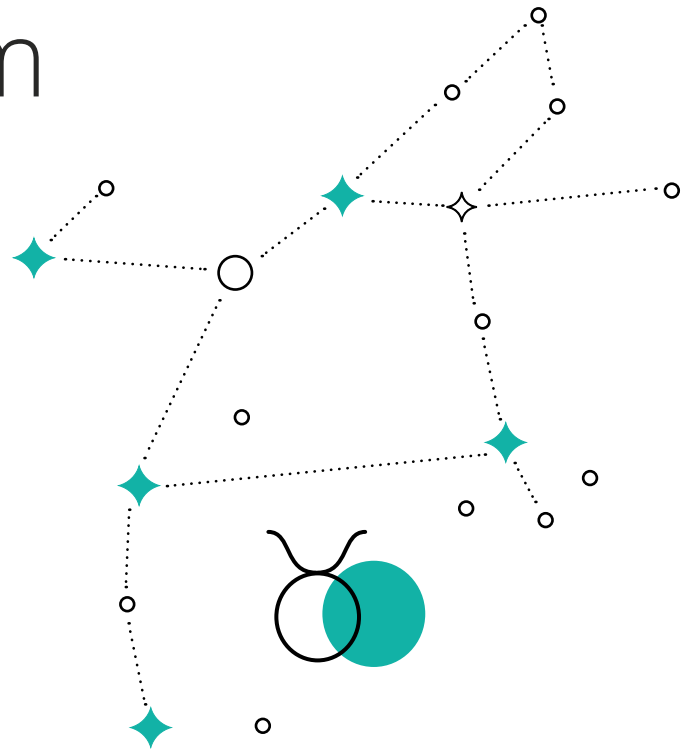


Scientific discoveries...

Gigantic cavity in space sheds new light on how stars form

Astronomers analysing 3D maps of the shapes and sizes of nearby molecular clouds have discovered a gigantic cavity in space.

- The sphere-shaped void, or 'bubble', spans about 150 parsecs, nearly 500 light years and is located on the sky among the constellations Perseus and Taurus.
- The research team, which is based at the Center of Astrophysics Harvard & Smithsonian, believes the cavity was formed by ancient supernovae that went off some 10 million years ago.
- "Hundreds of stars are forming or exist already at the surface of this giant bubble," says Shmuel Bialy, a postdoctoral researcher at the Institute for Theory and Computation (ITC) at the Center for Astrophysics (CfA) who led the study.
- "Either one supernova went off at the core of this bubble and pushed gas outward forming what we now call the 'Perseus-Taurus Supershell,' or a series of supernovae occurring over millions of years created it over time." Bialy states.
- The finding suggests that the Perseus and Taurus molecular clouds are not independent structures in space. But rather, they formed



together from the very same supernova shockwave. "This demonstrates that when a star dies, its supernova generates a chain of events that may ultimately lead to the birth of new stars," Bialy explains.

Why not expand on this discovery topic and take a look at our GCSE Physics free sample, 'Life cycles of stars. This unit looks at how stars with a similar mass to the Sun change over time, as well as how stars with much larger masses than the Sun change, and how the balance between thermal expansion and gravity affect stars. You can explore this free sample and many more in our Pearson Edexcel GCSE Science page. ➔

