



## Do the planets ever align with one another?

We've all seen pictures showing the planets lined in a row, but the chances of seeing such a display in reality are astronomically low.

By [Nikki Withers](#)



Asked by: Gareth Brazier, by email

Because of the orientation and tilt of their orbits, the eight major planets of the Solar System can never come into perfect alignment. The last time they appeared even in the same part of the sky was over 1,000 years ago, in the year AD 949, and they won't manage it again until 6 May 2492.

Fortunately, roughly every half century or so the brightest planets take up positions in the night sky creating the impression of being in more or less a straight line. The last decent display was in April 2002, when Jupiter, Saturn, Mars, Venus and Mercury were strung above the western horizon like a celestial necklace, with a crescent moon as its central jewel. A similar alignment will take place 30 years from now, on 8 September 2040.

And in case you're worried about the gravitational effects of such an alignment, don't be: the extra pull on the Earth is negligible. Certain alignments are useful, however. During the 1970s, NASA exploited a special alignment of the planets to send space probes on a 'grand tour' of Jupiter, Saturn, Uranus and Neptune with minimal effort. Such an alignment occurs just once every 175 years. Fortunately, it came just after NASA scientists figured out how to put it to use.

**Subscribe to [BBC Focus magazine](#) for fascinating new Q&As every month and follow [@sciencefocusQA](#) on Twitter for your daily dose of fun science facts.**

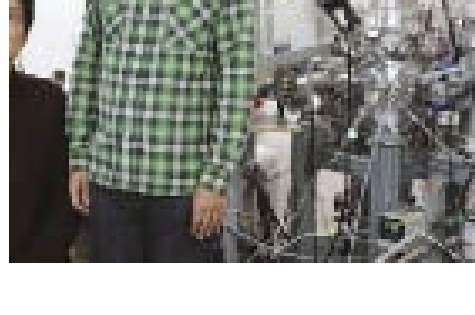


Tags [Planets](#) [Q&A](#)

### Inside BBC Science Focus Magazine



5 essential items for stargazing



Building blocks of life could have formed in interstellar space



Gaia Vince: the books that made me



Interview: Bill Bryson on his new book The Body

Save 50% when you subscribe to BBC Science Focus Magazine

Get 6 issues for just £17.95 by Direct Debit

SAVE 50% NOW



### Want to be updated when there is Science Focus news?

Sign up to receive our newsletter!

Email address

Sign me up!

By clicking "sign up" you are agreeing to our [terms and conditions](#). You can unsubscribe at any time. For more information about how to do this, and how Immediate Media Company Limited (publisher of Science Focus) holds your personal information, please see our [privacy policy](#).

### Latest



The Human Body

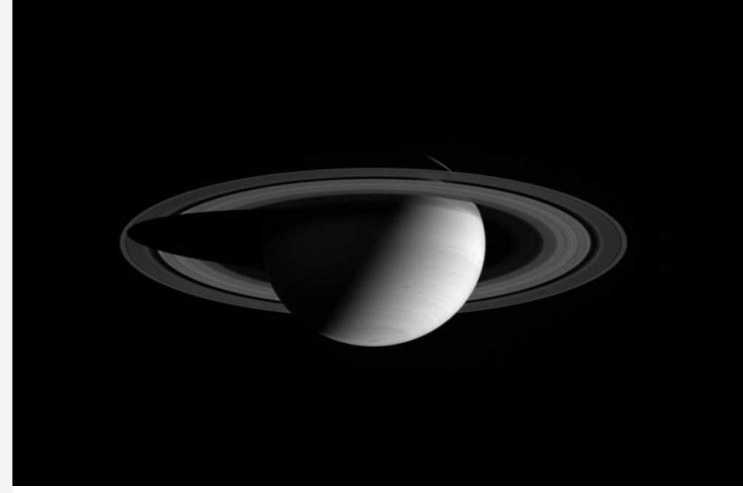
Is it possible to be heavily pregnant and not realise?



News

New strain of HIV identified more than 35 years after it was first discovered

### You may like



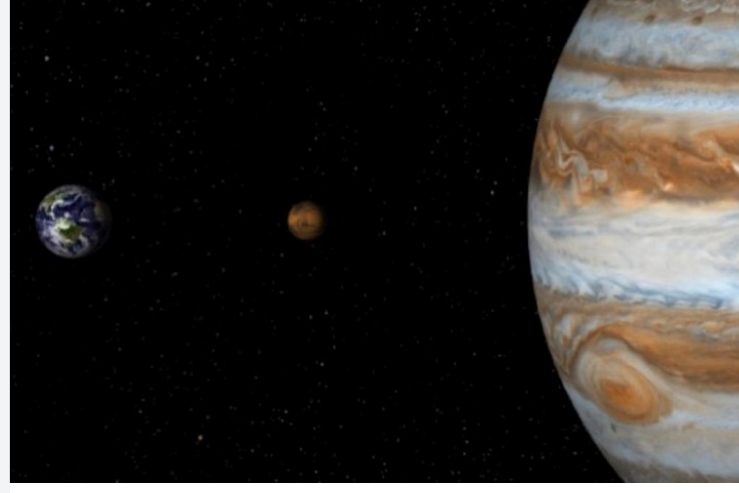
Space

Why does Saturn have rings?



Space

Why are Venus and Mars so different to Earth?



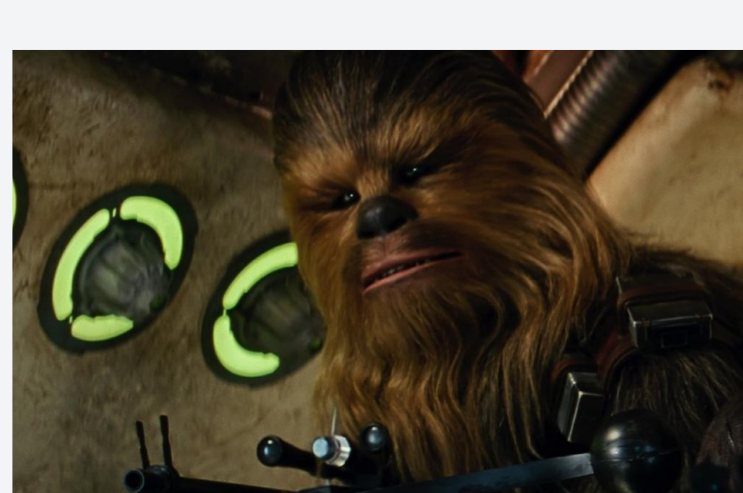
Space

How do astronomers measure the size of planets?



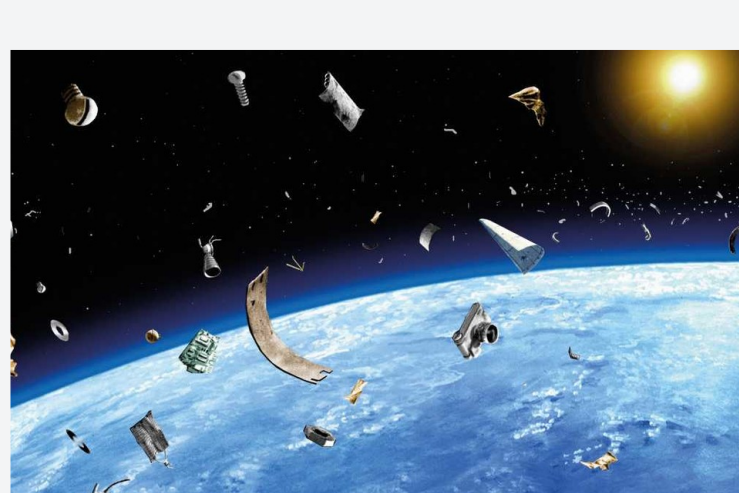
Space

Is it possible for a gas giant like Jupiter to ignite?



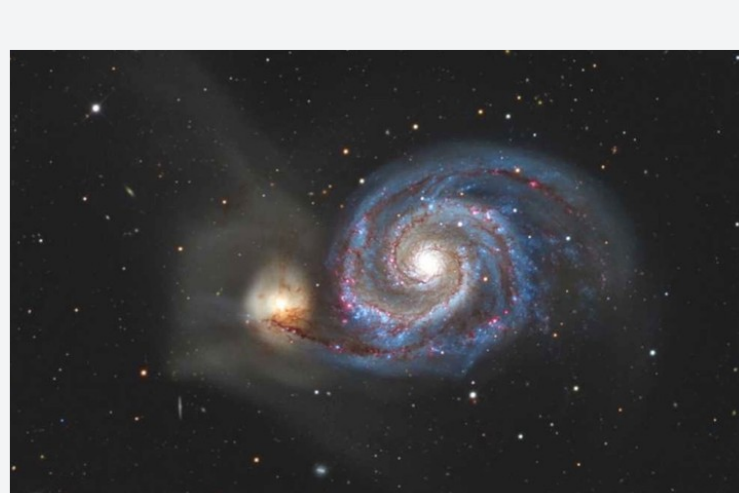
Space

What are the odds that aliens are humanoid?



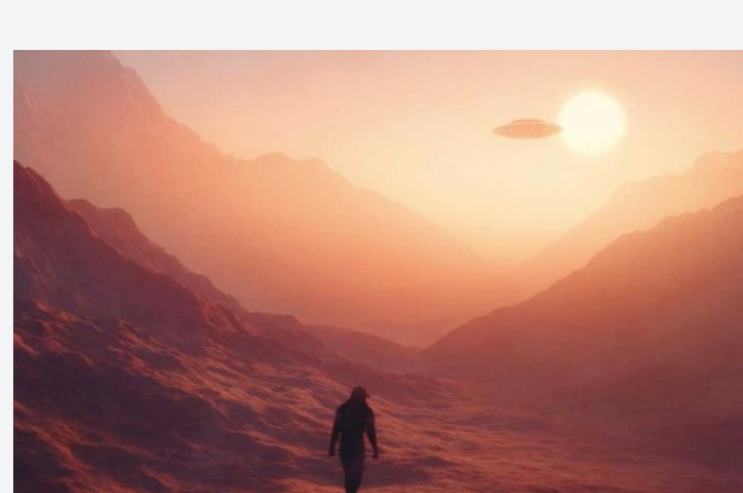
Space

Is space junk a serious problem?



Space

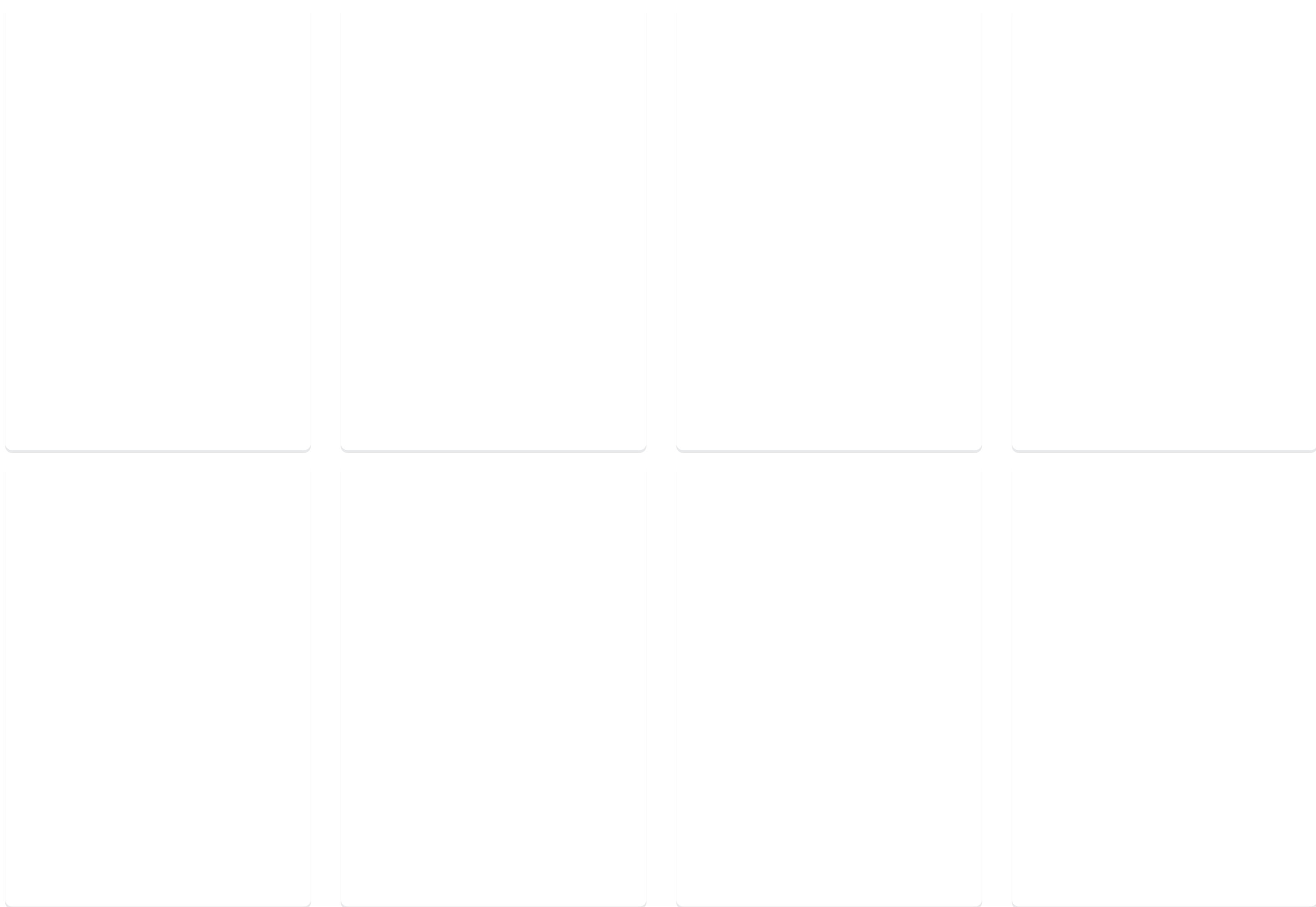
Do all galaxies spin in the same direction?



Space

Could humans evolve to adapt to Mars?

### Promoted Stories



### Sponsored



### More Stories



BBC Science Focus Magazine

Do all fish and shellfish contain mercury?



BBC Science Focus Magazine

Miracle microbes: seven types of bacteria fuelling our future



BBC Science Focus Magazine

Does cheese give you nightmares?



BBC Science Focus Magazine

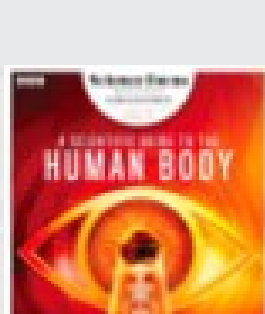
HIIT is changing the way we work out, here's the science why it works



BBC Science Focus Magazine

Get a distinctive and entertaining perspective on the fast-moving world of science from the UK's no.1 science and technology monthly magazine.

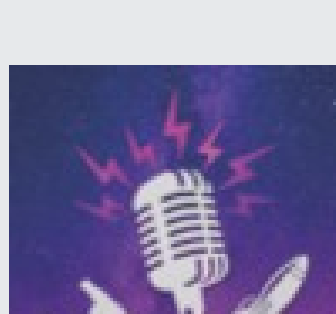
Subscribe today



BBC Science Focus Special Editions

Discover our latest special editions covering a range of fascinating topics from the latest scientific discoveries to the big ideas explained.

Order now



Science Focus Podcast

Listen to some of the brightest names in science and technology talk about the ideas and breakthroughs shaping our world.

Listen

### Want to get the Science Focus newsletter?

Sign up to receive our newsletter!

Email address

Sign me up!

By clicking "sign up" you are agreeing to our [terms and conditions](#). You can unsubscribe at any time. For more information about how to do this, and how Immediate Media Company Limited (publisher of Science Focus) holds your personal information, please see our [privacy policy](#).