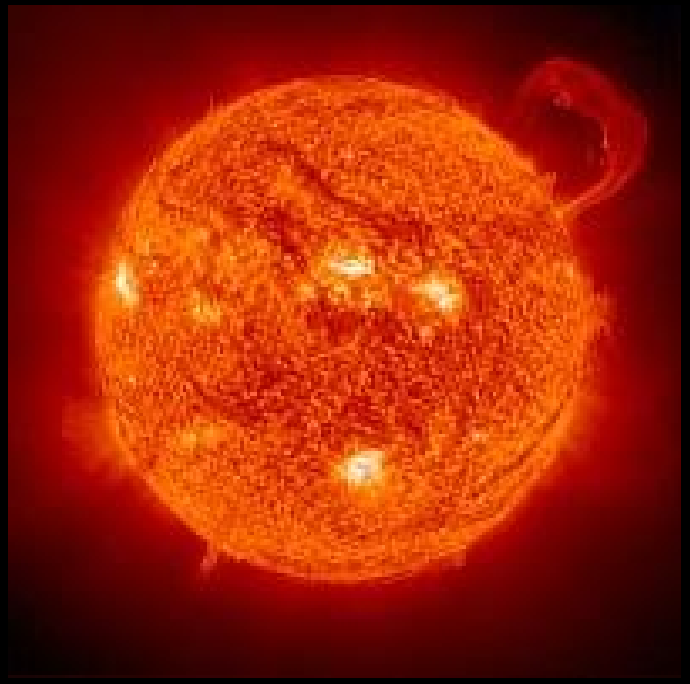
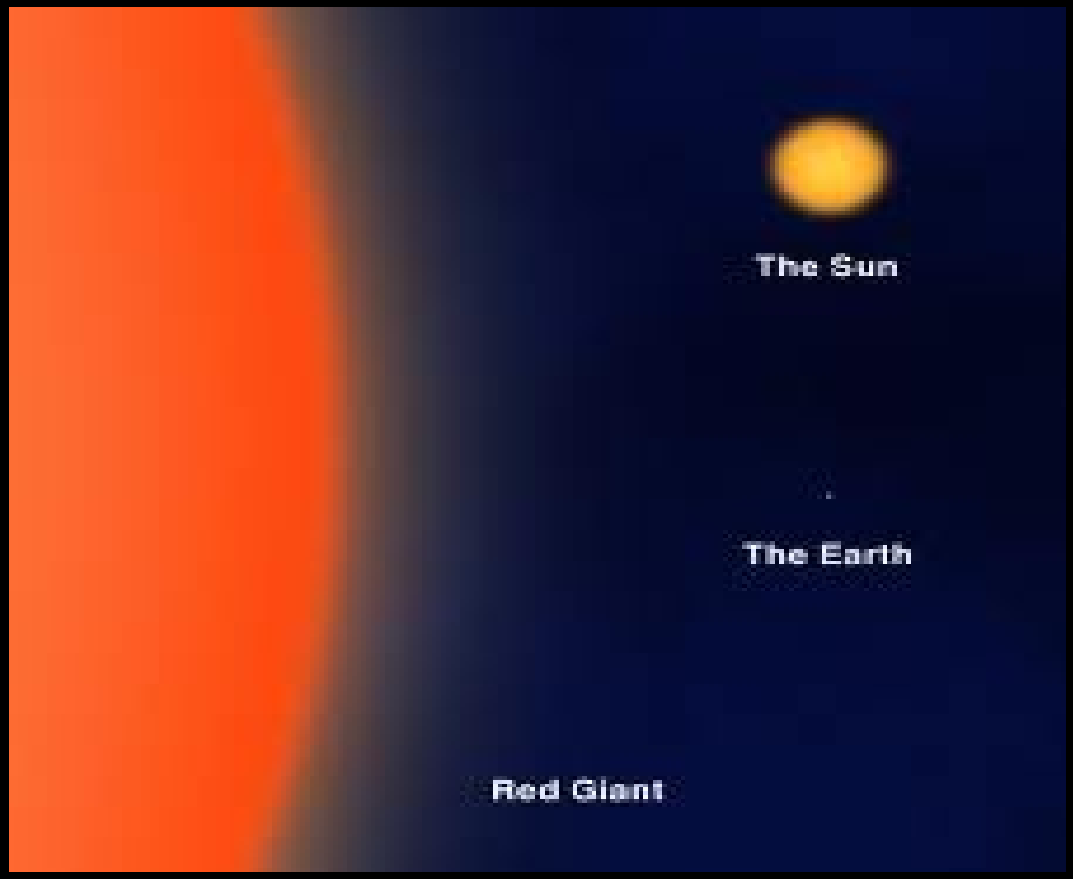
Nebulas recycle elements to space

Protostars form as gas clouds collapse



If they heat enough to fuse H to He,15 million C, they enter the main sequence

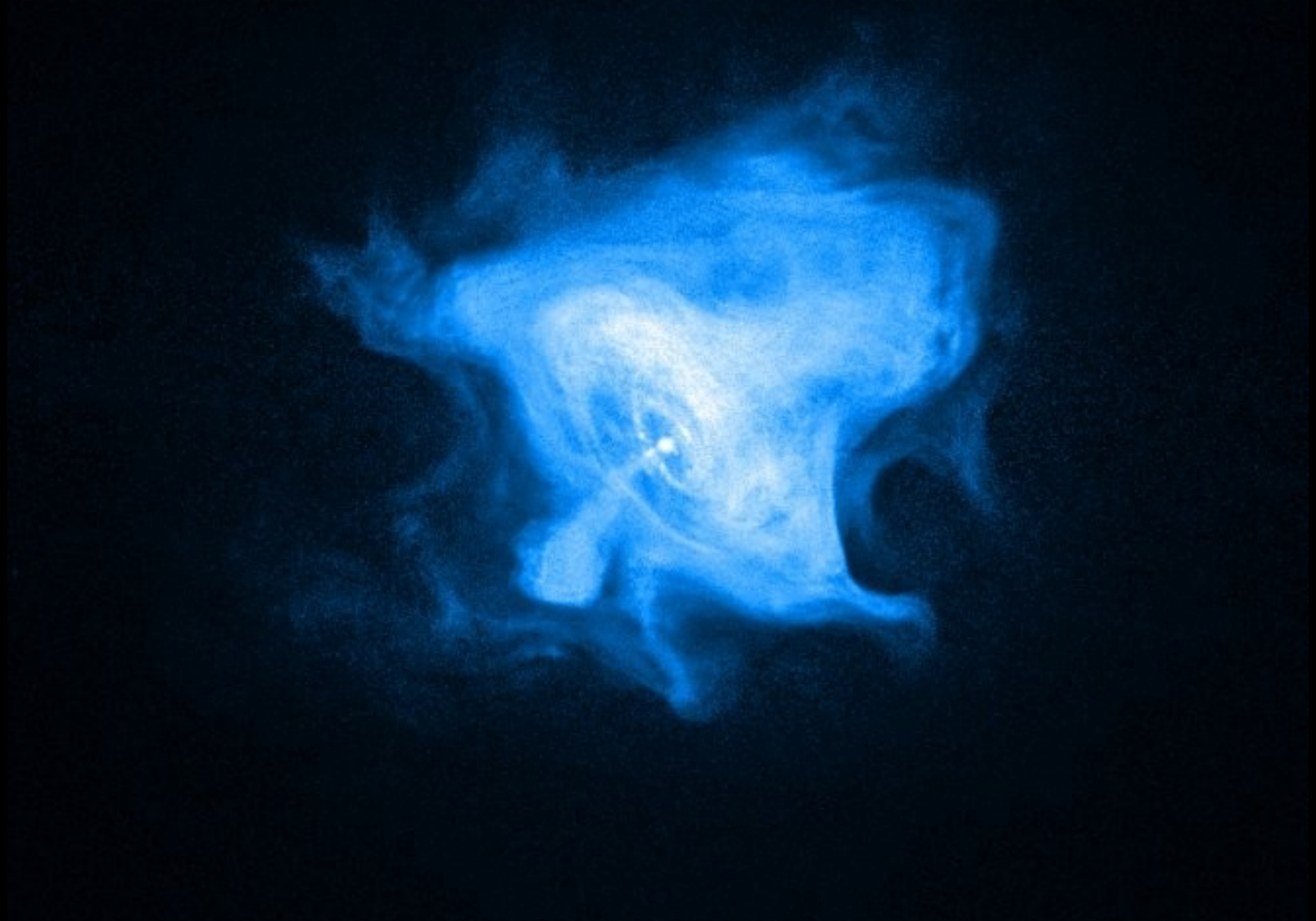


When the core runs out of H and begins to fuse He to heavier elements, stars become Red Giants

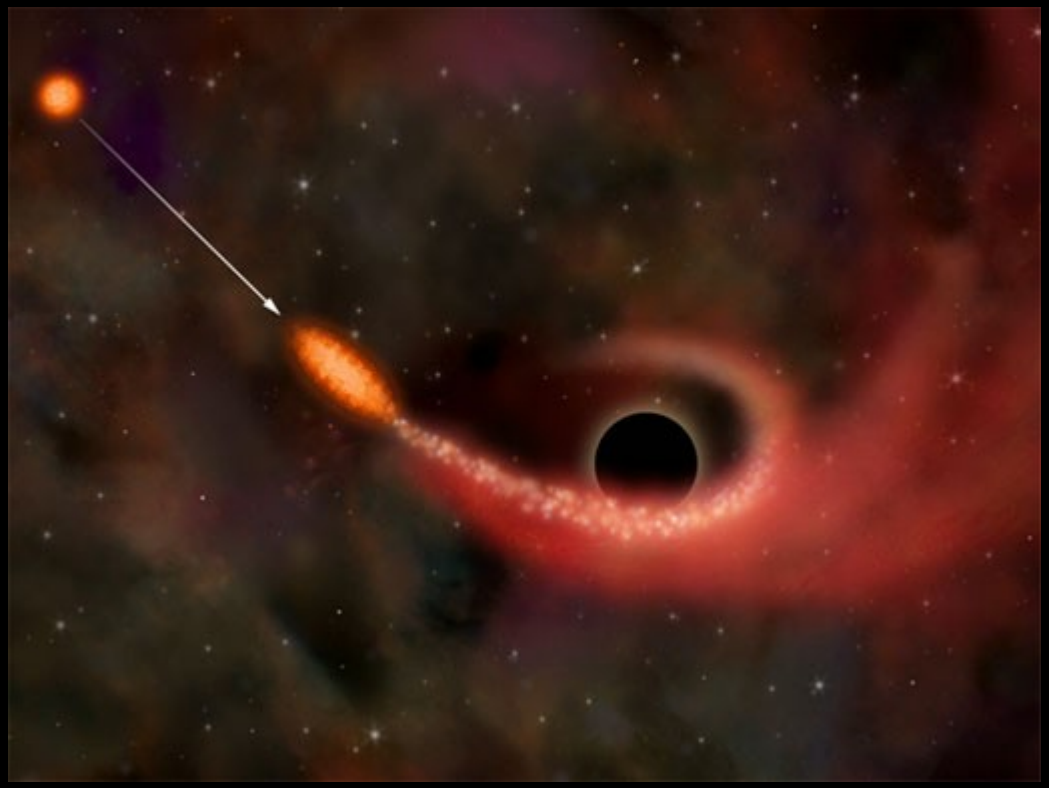
Red Giants eject a planetary nebula when they shed their shells. This leaves behind a white dwarf.

White dwarves are very small for stars, but very hot. They die when He is used up

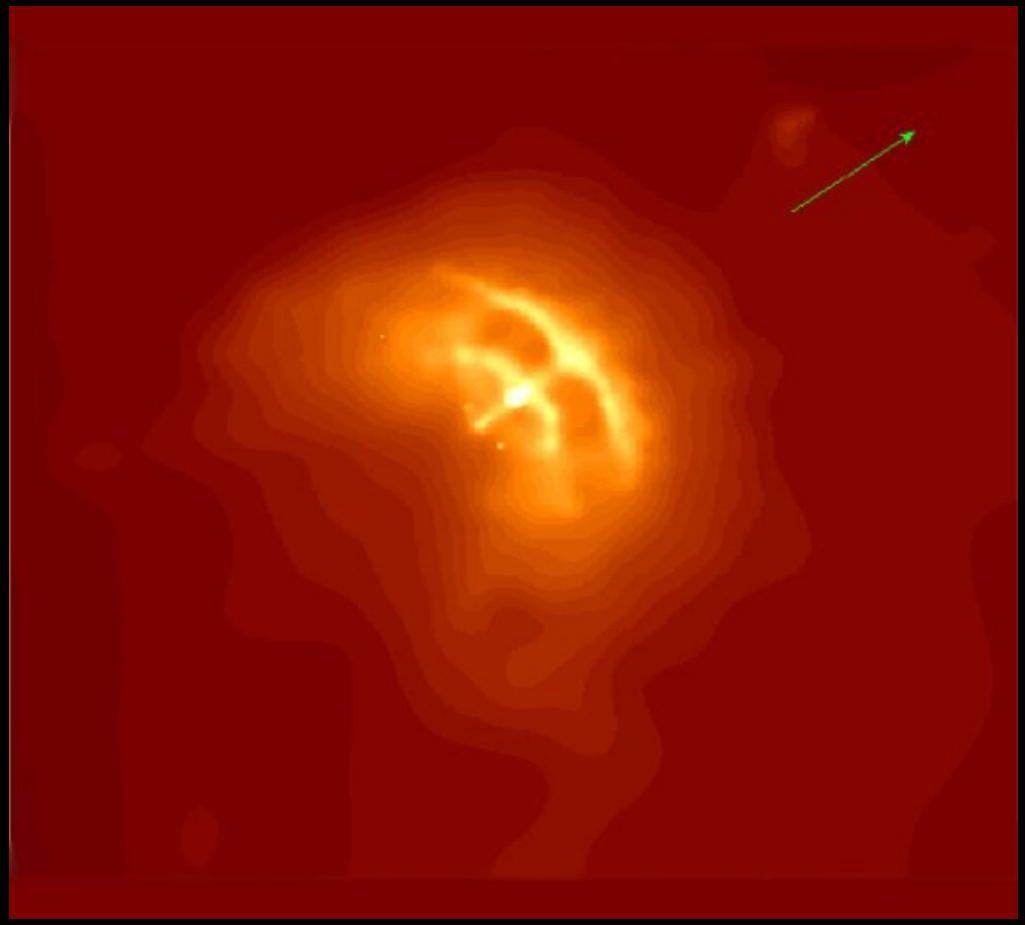
More massive stars continue to fuse C into heavier elements up to Fe then they explode leaving a nebula behind cycle starts over



After a supernova, small cores become pulsars shooting out jets of x-rays.



If the core is > 8 solar masses the core collapse into a black hole who's gravity can eat nearby stars.



After supernova stars with mass less than 8x our sun may end as neutron stars or even a pulsar.