaxy (M33)**
  - **Description:** The third-largest galaxy in the Local Group. It is a stunning face-on spiral, but its low surface brightness makes it a challenging but rewarding target.
  - **Constellation:** Triangulum.
  - **Visibility:** Requires a **dark sky and binoculars or a small telescope**; appears as a very large, faint, hazy patch.
  - **Picture Search:** Google Image Search for Triangulum Galaxy M33[17]

  - **Bode's Galaxy (M81) & Cigar Galaxy (M82)Description:** A famous pair of gravitationally interacting galaxies. M81 is a grand spiral, and M82 is an irregular, starburst galaxy seen edge-on.
  - **Constellation:** Ursa Major.
  - **Visibility:** These are visible in the northern sky and can often be found in the **same low-power telescopic view**.
  - **Picture Search:** Google Image Search for Bode's Galaxy M81 and Cigar Galaxy M82[18]

- **Dumbbell Nebula (M27)**

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[16] https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DHyades%2BStar%2BCluster

[17] https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DTriangulum%2BGalaxy%2BM33

[18] https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DBode%27s%2BGalaxy%2BM81%2Band%2BCigar%2BGalaxy%2BM82

- **Description:** A planetary nebula, formed from the outer layers of a dying star. It is relatively bright and well-defined, resembling a cosmic hourglass or apple core.
- **Constellation:** Vulpecula.
- **Visibility:** A relatively easy target for a **small telescope**, though it is getting lower in the west as the night progresses in November.
- **Picture Search:** Google Image Search for Dumbbell Nebula M27[19]

- **Heart Nebula (IC 1805) & Soul Nebula (IC 1848)**
  - **Description:** Two enormous, faint emission nebulae, named for their distinctive shapes. They are star-forming regions located in the plane of the Milky Way.
  - **Constellation:** Cassiopeia.
  - **Visibility:** Visually **difficult in small telescopes** due to low surface brightness, but a **favourite target for astrophotography** which captures their vivid red hydrogen-alpha glow.
  - **Picture Search:** Google Image Search for Heart and Soul Nebulae[20]

For Binoculars - December

With 7x50 wide angle binoculars sweep the milky-Way from Cassiopeia through Perseus and Auriga to Procyon. Enjoy the Hyades and Pleiades at the same time.

Naked Eye / Binocular Clusters (Open Clusters)

- **The Pleiades (M45, Seven Sisters)** 😍An unmistakable, brilliant, young, blue-white open cluster in the constellation **Taurus**. It's easily seen with the naked eye and spectacular in binoculars.
- **The Hyades** The nearest open cluster to Earth, forming the prominent **'V' shape** that represents the head of the Bull in the constellation **Taurus**. It's easily visible to the naked eye.

[19] https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DDumbbell%2BNebula%2BM27
[20] https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DHeart%2Band%2BSoul%2BNebulae%2BIC%2B1805%2BIC%2B1848

- **The Double Cluster (NGC 869 and NGC 884)** ✨A magnificent pair of rich open clusters in **Perseus**. They look like a fuzzy patch to the naked eye but are a stunning sight through binoculars or a small telescope.
- **M34** A large, fairly bright open cluster in **Perseus**, easily found with binoculars as it's not far from the famous Double Cluster.
- **M103** A small open cluster in the constellation **Cassiopeia** (the 'W' shape). It's a relatively easy binocular target, found near the star Ruchbah (Delta Cassiopeiae).

Telescopic Clusters (Open and Globular)

- **The Trapezium Cluster (Theta-1 Orionis)** A very young, compact cluster of four bright stars (which look like a small trapezoid) that powers the **Orion Nebula (M42)**. You need a telescope to resolve the individual stars inside the nebula.
- **NGC 7789 (Caroline's Rose Cluster)** A beautiful, rich open cluster in **Cassiopeia**, named for its looping patterns of stars that resemble a rose's petals. A small to moderate telescope provides a great view.
- **M79** The only globular cluster visible in the winter sky for UK observers, located in the constellation **Lepus** (the Hare), just below Orion. It hangs low in the south and requires a telescope to resolve its dense, spherical shape.
- **NGC 457 (The Owl Cluster or E.T. Cluster)** A charming open cluster in **Cassiopeia** that, with a little imagination (and a small telescope), looks like an owl or the alien E.T., thanks to a few bright stars forming "eyes" and "arms."

The Moon

Ideal for exploring craters, mare, and mountains at any phase.

Bills Bulletin

Hi guys

It’s been a packed month for interesting research within astronomy. Here are a few of the things that I have found of interest. I hope you enjoy

Sun

Allen waves have been seen generating magnetic field twist on small scales. Can they cause coronal heating ?

https://www.nature.com/articles/s41550-025-02690-9

https://apple.news/AxwAgwAJ9TvKBoYExR1vXEw

X class solar flares are rare but we recently had 2 they were tracked from earth showing magnificent detail

Rare high-resolution observations of a flare-prolific solar active region[21]

Earth

Myan tablets described eclipse cycles

Maya 260-day Calendar Provides Key to Solar Eclipse Predictions - Sky & Telescope[22]

Volcanic eruption sulphur mapped

ESA - Ethiopian volcanic plume[23]

A squishy lid could explain plate tectonics and the phase changes that develop lithospheric mining and oxygen exchange

https://apple.news/A51fS4QnjROywujKybKEhvQ

Moon

[21] https://phys.org/news/2025-11-rare-high-resolution-flare-prolific.html
[22] https://skyandtelescope.org/astronomy-news/maya-260-day-calendar-provides-key-to-solar-eclipse-predictions/?utm_source=cc&utm_medium=newsletter
[23] https://www.esa.int/ESA_Multimedia/Images/2025/11/Ethiopian_volcanic_plume#msdynmkt_trackingcontext=f165d622-531d-4abb-bdab-97be36b60100

We need to map to find volatiles on the moon

https://apple.news/ANFmNrTd3St2mYZPuwESFng

Thea may have formed within the inner solar system and resonance caused it to impact with earth

Lost Planet Theia that Created the Moon Came From the Inner Solar System | Scientific American[24]

Discussion about the value of lunar drawing

https://youtu.be/Z5UrBUt4WKI?si=KAtNDmN4XaGkDYGJ

Capturing meteor strikes on the moon

https://apple.news/Ajg9dc7wBSdWdHQhYSPNloA

Small moon missions to pilot bigger ones

ESA - ESA Prepares to explore the Moon with small missions[25]

A new crater

[24] https://www.scientificamerican.com/article/lost-planet-theia-that-created-the-moon-came-from-the-inner-solar-system/

[25] https://www.esa.int/Enabling_Support/Preparing_for_the_Future/Discovery_and_Preparation/ESA_Prepares_to_explore_the_Moon_with_small_missions#msdynmkt_trackingcontext=3f9fb671-4b4d-4283-8610-f95a71ab0100

https://apple.news/Awv__hDMCSKmHyNAdWluzhA

Experiment results from a crashed lander

The Passive Regolith Sampler: From Concept to Delivery to the Lunar Surface | Space Science Reviews[26]

Planetary

Jupiter had a massive effect on the time inner rocky planets formed. If it had not developed rapidly then the inner planets would have formed with higher mass and spiralled into orbits closer to the sun y th net would have been super earths like we see in other systems and life would not have formed

https://www.forbes.com/sites/brucedorminey/2025/10/26/jupiter-enabled-solar-systems-unique-inner-architecture-says-study/

Martian landslides

ESA - Swoosh![27]

Webb looked at io and revealed info about lava flow

The JWST Puts Io's Volcanic Nature In The Spotlight - Universe Today[28]

Venus atmosphere is very heavy ,can it have winds? if so they could heat the surface

[26] https://link.springer.com/article/10.1007/s11214-025-01217-y
[27] https://www.esa.int/ESA_Multimedia/Images/2025/11/Swoosh#msdynmkt_trackingcontext=c62c4a62-e56c-4108-beb5-4370ceef0300
[28] https://www.universetoday.com/articles/the-jwst-puts-ios-volcanic-nature-in-the-spotlight

https://arxiv.org/pdf/2510.15477

Asteroids

Asteroid rotation is chaotic why?

Many Asteroid Rotations Are Chaotic. A New Model Helps Explain Them. - Universe Today[29]

High speed rotation

https://apple.news/AT8PApeD0SG2sqJG7DOyefA

Comets

A bit of I 3

https://apple.news/A1zQJzc0sSriR4QCONIzkOQ

Mars probe images I3 allowing more accurate path plot

https://apple.news/A9Lqo7j9PTUmYPAnAermYmQ

I3 is a comet

https://apple.news/AD69dJo7oRMyBMLU8-n8y4w

Comet break up

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Milky Way

What does the galaxy look like in low frequency radio waves

This Radio Colour Image Is A New Way To Explore The Milky Way - Universe Today[30]

Interesting binary

Webb First to Show 4 Dust Shells 'Spiraling' Apep, Limits Long Orbit - NASA Science[31]

Could we see a supernova soon

https://academic.oup.com/mnras/article/543/3/2058/8233646

https://apple.news/AvjkffwePTvu5Komg5rxXwg

Galaxies

M61 has a massive stream flowing from it

The Keen-Eyed Vera Rubin Observatory Has Discovered A Massive Stellar Stream - Universe Today[32]

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[30] https://www.universetoday.com/articles/this-radio-colour-image-is-a-new-way-to-explore-the-milky-way
[31] https://science.nasa.gov/missions/webb/webb-first-to-show-4-dust-shells-spiraling-apep-limits-long-orbit/

Super flare from black hole

An extremely luminous flare recorded from a supermassive black hole | Nature Astronomy[33]

New high speed universe evolution simulation

https://apple.news/AXIrhcZWFSzaEV4G9eCcMXw

New results from devils survey shows galaxies now evolve differently in groups that are crowded

DEVILS in the details: How cosmic landscape impacts galaxy lifecycle | The Royal Astronomical Society[34]

Cosmology

From an article in the American physics society journal there may be evidence of Wimps self annihilating at the centre of our galaxy. Dark matter may not be illusive.

A faint glow in the Milky Way could be a dark matter footprint | Space[35]

Black holes in a globular or dense cluster may not get kicked out after a merger or encounter. They may stay to merge again

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[32]https://www.universetoday.com/articles/the-keen-eyed-vera-rubin-observatory-has-discovered-a-massive-stellar-stream

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[34]https://ras.ac.uk/news-and-press/research-highlights/devils-details-how-cosmic-landscape-impacts-galaxy-lifecycle

[35]https://www.space.com/astronomy/dark-universe/a-faint-glow-in-the-milky-way-could-be-a-dark-matter-footprint

Gravitational Wave Detectors Spot Merging Black Holes That Have Merged Before - Sky & Telescope[36]

The axon is a super lightweight par which has been proposed 50years ago to allow the strong force to be understood. It could be the dark matter we are looking for and because it behaves like a wave we could detect it

Rise of the Axion - Universe Today[37]

Wimp detection?

Why the WIMPs Became the Toughest Particle in Physics - Universe Today[38]

And we may have evidence of wimps

After nearly 100 years, scientists may have detected dark matter | EurekAlert![39]

The cosmological event horizon is the point the distant galaxies receding from us are travelling faster than the speed of light

But how can this be? It is because space is vast and space expansion is not regulated by the speed of light

Yes, the Universe Can Expand Faster Than Light - Universe Today[40]

How to imagine the expanding universe

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[36] https://skyandtelescope.org/astronomy-news/gravitational-wave-detectors-spot-merging-black-holes-that-have-merged-before/?utm_source=cc&utm_medium=newsletter
[37] https://www.universetoday.com/articles/rise-of-the-axion
[38] https://www.universetoday.com/articles/why-the-wimps-became-the-toughest-particle-in-physics
[39] https://www.eurekalert.org/news-releases/1106867
[40] https://www.universetoday.com/articles/yes-the-universe-can-expand-faster-than-light

How to Imagine an Expanding Universe - Universe Today[41]

One to make your head spin why is here no start point or edge to the universe

Where Was the Big Bang? - Universe Today[42]

Telescopes

JWST may have discovered the first generation of stars Population 3 stars but as metals have weakly shown up they may not be early enough

Have Astronomers Discovered the First Generation of Stars? - Sky & Telescope[43]

The Vera Rubin obervatory repository

The Cosmic Treasure Chest | Rubin Observatory[44]

How do you improve resolution of telescopes? With a lantern

Telescope hack opens a sharper view into the universe | UCLA[45]

[41] https://www.universetoday.com/articles/how-to-imagine-an-expanding-universe
[42] https://www.universetoday.com/articles/where-was-the-big-bang
[43] https://skyandtelescope.org/astronomy-news/have-astronomers-discovered-the-first-generation-of-stars/?utm_source=cc&utm_medium=newsletter
[44] https://rubinobservatory.org/news/rubin-first-look/cosmic-treasure-chest
[45] https://newsroom.ucla.edu/releases/telescope-hack-peers-deeper-into-universe

Pegasus rocket to boost swift

https://apple.news/ANreGYh43Sq6zRCjGaObgFw

Neutrino observatory gives results

https://apple.news/Anv1t6XKwTD6xdwJULNdEHw

Observing

When observing the Pleiades you are looking at part of a group spread across the sky

Meet the Seven Sisters' 3,000 Lost Siblings - Sky & Telescope[46]

Space flight

With musk dragging feet for lunar landing an old idea is resurfacing a two stage lander

https://time.com/7328257/musk-duffy-feud-nasa-spacex/

Musk and co could reverse our repair of the ozone hole

We're Putting Lots Of Transition Metals Into The Stratosphere. That's Not Good. - Universe Today[47]

Balloon flights

ESA - BEXUS 36/37: A stratospheric student experience[48]

[46] https://skyandtelescope.org/astronomy-news/meet-the-seven-sisters-3000-lost-siblings/?utm_source=cc&utm_medium=newsletter

[47] https://www.universetoday.com/articles/were-putting-lots-of-transition-metals-into-the-stratosphere-thats-not-good

Do you have to burn fuel for space flight?

[2510.21743] Propellantless space exploration[49]

Small experiment orbiter

ESA - Space Rider blueprint[50]

[48] https://www.esa.int/Education/Rexus_Bexus/BEXUS_36_37_A_stratospheric_student_experience#msdynmkt_trackingcontext=2d3d6939-fbde-4a61-9132-717935180300

[49] https://arxiv.org/abs/2510.21743

[50] https://www.esa.int/ESA_Multimedia/Images/2025/11/Space_Rider_blueprint#msdynmkt_trackingcontext=4a48d384-8a78-4f81-883a-c49a7ae50000

Schedules, links and contacts

- ***TV - BBC Sky at night (Here[51])***
- ***Upcoming Space Launches (Here[52])***
- ***Moon Phases (Here[53])***
- ***Dark Sky Calendar (Here[54])***

[51] https://www.bbc.co.uk/programmes/b006mk7h
[52] https://spaceflightnow.com/launch-schedule/
[53] https://www.moongiant.com/calendar/november/2024/

- ***Clear Outside - Astronomy weather forecast** (Here[55])*

- ***Cloud radar map (Here[56])***

- ***Beginners guide (Here[57])***

- ***Walsall Astronomy Facebook Group (Here[58])***

- ***Walsall Astronomy Website (Here[59])***

- ***Contact:** Info@walsallastro.com[60]*

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[54] https://gostargazing.co.uk/dark-sky-calendar/
[55] https://clearoutside.com/forecast/50.70/-3.52
[56] https://www.yourweather.co.uk/weather-maps/nubes-ukn.html
[57] https://www.skyatnightmagazine.com/advice/astronomy-for-beginners
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