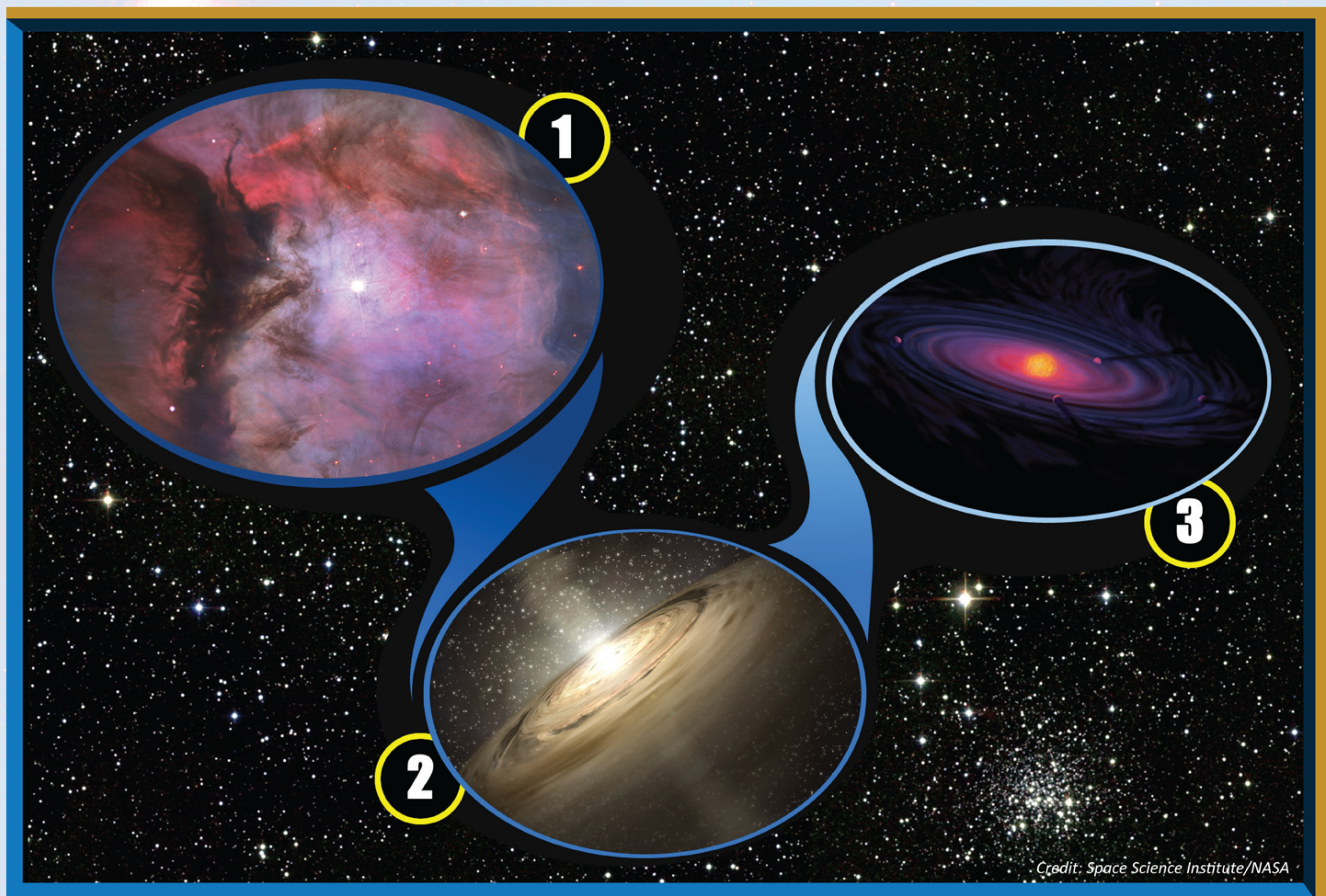


# Stars form in collapsing clouds of gas and dust



- 1 Swirling clouds of gas and dust condense into tight clusters as gravity pulls matter closer and closer together.
- 2 As the pressure builds at the center of these disks, temperatures can increase to the point at which stars ignite.
- 3 After a star is born, leftover gas and dust continue to orbit in a disk. This is the material that may eventually collect into planets.

## Stars have lifecycles too

Stars have life spans just like people. High mass stars have enormous gravity making them extremely hot, so they shine very brightly and exhaust their fuel quickly, within millions of years. Then they expire in spectacular explosions called supernovae, leaving a neutron star, or even a black hole, at their cores. Less massive stars, like our Sun, shine less brightly, but they last for billions of years. They end their days by ballooning into a red giant star that eventually blows away its outer layers. They then collapse into a stellar cinder called a white dwarf.

Chinese and Arab astronomers observed the Crab Supernova explosion in 1054. It's about 6,500 light-years from Earth. At the center lies the Crab Pulsar, a rotating neutron star. This composite image used data from three of NASA's Great Observatories: Chandra (X-rays in light blue), the Hubble Space Telescope (optical images are in green and dark blue), and the Spitzer Space Telescope (infrared image in red).

