

December 2009 night sky



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December is the perfect month for stargazing. If the weather is clear, prepare yourself for glorious views of the night sky and because it gets dark so early you don't even need to stay up late. Get those thermal undies out though, because it can get pretty cold!

Constellation of the month: Orion

Orion is perhaps the most famous constellation, and certainly one of the oldest. It's widely thought that the ancient Egyptians saw the pattern as their god Osiris, and it was important for the Babylonians as well. The constellations we most often use are taken from the ancient Greeks, who associated the stars with the hunter Orion. The story goes that Orion was the son of the god Poseidon and the nymph Euryale. Due to this respectable heritage he was a great hunter but was also very boastful. He said that he feared no animal on Earth and could defeat them all. Gaia, goddess of the Earth, overheard him and decided to teach Orion a deadly lesson... She sent a seemingly harmless scorpion to kill Orion. He ignored the creature, thinking it beneath him. However, the scorpion had a poisonous sting and killed mighty Orion. The ancient Greeks thought it no coincidence that Orion sets in the west as Scorpius rises in the east!



Finding Orion

Orion is a distinctive pattern in the sky, and quite easy to spot. As soon as it is dark you should be able to make him out in the east, gradually moving across the sky, reaching due south at around midnight. Look for three stars in a row, which represent his belt. His shoulder and leg stars are bright as well, although to see his arms you will need dark skies away from light pollution.

Look out for...

The Orion Nebula is a famous astronomical object, and definitely one worth trying to see with your own eyes. Look just below the three stars of Orion's belt and you might be able to spot a faint misty patch. This is the nebula! Use binoculars for a better view, and you will see that it is very large. The Orion Nebula is over 1300 light-years away from us which is a long way off, but relatively close in astronomical terms.

News flash: NASA and ESA sign Mars exploration pact

NASA and ESA (European Space Agency) have just agreed to work together on exploring the planet Mars. This venture is called the Mars Joint Exploration Initiative. Scientists and engineers from the two organisations will now begin planning joint missions. A new orbiter will probably reach Mars in 2016, with landers following two years later. Working together helps spread costs and share expertise. The UK is a member state of ESA, so British scientists and engineers will be working on this new plan to explore Mars.



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The planets in December

Mercury	keen-eyed stargazers may see this elusive planet in the week before Christmas. Look low in the south-west just after sunset.
Venus	is close to the Sun as seen from Earth, so isn't visible this month.
Mars	keeps getting brighter during December, and is a distinctive sight in the night sky. It rises at around 8pm, and is between Cancer and Leo.
Jupiter	shines strongly in Capricornus but sets early evening, at around 9pm.
Saturn	rises in the south-east at around 1am, in the constellation Virgo.

Theme of the month: binocular astronomy

Most people think that a telescope is the natural next step from naked-eye stargazing, but actually binoculars are a much better choice. They're cheaper than telescopes, easier to use, and let you see many hidden gems in the night sky. Best of all, you may have some binoculars lying around, just waiting to be used.

There are different types of binoculars, described with numbers such as 8x32 and 10x70. The first number is the magnification. The second number is the diameter of the lens, in millimetres. 7x50s are considered well-suited for astronomy, so if you're looking to buy a pair specially for stargazing this is something to consider. For those long astronomy sessions your arms may get tired, so eventually you may want a tripod to hold them.

Which objects make good binocular astronomy objects this December? If you've read the other side of this sheet, you'll know that the Orion Nebula should be high on your list. Close to this is the Pleiades in Taurus, a perfect cluster for binoculars. Nearby is another good target, the Hyades cluster, next to bright Aldebaran. And check out the Andromeda Galaxy, which your binoculars will show to be an elongated shape, looking a bit like a misty gray patch against the darker sky.

So dust off those binoculars or grab a bargain with a new pair, and go out starspotting tonight!



Moon Calendar

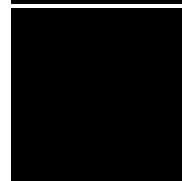
02 December
Full Moon



09 December
Last Quarter



16 December
New Moon



24 December
First Quarter



31 December
Full Moon



Would you like to know more?

Details of our planetarium shows and back issues of this handout can be found at:
www.at-bristol.org.uk/theplanetarium

Stellarium is a planetarium program for your computer, showing a realistic 3D sky just as you would see if looking with your eyes or a telescope. Best of all, it's completely free. Download it at www.stellarium.org

The **International Year of Astronomy 2009** is nearly over, but there's still time to see what's going on. Head over to www.astronomy2009.org for the latest news.

Do you have an astronomy question for the At-Bristol planetarium team?

E-mail lee.pullen@at-bristol.org.uk and the astro-boffins will try to quench your thirst for knowledge!